



- Front panel valves and valve actuators
- Valves with barbed fittings
- Valves with threaded connection
- Hand lever valves

# Panel-mounting valves and actuating attachments

Key features



## 4.1



### Mushroom pushbutton with detent PR

The actuator is unlocked by turning the detent ring at the mushroom button.

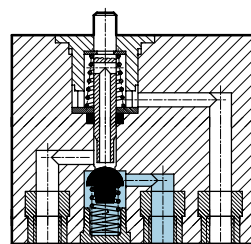
### Mushroom pushbutton with detent PRS Lockable

After pressing, the button remains locked and can only be unlatched with the key. The key can be removed in either switch position.

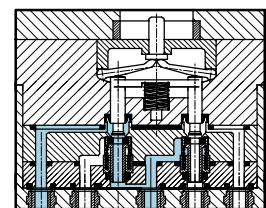
### Key actuator Q With key

The key actuator can only be activated with the key. The key can be removed in either switch position.

### Basic valve SV-3-M5





### Basic valve SV-5-M5-B




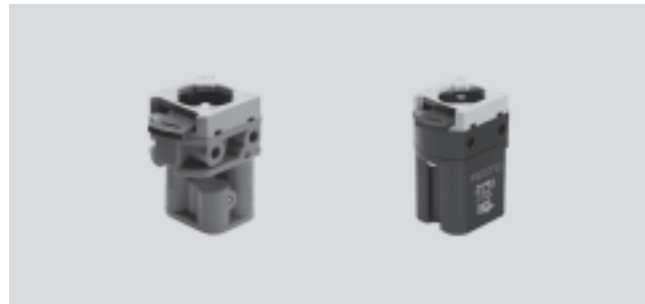
# Panel-mounting valves and actuating attachments

Technical data

-  - Flow rate  
65 ... 95 l/min

-  - Pressure  
-0.9 ... +8 bar  
0 ... 8 bar

-  - Temperature range  
-10 ... +60°C



General technical data – Basic valves		
Function	3/2-way valve	5/2-way valve
Operating medium	Filtered compressed air, lubricated or unlubricated Vacuum <sup>1)</sup>	
Constructional design	Poppet valve, directly actuated in one direction, with spring return	
Type of mounting	Front panel mounting, mounting diameters 22.5 and 30.5 mm, also 2 through-holes	
Pneumatic connection	M5	
Nominal size [mm]	2	2.3
Standard nominal flow rate 1 → 2 [l/min]	65	95
Operating pressure range [bar]	-0.95 ... +8	0 ... +8
Actuating force at 6 bar [N]	12	17
Temperature range [°C]	-10 ... +60	
Materials	Housing	Plastic
	Valve stem	Brass
	Seals	Nitrile rubber
Weight [g]	40	53

1) SV-3-M5: Vacuum connection at port 1

General technical data – Actuator attachments								
		Pushbutton actuator	Mushroom pushbutton	Mushroom pushbutton with detent		Selector switch	Toggle switch	Key actuator with key
				Red	Red Lockable			
Actuating force / actuating torque at 6 bar	[Nm]	14	14	25	23	0.4	0.14	23
Weights	Installation diameter 22.5 [g]	14	20	26	82	21	19	80
	Installation diameter 30.5 [g]	22	28	37	91	30	27	88

# Panel-mounting valves and actuating attachments

Technical data

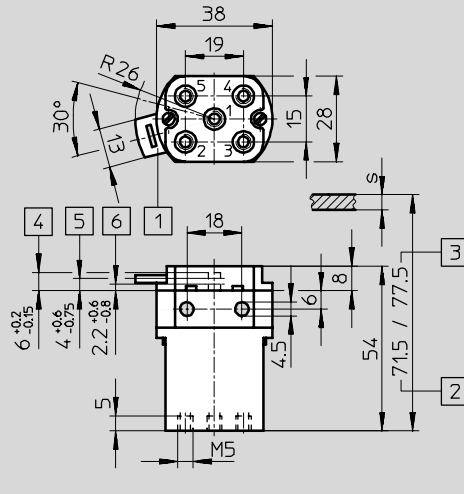
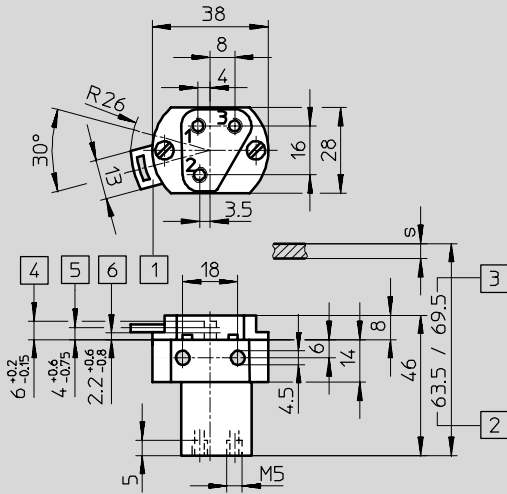


## Dimensions – Basic valves

Download CAD data → [www.festo.com/en/engineering](http://www.festo.com/en/engineering)

SV-3-M5

SV-5-M5-B

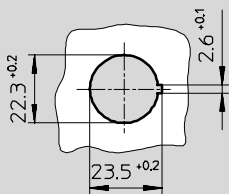


- 1 Quick latching coupler for actuator attachments
- 2 Installation dimensions for  $\varnothing 22.5$
- 3 Installation dimensions for  $\varnothing 30.5$
- 4 Max. stroke
- 5 Start of opening
- 6 Max. opening
- s Front panel thickness

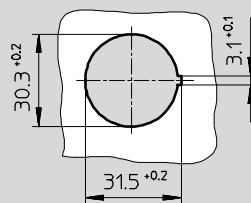
- 1 Supply port
- 2, 4 Working line
- 3, 5 Exhaust

## Mounting aperture

Installation diameter 22.5



Installation diameter 30.5



## Dimensions – Actuator attachments

Download CAD data → [www.festo.com/en/engineering](http://www.festo.com/en/engineering)

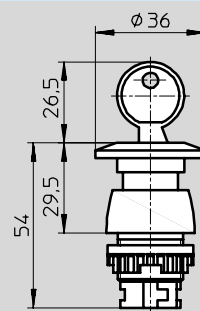
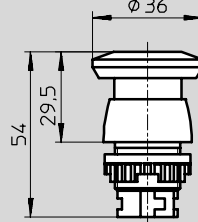
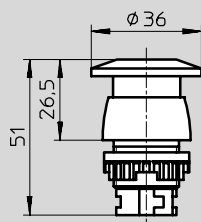
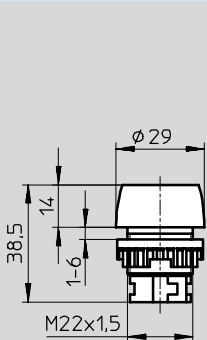
Installation diameter 22.5

Pushbutton actuator T-22

Mushroom pushbutton P-22

Mushroom pushbutton with detent, lockable PR-22

Mushroom pushbutton with detent, lockable PRS-22



# Panel-mounting valves and actuating attachments



Technical data

**Dimensions – Actuator attachments for front panel mounting** Download CAD data → [www.festo.com/en/engineering](http://www.festo.com/en/engineering)

Installation diameter 22.5

Selector switch N-22	Toggle switch H-22	Key actuator Q-22

Installation diameter 30.5

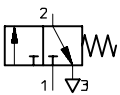
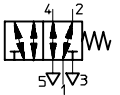
Pushbutton actuator T-30	Mushroom pushbutton P-30	Mushroom pushbutton with detent, lockable PR-30	Mushroom pushbutton with detent, lockable PRS-30







Selector switch N-30	Toggle switch H-30	Key actuator Q-30	
<p>Type N</p> <p>4 = Off</p> <p>5 = On</p>	<p>Type PR</p> <p>The actuator is unlocked by turning the detent ring at the mushroom button.</p>	<p>Type PRS</p> <p>After pressing, the button remains locked and can only be unlatched with the key. The key can be removed in either switch position.</p>	<p>Type Q</p> <p>The key actuator can only be activated with the key. The key can be removed in either switch position.</p>

# Panel-mounting valves and actuating attachments

Technical data

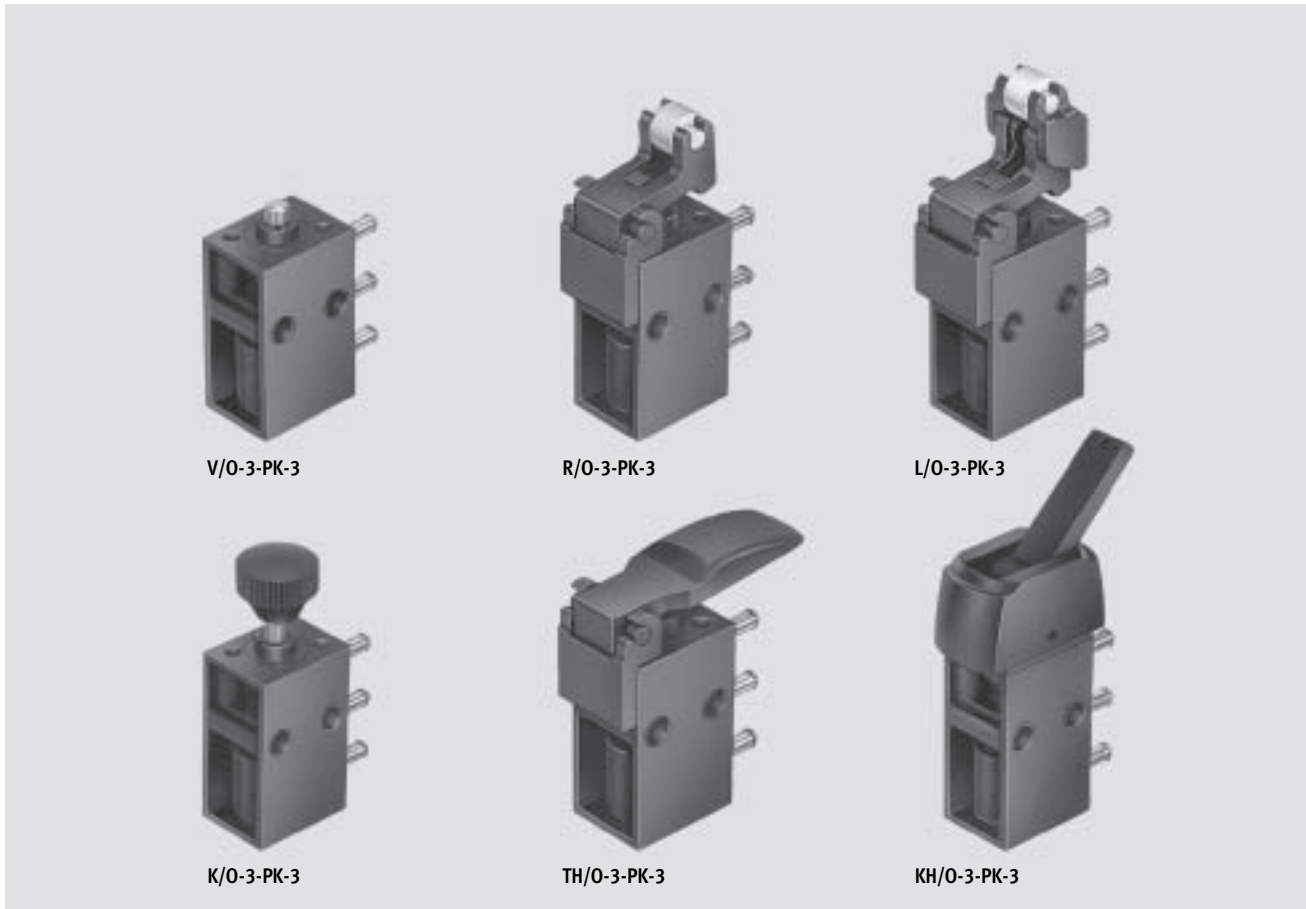
**FESTO**

Ordering data – Basic valves			
Circuit symbol	Description	Part No.	Type
	3/2-way valve	6817	SV-3-M5
	5/2-way valve	11 914	SV-5-M5-B

Ordering data – Actuator attachments					
Circuit symbol	Description	Installation diameter 22.5		Installation diameter 30.5	
		Part No.	Type	Part No.	Type
<b>Pushbutton actuator</b>					
	Black	9 289	T-22-SW	9 291	T-30-SW
	Yellow	9 290	T-22-GE	9 292	T-30-GE
	Red	9 997	T-22-RT	10 014	T-30-RT
<b>Mushroom pushbutton</b>					
	Black	9 293	P-22-SW	9 295	P-30-SW
<b>Mushroom pushbutton with detent</b>					
	Red	9 297	PR-22-RT	9 298	PR-30-RT
	Red, lockable	9 299	PRS-22-RT	9 300	PRS-30-RT
<b>Selector switch</b>					
	Black	9 301	N-22-SW	9 302	N-30-SW
<b>Toggle switch</b>					
	Black	9 305	H-22-SW	9 306	H-30-SW
<b>Key actuator with key</b>					
	-	9 303	Q-22	9 304	Q-30

# Valves with push-on fittings

Key features

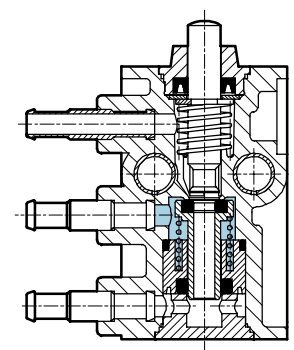


### Push-on fitting connection

- Directly actuated valves
- Polymer design
- Ducted exhaust air

The push-on fitting is suitable for plastic tubing with a standard internal diameter → Volume 3

### V/O-3-PK-3



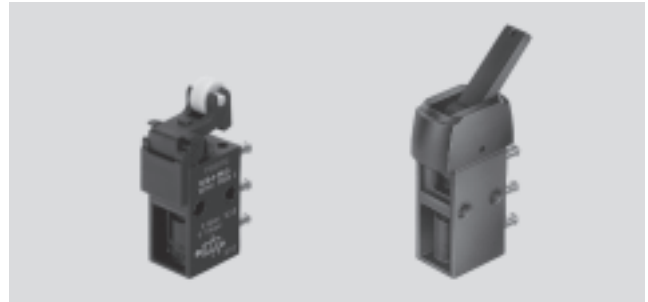
Manually and mechanically actuated valves  
With push-on fittings  
**4.2**

# Valves with push-on fittings

Technical data



- - Flow rate  
80 l/min
- - Pressure  
0 ... 8 bar
- - Temperature range  
-10 ... +60°C



General technical data							
Actuation type		Stem actuated valve	Roller lever valve	Roller lever valve with idle return	Push-button valve	Finger lever valve	Toggle lever valve
Constructional design		Poppet valve, directly actuated					
Type of mounting		Through-holes in housing					
Pneumatic connection		Barbed fitting for 3 mm plastic tubing					
Nominal size [mm]		2.5					
Standard nominal flow rate 1 → 2 [l/min]		80					
Operating pressure range [bar]		0 ... 8					
Actuating force at 6 bar							
Normally closed	[N]	17	10	10	17	6	6.5
Normally open	[N]	24	15	13	24	8	7.5
Temperature range [°C]		-10 ... +60					
Materials	Housing	Plastic					
	Seals	Nitrile rubber					
Weight [g]		20	18	19	20	18	20

Manually and mechanically actuated valves  
With push-on fittings  
**4.2**

## Dimensions Download CAD data → [www.festo.com/en/engineering](http://www.festo.com/en/engineering)

Stem actuated valve V/O

Roller lever valve R/O

1 Barbed fitting for tubing with an internal  $\varnothing$  of 3 mm
 2 Max. stroke
3 Max. opening
4 Start of opening



# Valves with push-on fittings

Technical data



**Dimensions** Download CAD data → [www.festo.com/en/engineering](http://www.festo.com/en/engineering)

<p>Roller lever valve with idle return L/O</p>	<p>Push-button valve K/O</p>
<p>2 Max. stroke 3 Max. opening</p>	<p>4 Start of opening 5 Switching travel</p>

<p>Finger lever valve TH/O</p>	<p>Toggle lever valve KH/O</p>
--------------------------------	--------------------------------

Ordering data		Actuation type	Part No.	Type
		Stem actuated valve	10 747	V/O-3-PK-3
		Roller lever valve	10 748	R/O-3-PK-3
		Roller lever valve with idle return	10 749	L/O-3-PK-3
		Push-button valve	13 793	K/O-3-PK-3
		Finger lever valve	13 794	TH/O-3-PK-3
		Toggle lever valve	33 003	KH/O-3-PK-3

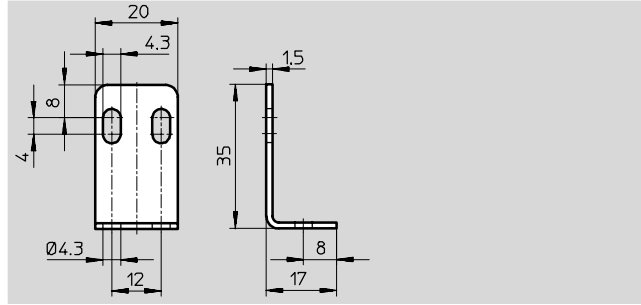
# Valves with push-on fittings

Accessories



## Mounting bracket HV-M5

Material:  
Galvanised steel



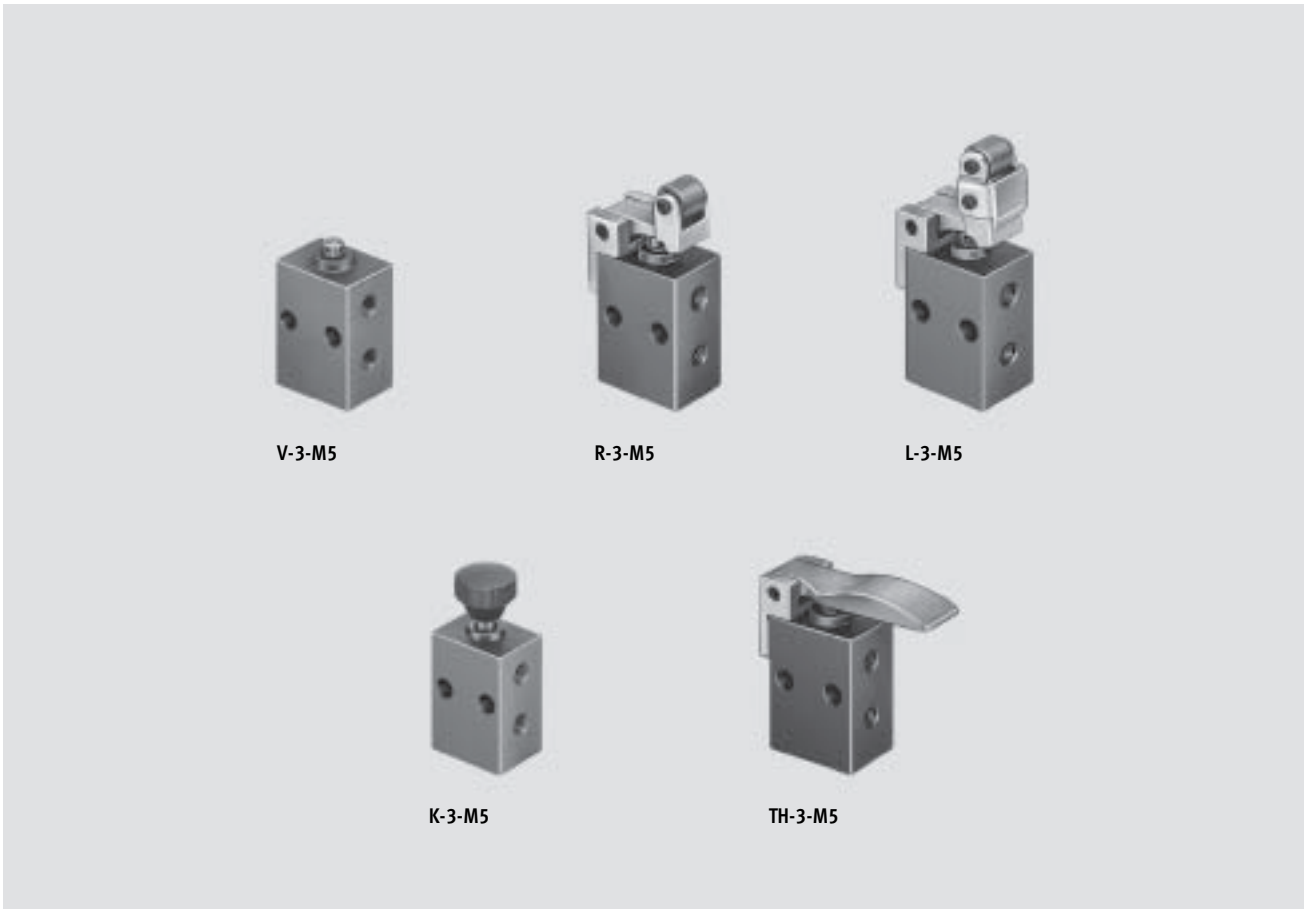
Ordering data			
	Weight [g]	Part No.	Type
Mounting bracket	11	9 634	HV-M5


Manually and mechanically actuated valves  
With push-on fittings

4.2

# Valves with threaded connections M5

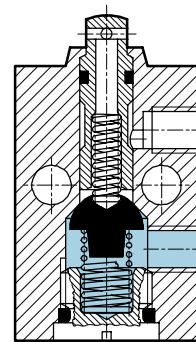
Key features



-  - Flow rate  
80 l/min

- 3/2-way valve normally closed
- Connection M5
- Compact design

V-3-M5

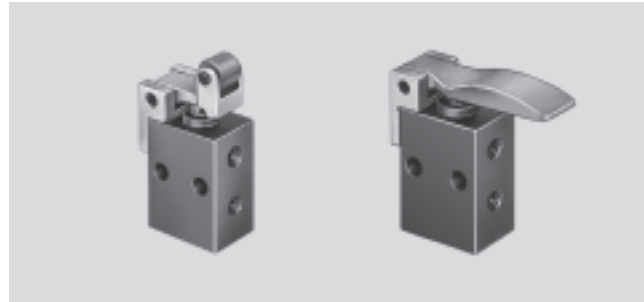


# Valves with threaded connections M5

Technical data



- - Flow rate  
80 l/min
- - Pressure  
-0.95 ... +8 bar
- - Temperature range  
-10 ... +60°C



Manually and mechanically actuated valves  
With threaded connections M5

## 4.3

General technical data						
Actuation type		Stem actuated valve	Roller lever valve	Roller lever valve with idle return	Push-button valve	Finger lever valve
Operating medium		Filtered compressed air, lubricated or unlubricated Vacuum <sup>1)</sup>				
Constructional design		Poppet valve, directly actuated				
Type of mounting		2 through-holes in housing				
Pneumatic connection		M5				
Nominal size	[mm]	2				
Standard nominal flow rate 1 → 2	[l/min]	80				
Operating pressure range	[bar]	-0.95 ... 8				
Actuating force at 6 bar	[N]	23	12.5	12.5	23	8
Temperature range	[°C]	-10 ... +60				
Materials	Housing	Die-cast zinc				
	Seals	Nitrile rubber				
Weight	[g]	25	40	43	28	37

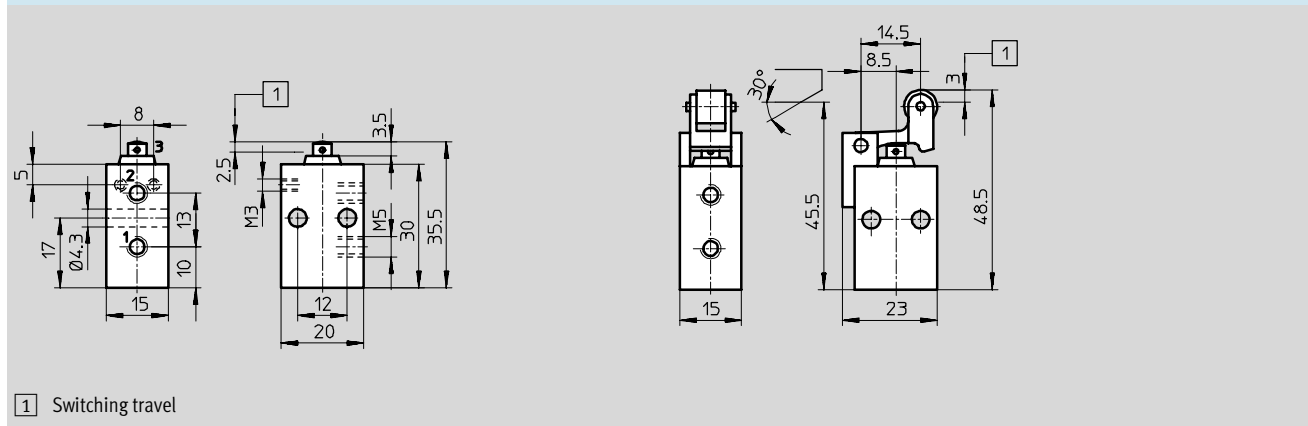
1) Vacuum connection at port 1

## Dimensions

Download CAD data → [www.festo.com/en/engineering](http://www.festo.com/en/engineering)

Stem actuated valve V

Roller lever valve R

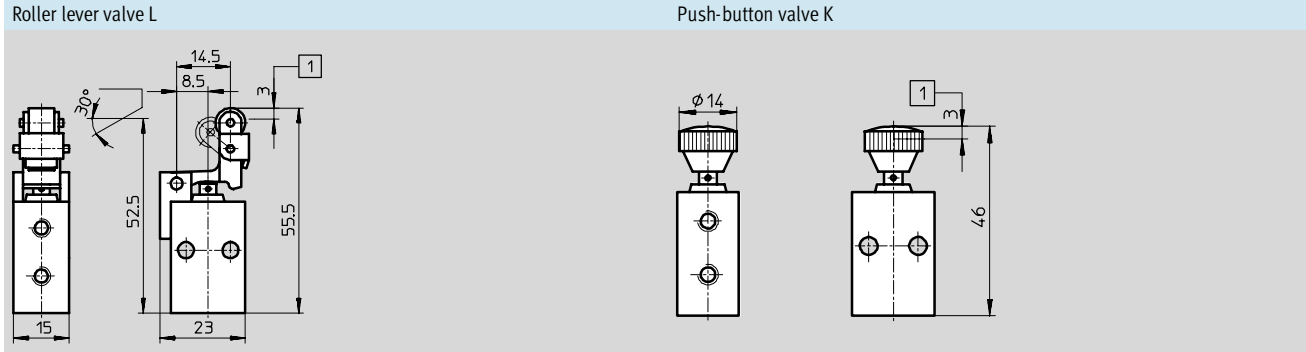


# Valves with threaded connections M5

Technical data

FESTO

Dimensions Download CAD data → [www.festo.com/en/engineering](http://www.festo.com/en/engineering)



Finger lever valve TH



1 Switching travel

## Ordering data – Basic valves

Circuit symbol	Actuation type	Part No.	Type
	Stem actuated valve	3 626	V-3-M5
	Roller lever valve	3 629	R-3-M5
	Roller lever valve with idle return	3 628	L-3-M5
	Push-button valve	3 660	K-3-M5
	Finger lever valve	6 758	TH-3-M5

## Ordering data – Actuator attachments

Circuit symbol	Actuation type	Part No.	Type
	Roller lever with mounting screws	6 512	AR-05
	Idle return roller lever with mounting screws	6 513	AL-05

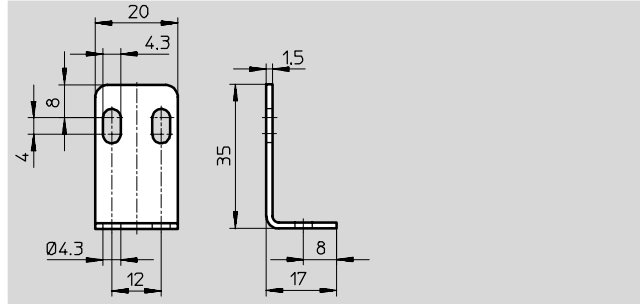
# Valves with threaded connections M5

Accessories



## Mounting bracket HV-M5

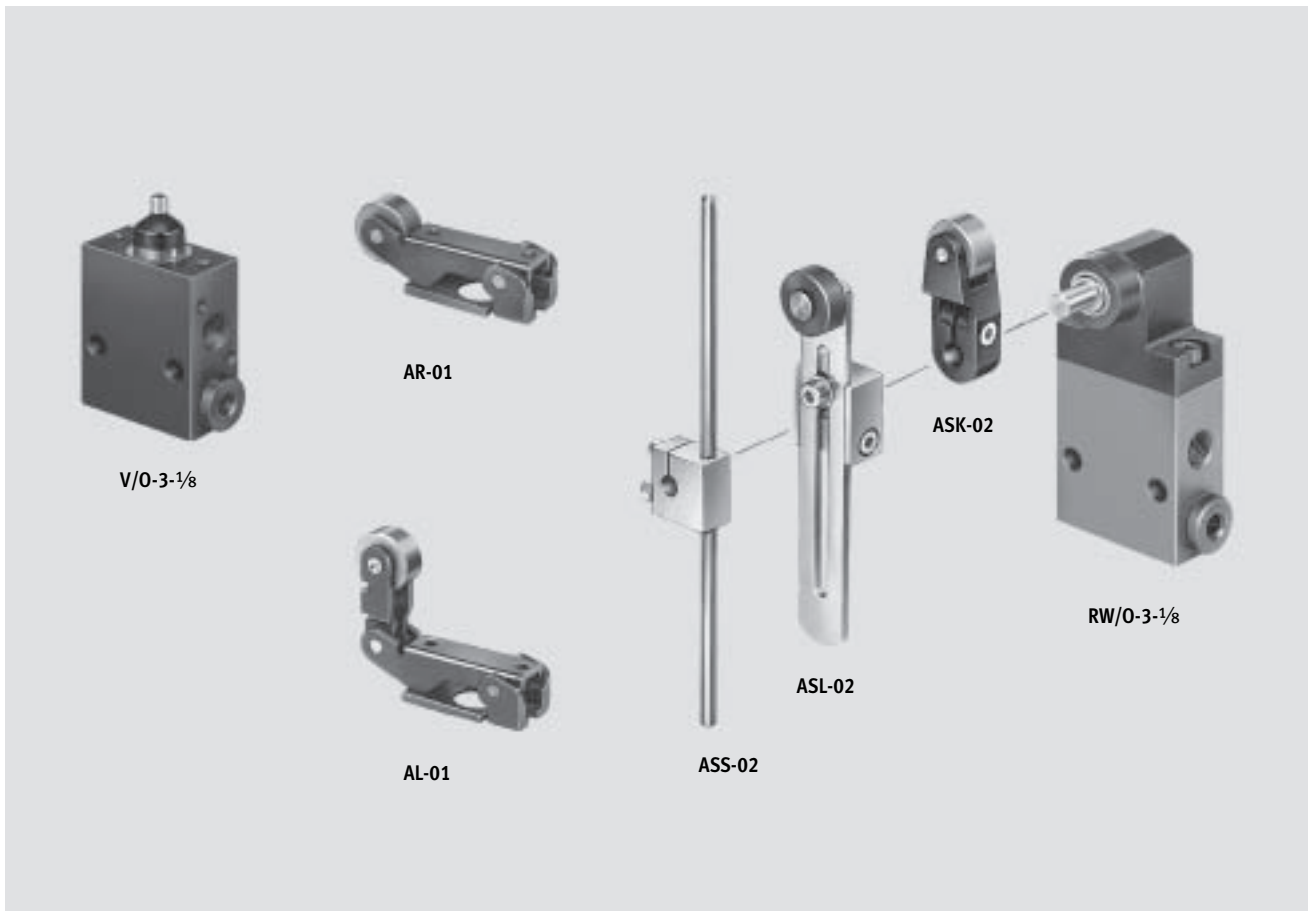
Material:  
Galvanised steel



Ordering data			
	Weight [g]	Part No.	Type
Mounting bracket	11	9 634	HV-M5

# Valves with threaded connections G<sup>1/8</sup>, directly actuated


Key features



Manually and mechanically actuated valves  
With threaded connections G<sup>1/8</sup>

4.4

**Flow rate**

-  - Flow rate  
140 l/min

**3/2-way valve**

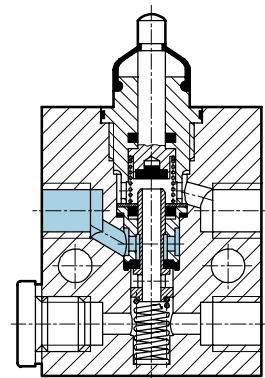
Normally closed Normally open  
depending upon selected  
connections

- Connection G<sup>1/8</sup>
- Actuator attachments  
as desired

**Swivel lever valve**

The swivel lever valve is mechanically  
actuated with an eccentric rod.  
Various actuating ranges can be  
selected by repositioning  
2 components in the control actuator.




**Normally closed**



# Valves with threaded connections G $\frac{1}{8}$ , directly actuated

FESTO

Technical data

-  - Flow rate  
140 l/min
-  - Pressure  
-0.95 ... +8 bar
-  - Temperature range  
-10 ... +60°C



General technical data – Basic valves		
Actuation type	Stem actuated valve	Swivel lever valve
Operating medium	Filtered compressed air, lubricated or unlubricated Vacuum <sup>1)</sup>	
Constructional design	Poppet valve, directly actuated	
Type of mounting	2 through-holes in housing	
Pneumatic connection	G $\frac{1}{8}$	
Nominal size [mm]	3.5	
Standard nominal flow rate 1 → 2 [l/min]	140	
Operating pressure range [bar]	-0.95 ... +8	
Actuating force at 6 bar [N]	28	
Temperature range [°C]	-10 ... +60	
Materials Housing	Blue anodised aluminium	
Seals	Nitrile rubber	
Weight [g]	90	150

1) Vacuum connection at port 1 or 11

General technical data – Actuator attachments						
		Roller lever	Idle return roller lever	Swivel lever, short	Swivel lever, long	Swivel lever rod
Actuating force [N]	min.	–	–	–	–	–
	max.	10	12	7	<sup>1)</sup>	<sup>1)</sup>
Material		Galvanised steel		Aluminium, steel	Aluminium, steel	
Weight [g]		42	52	30	35	30

1) Dependent upon starting height





# Valves with threaded connections G $\frac{1}{8}$ , directly actuated

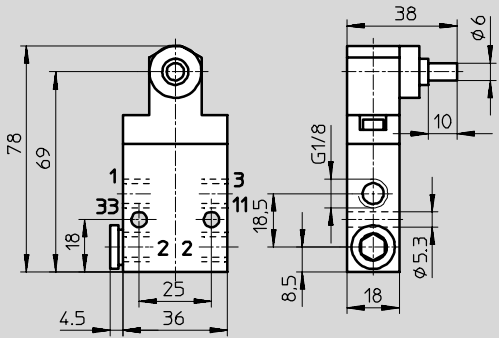
Technical data



## Dimensions

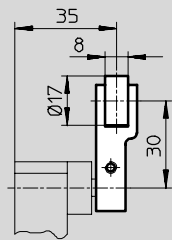
Download CAD data → [www.festo.com/en/engineering](http://www.festo.com/en/engineering)

Swivel lever valve RW/O

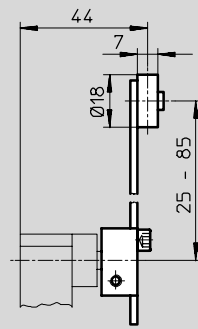


- 1, 11 = Supply port
- 2 = Working line
- 3, 33 = Exhaust

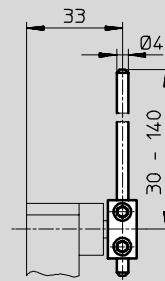
Swivel lever, short ASK-02



Swivel lever, long ASL-02



Swivel lever rod ASS-02

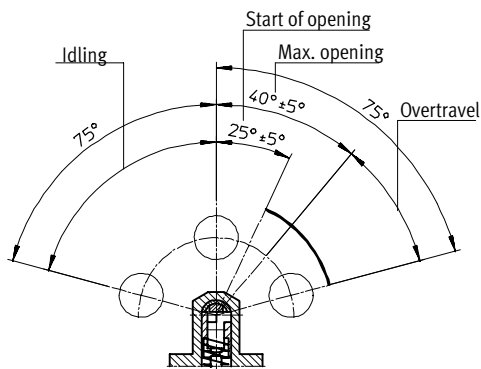


Manually and mechanically actuated valves  
With threaded connections G $\frac{1}{8}$

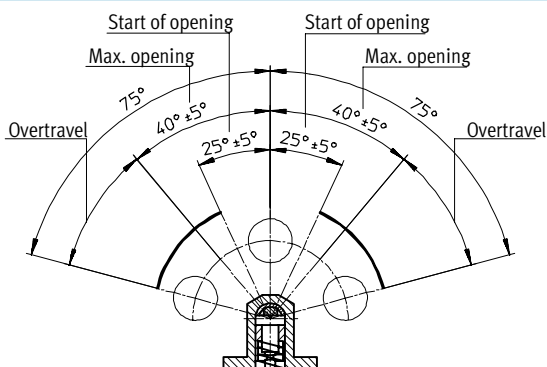
## 4.4

### Actuating ranges are set by converting the switching head

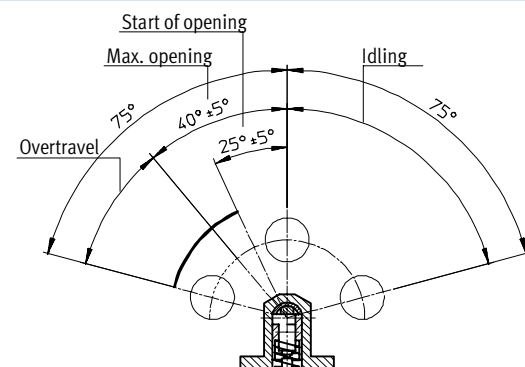
Default settings (upon delivery)



Valve actuating head and body turned 90° around the longitudinal axis



Valve actuating head and body turned 180° around the longitudinal axis



# Valves with threaded connections G<sup>1</sup>/<sub>8</sub>, directly actuated

FESTO

Technical data

Ordering data			
Circuit symbol	Actuation type	Part No.	Type
<b>Stem actuated valve</b>			
	Basic valve	4 938	V/O-3-1/8
<b>Actuator attachments</b>			
	Roller lever	4 936	AR-01
	Idle return roller lever	4 941	AL-01
<b>Swivel lever valve</b>			
	Basic valve	4 937	RW/O-3-1/8
<b>Actuator attachments</b>			
	Swivel lever, short	5 835	ASK-02
	Swivel lever, long	5 836	ASL-02
	Swivel lever rod	4 789	ASS-02

Manually and mechanically actuated valves  
With threaded connections G<sup>1</sup>/<sub>8</sub>

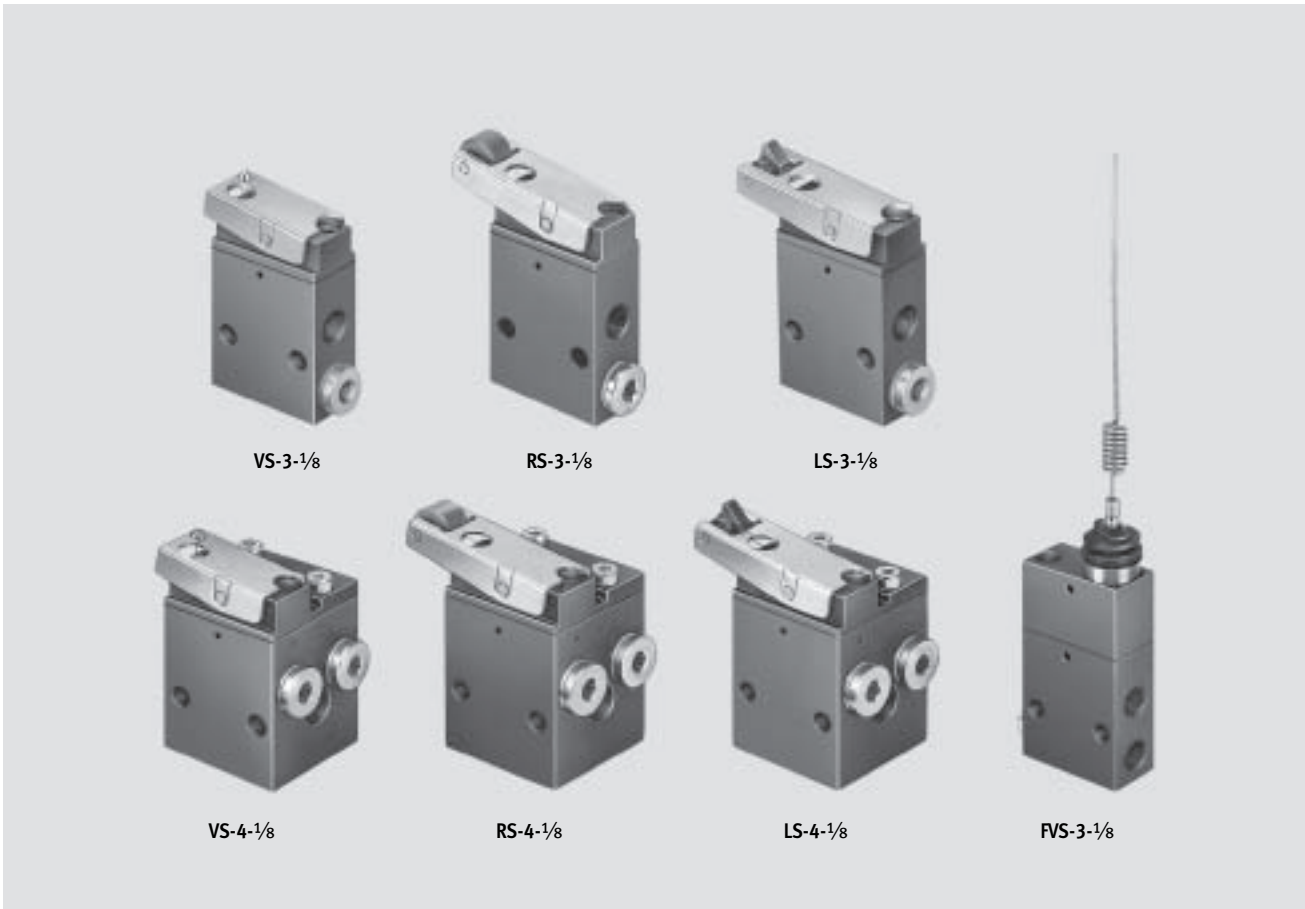
4.4

# Valves with threaded connections G $\frac{1}{8}$ , indirectly actuated

Key features




Manually and mechanically actuated valves  
With threaded connections G $\frac{1}{8}$



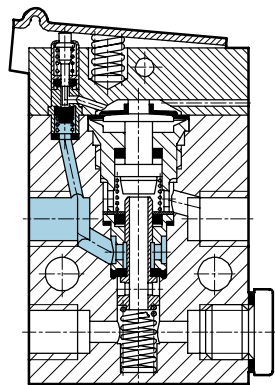
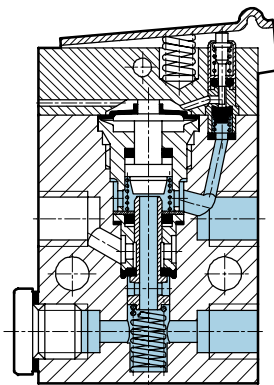
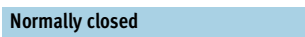
## 4.4



-  - Flow rate  
120 l/min



- 3/2-way valves normally closed normally open, changed by repositioning the housing top
- 4/2-way valves
- Minimal actuating force with pilot control
- Can also be used as 2/2-way valve by plugging the exhaust



# Valves with threaded connections G<sup>1</sup>/<sub>8</sub>, indirectly actuated



Technical data – 3/2-way valves

- - Flow rate  
120 l/min

- - Temperature range  
-10 ... +60°C

- - Pressure  
3.5 ... 8 bar

Wearing parts kits  
→ 2 / 4.4-9



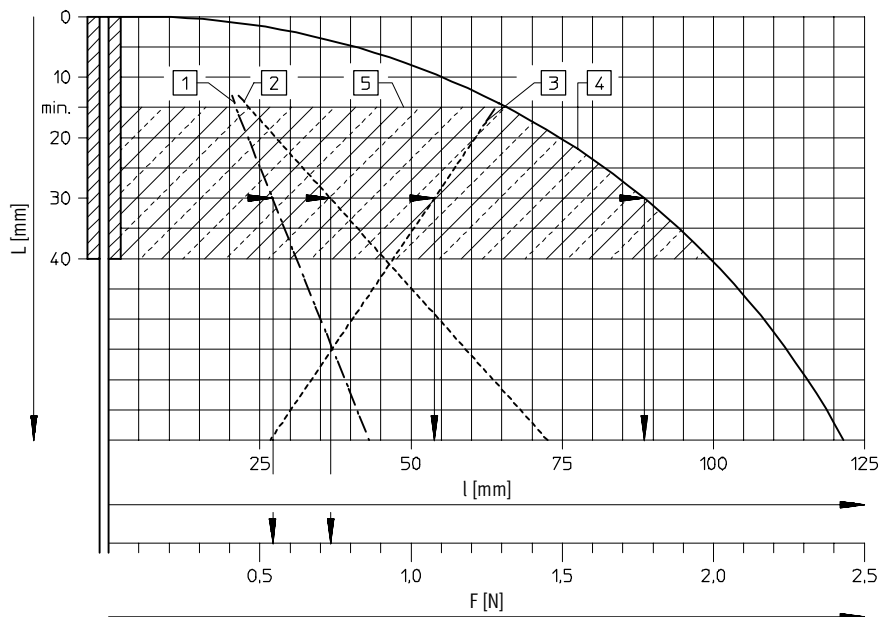
Technical data		Stem actuated valve	Roller lever valve	Toggle lever valve	Whisker valve
Actuation type		Stem actuated valve	Roller lever valve	Toggle lever valve	Whisker valve
Constructional design		Poppet valve, indirectly actuated			
Type of mounting		2 through-holes in housing			
Pneumatic connection		G <sup>1</sup> / <sub>8</sub>			
Nominal size	[mm]	3.5			
Standard nominal flow rate 1 → 2	[l/min]	120			
Operating pressure range	[bar]	3.5 ... 8			
Actuating force at 6 bar	[N]	3.1	1.8	1.8	→ Diagram
Repetition accuracy (+/-)	[mm]	±0.1			
Temperature range	[°C]	-10 ... +60			
Materials	Housing	Blue anodised aluminium			
	Seals	Nitrile rubber			
Weight	[g]	110	120	110	130

## Switching forces F and switching travel l at 6 bar in relation to approach distance L

Whisker valve

This piloted valve with extremely low actuating forces is particularly suited for units where dissimilar parts or actuating elements without precision positioning are to be sensed, or where the actuating levels are different. The whisker can be approached from any direction perpendicular to the whisker axis, or can be passed.

- 1 Switching force
- 2 Passing force
- 3 Switching travel
- 4 Overtravel
- 5 Permissible approach range



Example:

A distance of 30 mm from the end of the spring results in:

Switching travel of 54 mm  
A switching force of 0.57 N

Overtravel of 88 mm  
A passing force of 0.75 N

# Valves with threaded connections G<sup>1</sup>/<sub>8</sub>, indirectly actuated

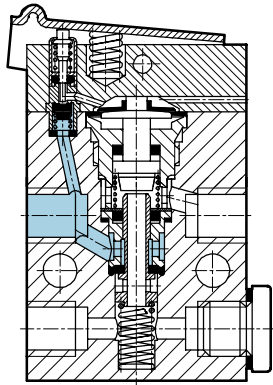
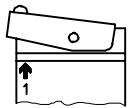
Technical data – 3/2-way valves



## Sectional view

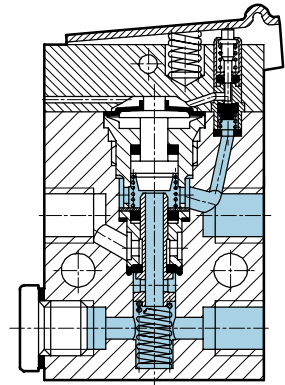
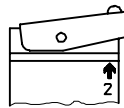
Normally closed

Actuator attachment at left  
(number 1 on attachment above  
number 1 on housing)



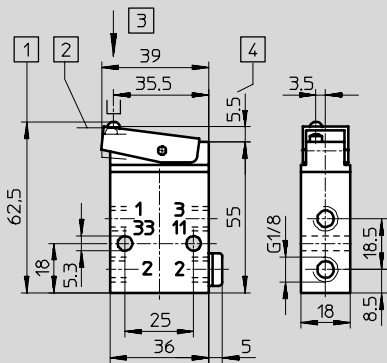
Normally open

Actuator attachment at right  
(number 1 on attachment above  
number 2 on housing)



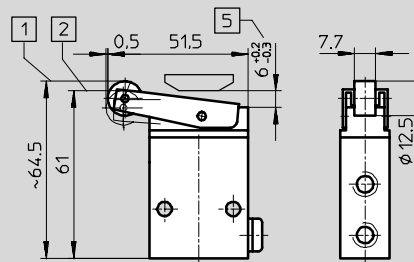
## Dimensions

Stem actuated valve VS, VOS

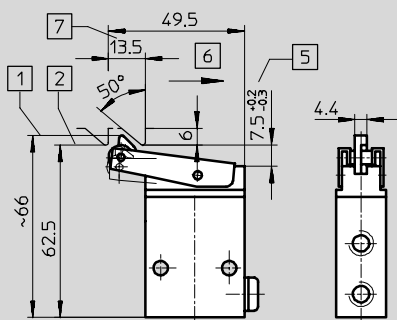


Download CAD data → [www.festo.com/en/engineering](http://www.festo.com/en/engineering)

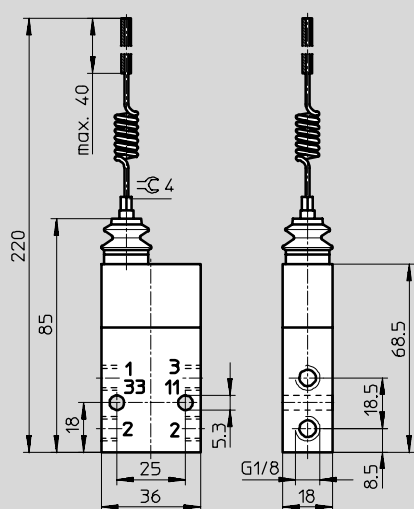
Roller lever valve RS, ROS



Toggle lever valve LS, LOS



Whisker valve FVS, FVSO



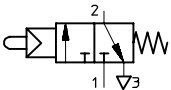
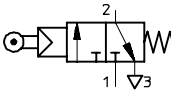
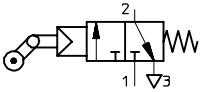
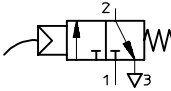
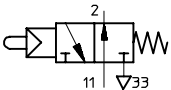
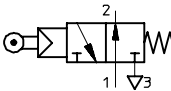
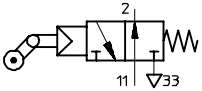
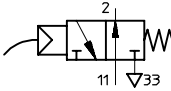
- 1 Initial position
- 2 ON position
- 3 Actuation direction

- 4 Smallest distance between  
cams
- 5 Bottom edge of control rail or  
cam

- 6 Idle return
- 7 Min. switching travel

# Valves with threaded connections G<sup>1</sup>/<sub>8</sub>, indirectly actuated

Technical data – 3/2-way valves

Ordering data			
Circuit symbol	Actuation type	Part No.	Type
<b>3/2-way valves, normally closed</b>			
	Stem actuated valve	2 334	VS-3-1/8
	Roller lever valve	2 272	RS-3-1/8
	Toggle lever valve	2 186	LS-3-1/8
	Whisker valve	3 876	FVS-3-1/8
<b>3/2-way valves, normally open</b>			
	Stem actuated valve	2 952	VOS-3-1/8
	Roller lever valve	2 270	ROS-3-1/8
	Toggle lever valve	2 950	LOS-3-1/8
	Whisker valve	3 877	FVSO-3-1/8

Ordering data – Wearing parts kits			
	Part No.	Type	
For 3/2-way valves	104 222	VS-3-1/8	

Manually and mechanically actuated valves  
With threaded connections G<sup>1</sup>/<sub>8</sub>

4.4

# Valves with threaded connections G1/8, indirectly actuated

Technical data – 4/2-way valves



Flow rate  
120 l/min

Temperature range  
-10 ... +60°C

Pressure  
3.5 ... 8 bar

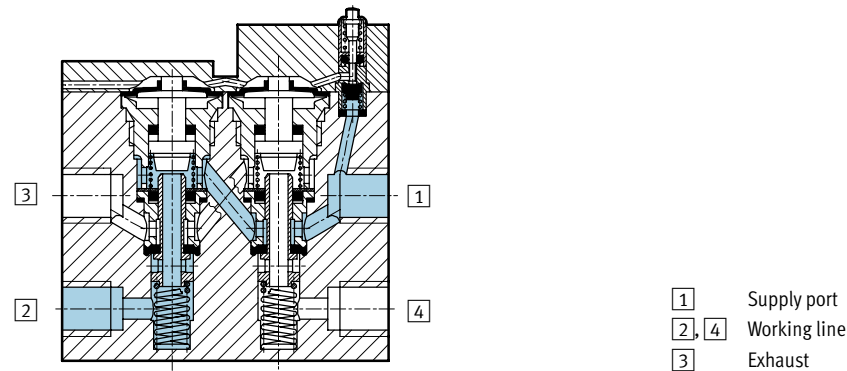
Wearing parts kits  
→ 2 / 4.4-11



Technical data		Stem actuated valve	Roller lever valve	Toggle lever valve
Actuation type		Poppet valve, indirectly actuated		
Constructional design		Poppet valve, indirectly actuated		
Type of mounting		2 through-holes in housing		
Pneumatic connection		G1/8		
Nominal size	[mm]	3.5		
Standard nominal flow rate 1 → 2	[l/min]	120		
Operating pressure range	[bar]	3.5 ... 8		
Actuating force at 6 bar	[N]	3.1	1.8	2.2
Repetition accuracy (+/-)	[mm]	±0.1		
Temperature range	[°C]	-10 ... +60		
Materials	Housing	Blue anodised aluminium		
	Seals	Nitrile rubber		
Weight	[g]	220	230	230

## Sectional view

Stem actuated valve VS-4-1/8



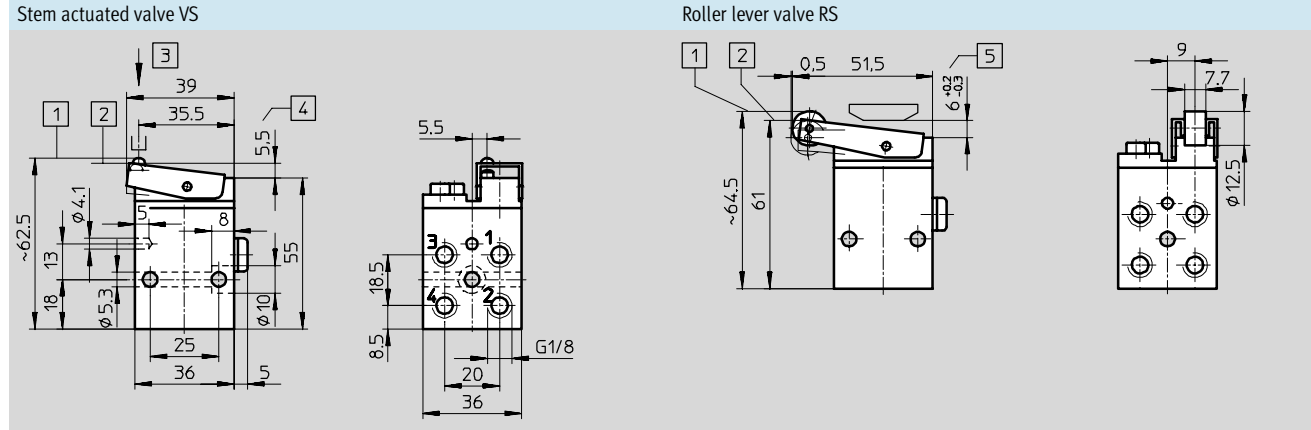


# Valves with threaded connections G1/8, indirectly actuated

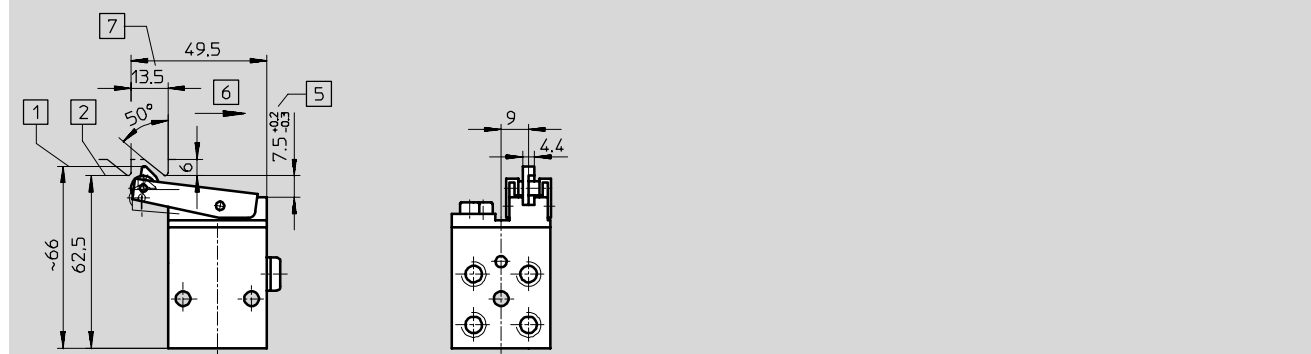


Technical data – 4/2-way valves

Dimensions Download CAD data → [www.festo.com/en/engineering](http://www.festo.com/en/engineering)



Toggle lever valve LS



- 1 Initial position
- 2 ON position
- 3 Actuation direction
- 4 Smallest distance between cams
- 5 Bottom edge of control rail or cam
- 6 Idle return
- 7 Min. switching travel

Ordering data			
Circuit symbol	Actuation type	Part No.	Type
	Stem actuated valve	3 394	VS-4-1/8
	Roller lever valve	2 949	RS-4-1/8
	Toggle lever valve	3 416	LS-4-1/8

Ordering data – Wearing parts kits			
	Part No.	Type	
For 4/2-way valves	104 201	VS-4-1/8	

**Manually and mechanically actuated valves**  
 With threaded connections G1/8  
**4.4**

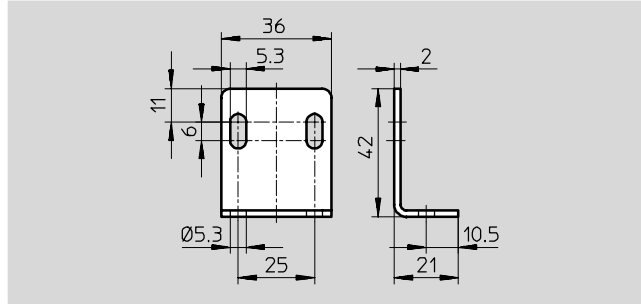
# Valves with threaded connections G<sup>1</sup>/<sub>8</sub>, indirectly actuated



Accessories

## Mounting bracket HV-<sup>1</sup>/<sub>8</sub>

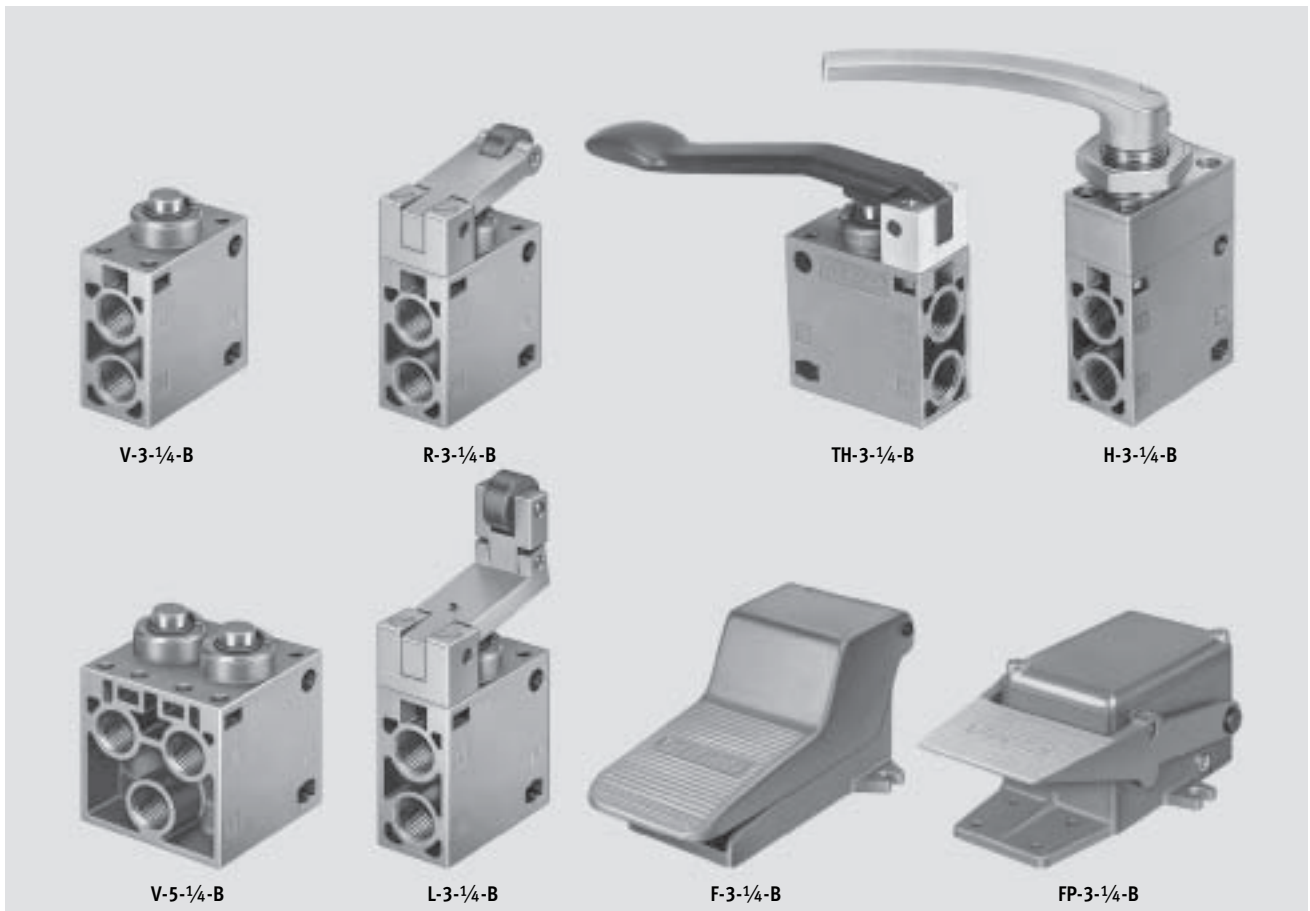
Material:  
Galvanised steel




Ordering data			
	Weight [g]	Part No.	Type
Mounting bracket	32	9 635	HV- <sup>1</sup> / <sub>8</sub>

# Valves with threaded connections G<sup>1</sup>/<sub>4</sub>

Key features

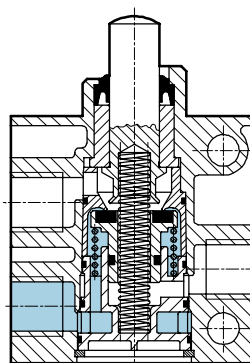


-  - Flow rate  
600 l/min

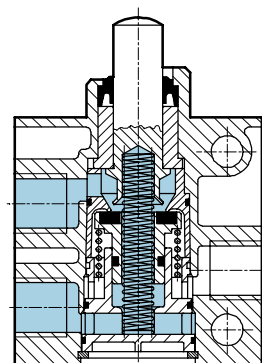


- 3/2-way valves  
normally closed  
normally open
- 5/2-way valves
- 7 actuator types

V-3-1/4-B,  
normally closed



VO-3-1/4-B,  
normally open



# Valves with threaded connections G<sup>1</sup>/<sub>4</sub>

Technical data – 3/2-way valves



Flow rate  
600 l/min

Temperature range  
-10 ... +60°C

Pressure  
-0.95 ... +10 bar

Wearing parts kits  
→ 2 / 4.5-6



General technical data									
Actuation type		Stem actuated valve	Roller lever valve	Roller lever valve with idle return	Finger lever valve	Hand lever valve	Foot valve	Foot valve with mechanical detent	
Operating medium		Filtered compressed air, lubricated or unlubricated Vacuum <sup>1)</sup>							
Constructional design		Poppet valve, directly actuated							
Type of mounting		2 through-holes in housing <sup>2)</sup>							
Connection		G <sup>1</sup> / <sub>4</sub>							
Nominal size [mm]		7							
Standard nominal flow rate 1 → 2 [l/min]		600							
Operating pressure range [bar]		-0.95 ... +10							
Actuating force at 6 bar [N]									
Normally closed		37	10	15	6.7	5.5	26	45	
Normally open		93	26	38	17	–	37	–	
Temperature range [°C]		-10 ... +60							
Materials Housing		Die-cast aluminium							
Foot valves:		die-cast zinc							
Seals		Nitrile rubber							
Weight Valve [g]		130	230	250	210	320	595	1,760	
Safety guard [g]		–	–	–	–	–	1,200	660	

1) Vacuum connection at port 1  
2) Hand lever valve suitable for panel mounting  
Foot valves with flange eye on housing

4.5 Manually and mechanically actuated valves With threaded connections G<sup>1</sup>/<sub>4</sub>

# Valves with threaded connections G1/4

Technical data – 3/2-way valves

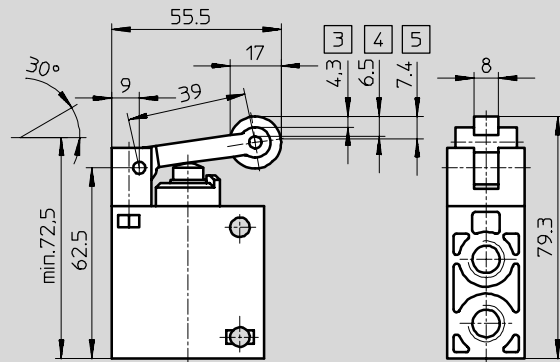
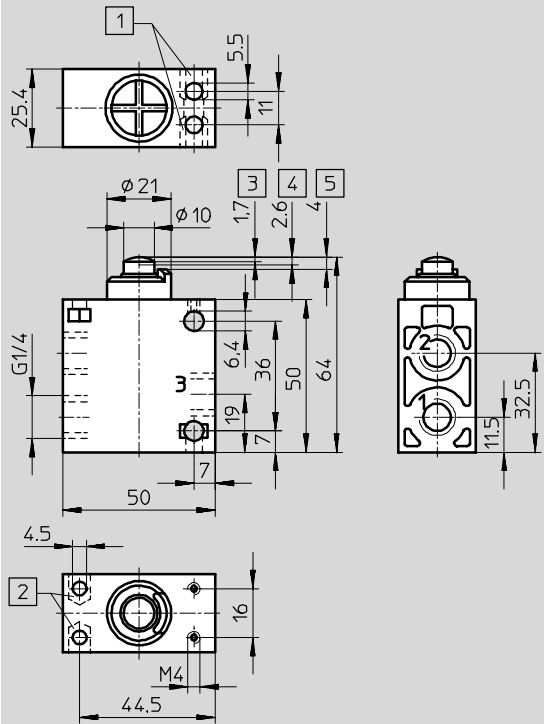


## Dimensions

Download CAD data → [www.festo.com/en/engineering](http://www.festo.com/en/engineering)

### Stem actuated valve V

### Roller lever valve R



1 For hex nut M5 DIN 934

2 For hex nut M4 DIN 934

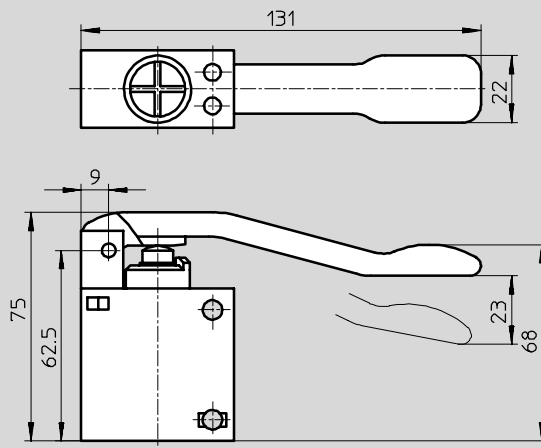
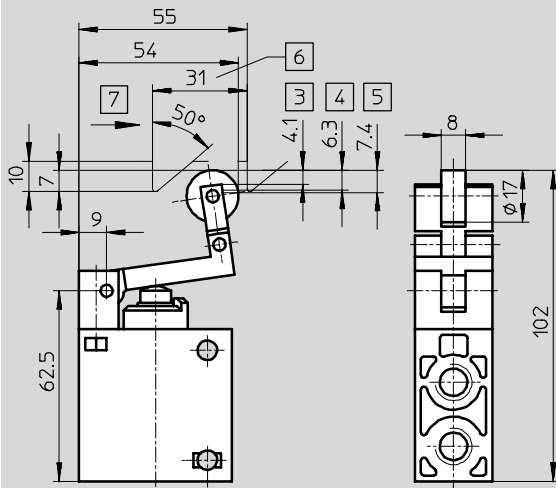
3 Start of opening

5 Max. stroke

4 Max. opening

### Roller lever valve with idle return L

### Finger lever valve TH



3 Start of opening

6 Cam operating path

4 Max. opening

7 Actuation direction

5 Max. stroke

# Valves with threaded connections G<sup>1</sup>/<sub>4</sub>

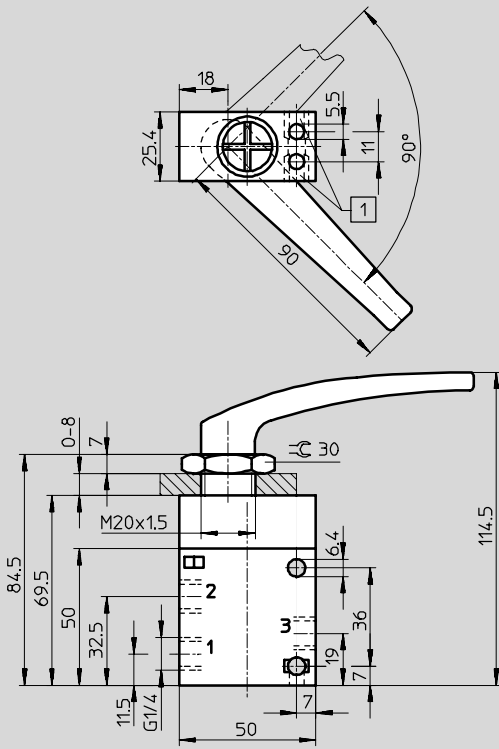
Technical data – 3/2-way valves



## Dimensions

Download CAD data → [www.festo.com/en/engineering](http://www.festo.com/en/engineering)

Hand lever valve H



1 For hex nut M5 DIN 934

2 Locking screw

Manually and mechanically actuated valves  
With threaded connections G<sup>1</sup>/<sub>4</sub>

4.5

# Valves with threaded connections G1/4

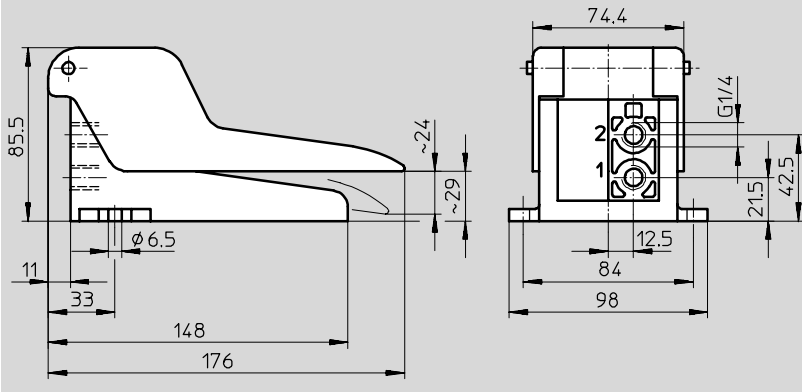
Technical data – 3/2-way valves

## Dimensions

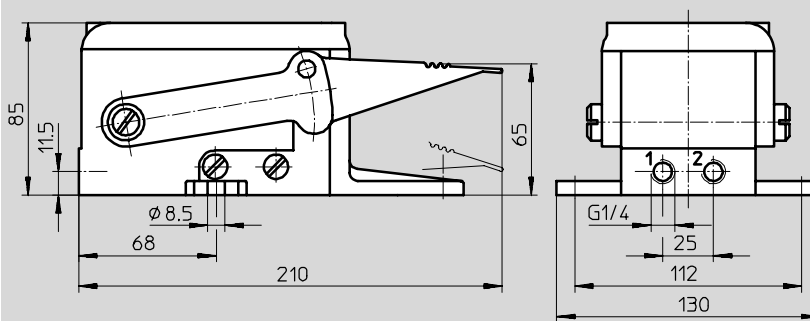
Download CAD data → [www.festo.com/en/engineering](http://www.festo.com/en/engineering)

Foot valve F


Foot valve FPB with mechanical detent



Foot valve FP with mechanical detent



- 1 = Supply port
- 2 = Working line

 Note

Foot valves with detent are actuated by means of a foot lever with mechanical detent. The valve engages when it is first actuated, and when the foot lever is actuated again, the valve returns to its initial position.

# Valves with threaded connections G<sup>1</sup>/<sub>4</sub>

Technical data – 3/2-way valves



Manually and mechanically actuated valves  
With threaded connections G<sup>1</sup>/<sub>4</sub>

4.5

Ordering data			
Circuit symbol	Actuation type	Part No.	Type
<b>Normally closed</b>			
	Stem actuated valve	6 808	V-3-1/4-B
	Roller lever valve	8 985	R-3-1/4-B
	Roller lever valve with idle return	8 982	L-3-1/4-B
	Finger lever valve	8 983	TH-3-1/4-B
	Hand lever valve	8 987	H-3-1/4-B
	Foot valve	8 984	F-3-1/4-B
	Foot valve with mechanical detent	8 986	FP-3-1/4-B
		526 985	FPB-3-1/4
<b>Normally open</b>			
	Stem actuated valve	9 157	VO-3-1/4-B
	Roller lever valve	8 991	RO-3-1/4-B
	Roller lever valve with idle return	8 989	LO-3-1/4-B
	Finger lever valve	8 990	THO-3-1/4-B
	Foot valve	8 988	FO-3-1/4-B

Ordering data – Wearing parts kits			
		Part No.	Type
For 3/2-way valves <sup>1)</sup>		104 503	V-,VO-3-1/4-B

1) not for foot valves F, FO, FP, FPB

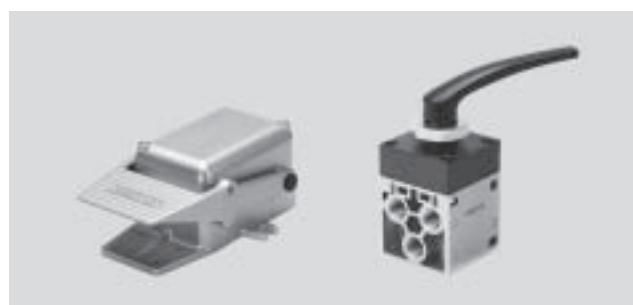


## Valves with threaded connections G<sup>1</sup>/<sub>4</sub>

Technical data – 5/2-way valves

FESTO

-  - Flow rate  
550 l/min
-  - Temperature range  
-10 ... +60°C
-  - Pressure  
-0.95 ... +10 bar
-  - Wearing parts kits  
→ 2 / 4.5-11



General technical data								
Actuation type		Stem actuated valve	Roller lever valve	Roller lever valve with idle return	Finger lever valve	Hand lever valve	Foot valve	Foot valve with mechanical detent
Operating medium		Filtered compressed air, lubricated or unlubricated Vacuum <sup>1)</sup>						
Constructional design		Poppet valve, directly actuated						
Type of mounting		2 through-holes in housing <sup>2)</sup>						
Connection		G <sup>1</sup> / <sub>4</sub>						
Nominal size [mm]		7						
Standard nominal flow rate 1 → 2 [l/min]		550						
Pressure range [bar]		-0.95 ... +10						
Actuating force at 6 bar [N]		132	35	53	24	22	52	69
Temperature range [°C]		-10 ... +60						
Materials	Housing	Die-cast aluminium, types F and FP: die-cast zinc						
	Seals	Nitrile rubber						
Weight	Valve [g]	240	340	360	320	510	705	1,845
	Safety guard [g]	-	-	-	-	-	1,200	660

- 1) Vacuum connection at port 1
- 2) Hand lever valve suitable for panel mounting  
Foot valves with flange eye on housing

# Valves with threaded connections G<sup>1</sup>/<sub>4</sub>

Technical data – 5/2-way valves

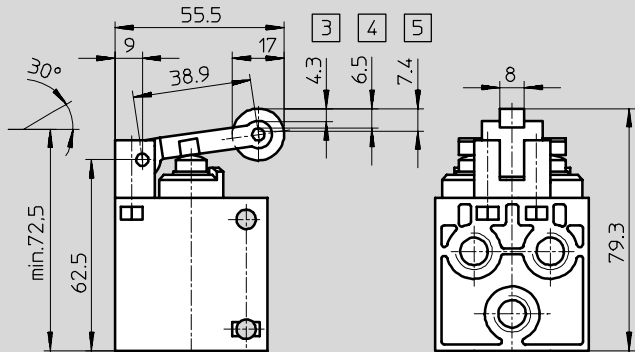
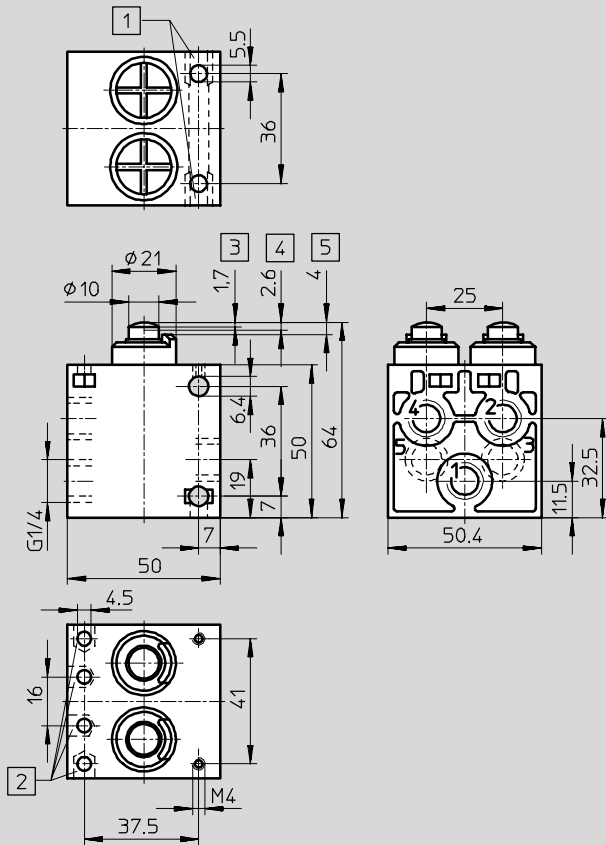


## Dimensions

Download CAD data → [www.festo.com/en/engineering](http://www.festo.com/en/engineering)

### Stem actuated valve V

### Roller lever valve R



1 For hex nut M5 DIN 934

2 For hex nut M4 DIN 934

3 Start of opening

5 Max. stroke

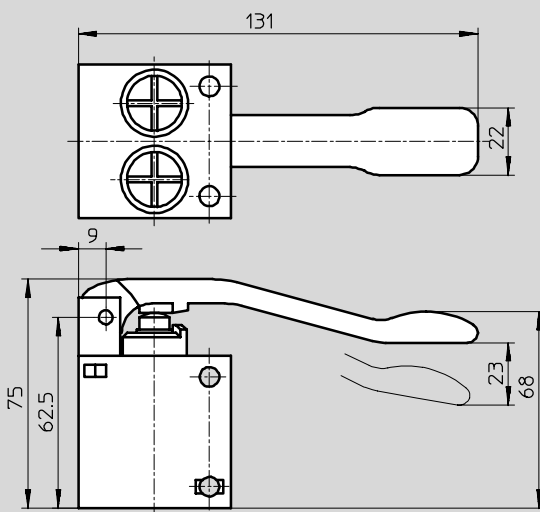
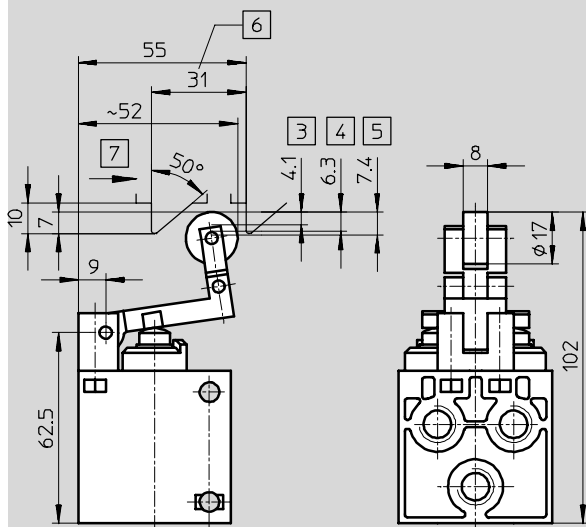
4 Max. opening

Manually and mechanically actuated valves  
With threaded connections G<sup>1</sup>/<sub>4</sub>

4.5

### Roller lever valve L

### Finger lever valve TH



3 Start of opening

6 Cam operating path

4 Max. opening

7 Actuation direction

5 Max. stroke



# Valves with threaded connections G<sup>1</sup>/<sub>4</sub>

Technical data – 5/2-way valves

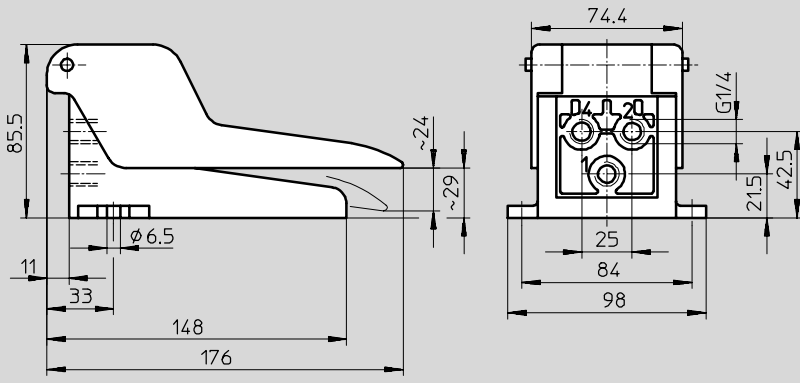


## Dimensions

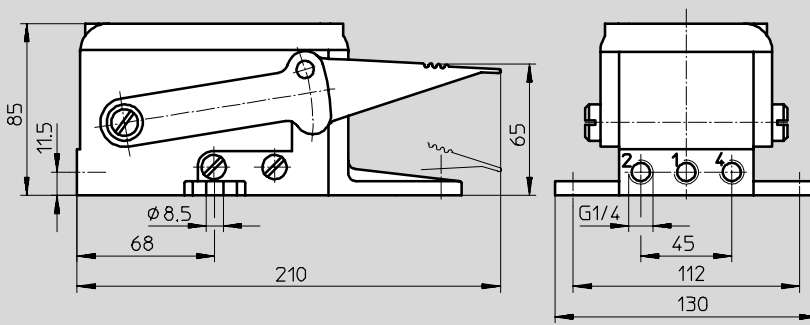
Download CAD data → [www.festo.com/en/engineering](http://www.festo.com/en/engineering)


Foot valve F

Foot valve FPB with mechanical detent



Foot valve FP with mechanical detent



-  - Note

Foot valves with detent are actuated by means of a foot lever with mechanical detent.

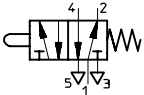
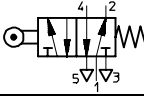
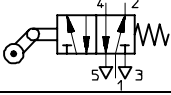
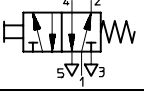
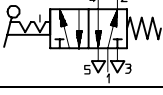
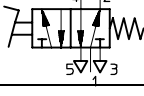
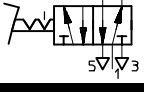
The valve engages when it is first actuated, and when the foot lever is actuated again, the valve returns to its initial position.

Manually and mechanically actuated valves  
With threaded connections G<sup>1</sup>/<sub>4</sub>

4.5

# Valves with threaded connections G<sup>1</sup>/<sub>4</sub>

Technical data – 5/2-way valves

Ordering data			
Circuit symbol	Actuation type	Part No.	Type
	Stem actuated valve	6 809	V-5-1/4-B
	Roller lever valve	8 996	R-5-1/4-B
	Roller lever valve with idle return	8 993	L-5-1/4-B
	Finger lever valve	8 994	TH-5-1/4-B
	Hand lever valve	8 995	H-5-1/4-B
	Foot valve	8 992	F-5-1/4-B
	Foot valve with mechanical detent	8 997	FP-5-1/4-B
		526 985	FPB-5-1/4

Ordering data – Wearing parts kits			
	Part No.	Type	
For 5/2-way valves <sup>1)</sup>	104 502	V-5-1/4-B	

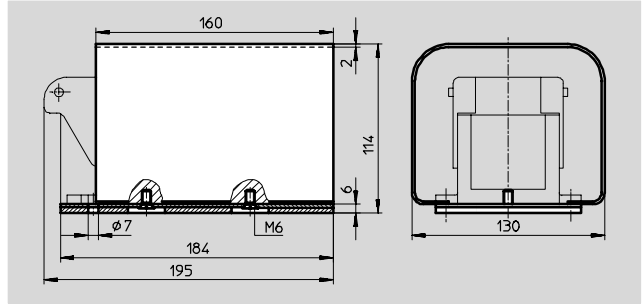
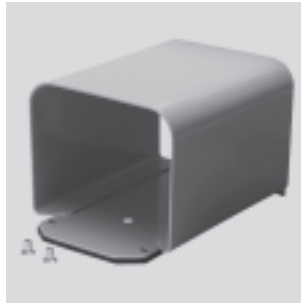
1) not for foot valves F, FP, FPB

# Valves with threaded connections G<sup>1/4</sup>

Accessories

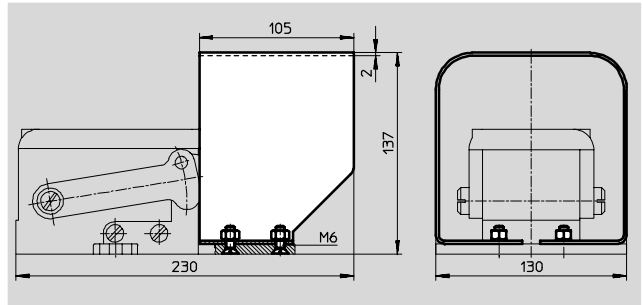
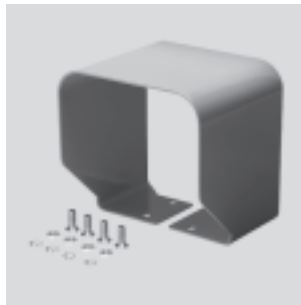


## Safety guard FH



Ordering data			
	Weight [g]	Part No.	Type
Safety guard for foot valve F	1,240	4 500	FH

## Safety guard FPH-121



Ordering data			
	Weight [g]	Part No.	Type
Safety guard for foot valve FP with mechanical detent	670	2 071	FPH-121

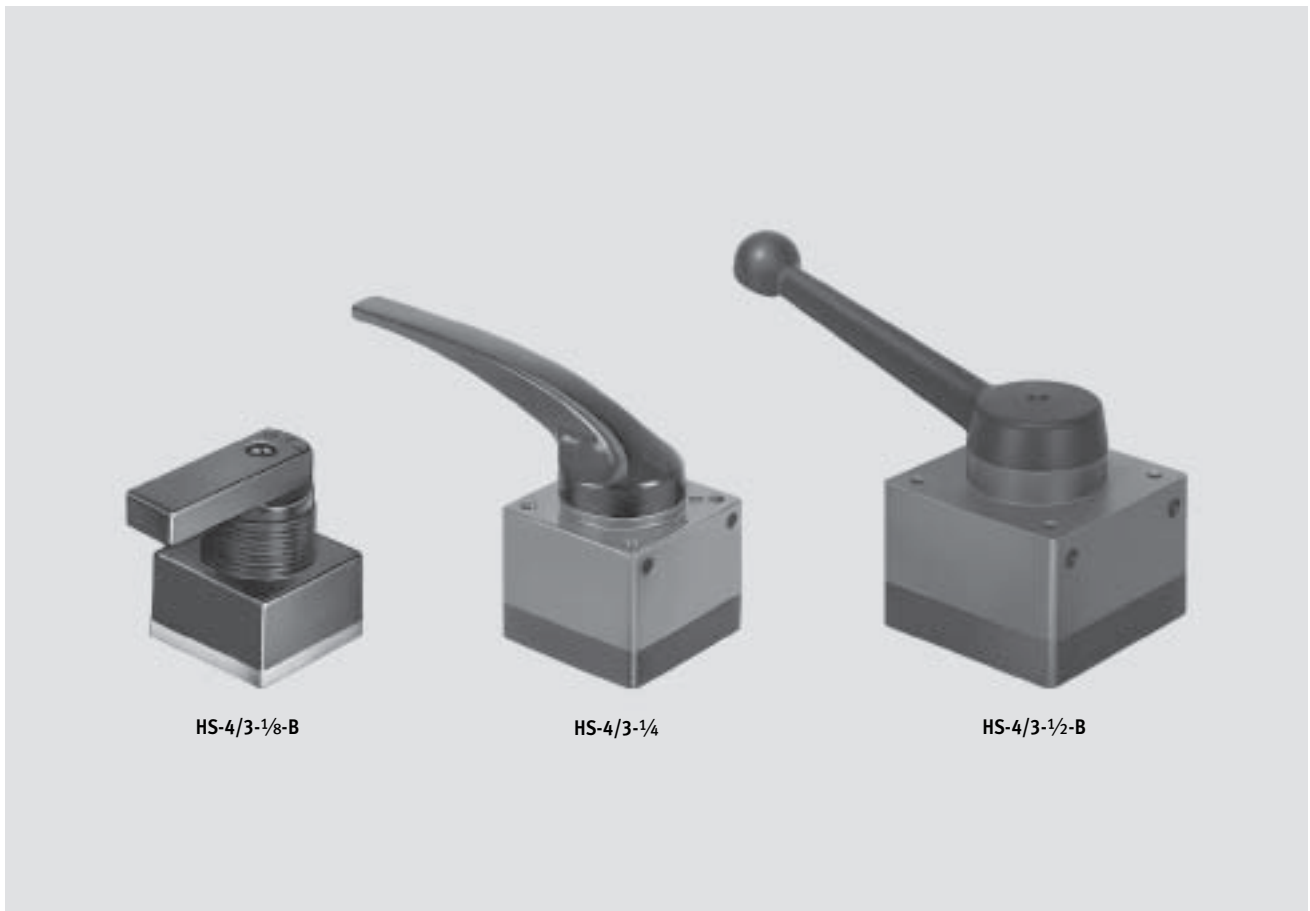
Manually and mechanically actuated valves  
With threaded connections G<sup>1/4</sup>

4.5

# Hand lever valves HS/HSO

Key features

FESTO



HS-4/3-1/8-B

HS-4/3-1/4

HS-4/3-1/2-B



Flow rate  
130 ... 3 500 l/min

- 4/3-way valve  
mid-position closed  
mid-position exhausted

■ Connections: M5, G $\frac{1}{8}$ , G $\frac{1}{4}$ , G $\frac{1}{2}$

- 3/3-way valve  
The hand lever valve HS can be used as a 3/3-way valve by sealing port 2.

With these valves it is possible to stop single acting cylinders (3/3-way valve) or double acting cylinders (4/3-way valve) within the stroke range.

If the hand lever valve is used, the

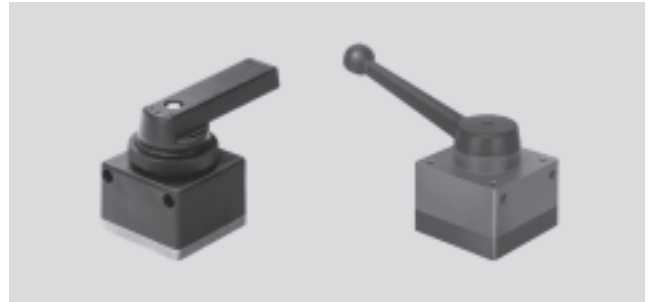
cylinder piston is held in its neutral position by applying pressure at both sides, whereas if type HSO is used, the piston can be moved without pressure.

# Hand lever valves HS/HSO

Technical data



- - Flow rate  
130 ... 3,500 l/min
- - Pressure  
-0.95 ... +10 bar
- - Temperature range  
-10 ... +80°C



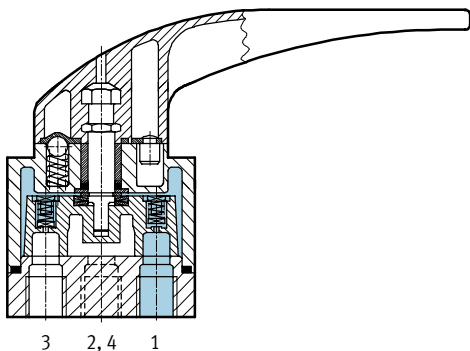
General technical data				
Pneumatic connection	M5	G1/8	G1/4	G1/2
Operating medium	Filtered compressed air, lubricated or unlubricated Vacuum <sup>1)</sup>			
Constructional design	Flat slide valve			
Type of mounting	Front panel mounting	Front panel mounting, mounting holes	Front panel mounting	
Nominal size [mm]	3.6	6	8	12
Standard nominal flow rate 1 → 4 [l/min]	130	700	1,200	3,500
Operating pressure range [bar]	-0.95 ... +10 bar			
Actuating force at 6 bar [N]	-	-	12	26
Actuating torque at 6 bar [Nm]	0.3	1	-	-
Temperature range [°C]	-20 ... +80			
Materials	Housing	Aluminium die-cast, polymer material		
	Seals	Nitrile rubber		
Weight [g]	35	120	390	1,350

1) M5: vacuum at ports 1 and 3  
G1/8: vacuum at port 3  
G1/4: vacuum at ports 1 and 3  
G1/2: vacuum at port 3

Manually and mechanically actuated valves  
Hand lever valves

## 4.6

HS...-...1/4

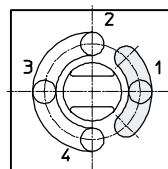
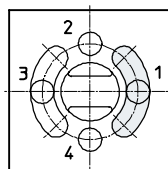


- 1 = Supply port
- 4, 2 = Working or outlet lines
- 3 = Exhaust

Connections underneath

HS

HSO

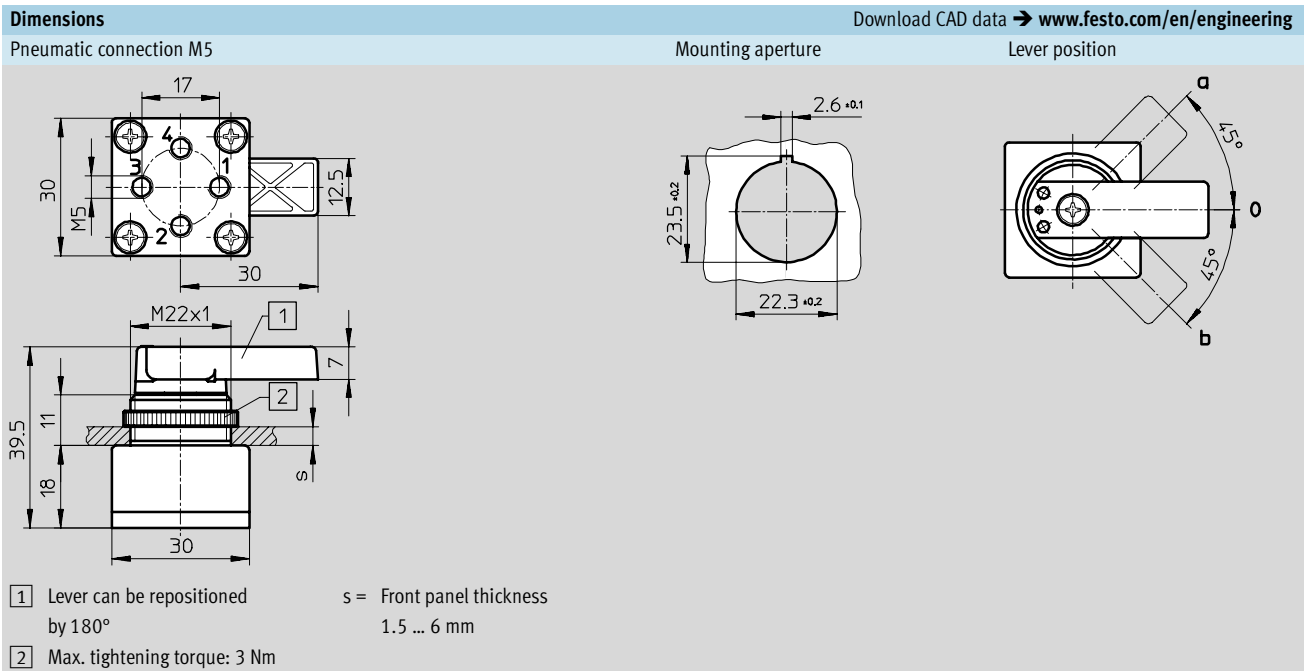




# Hand lever valves HS/HSO

Technical data

FESTO



# Hand lever valves HS/HSO

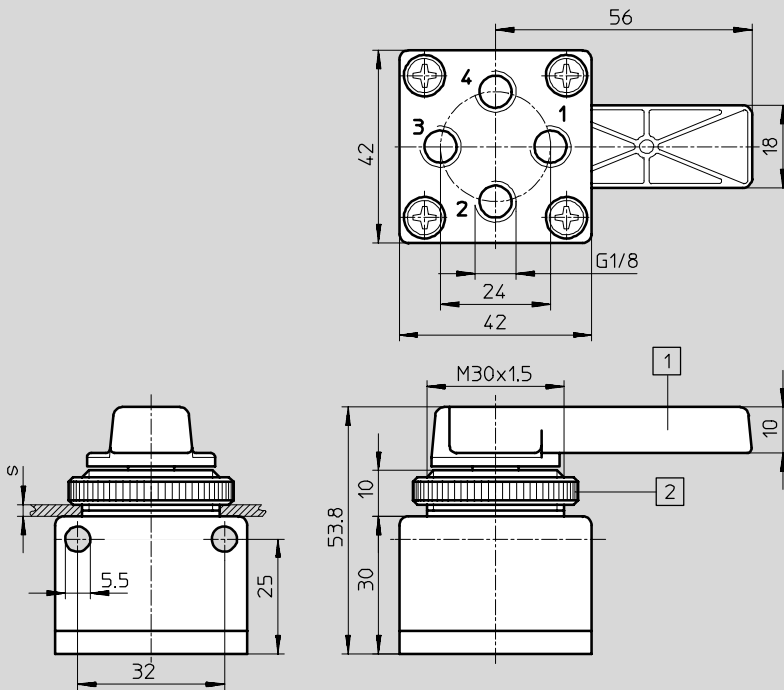
Technical data

FESTO

## Dimensions

Download CAD data → [www.festo.com/en/engineering](http://www.festo.com/en/engineering)

Pneumatic connection G1/8

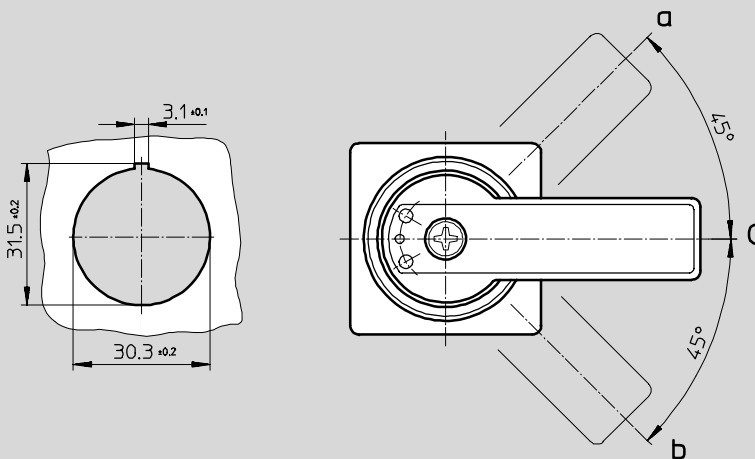


- 1 Lever can be repositioned by 180°
- 2 Max. tightening torque: 3 Nm

s = Front panel thickness  
2 ... 5 mm

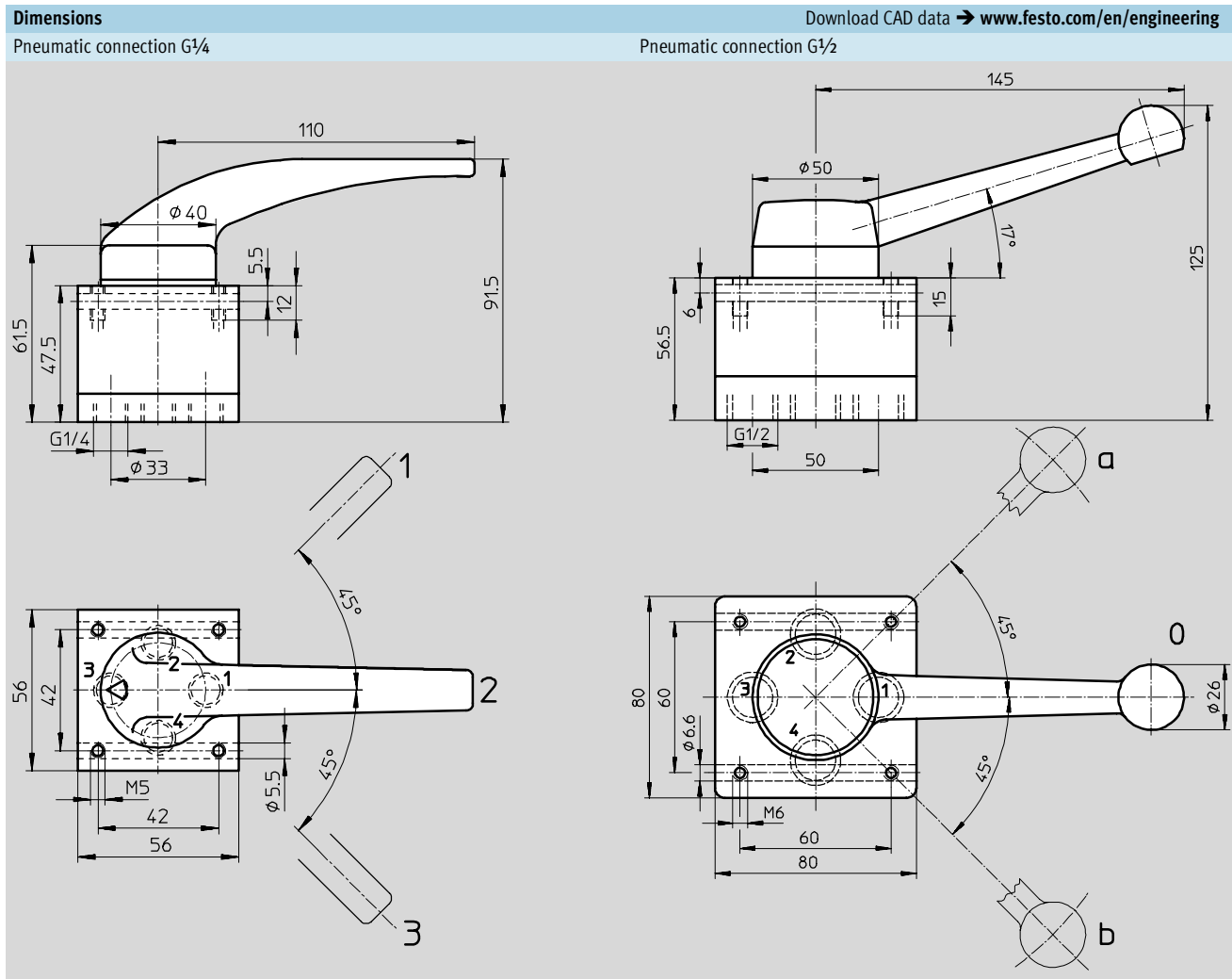
## Mounting aperture

## Lever position



# Hand lever valves HS/HSO

Technical data






Ordering data				
Circuit symbol	Description	Pneumatic connection	Part No.	Type
4/3-way valve <sup>1)</sup>				
	Mid-position closed	M5	34 639	HS-4/3-M5
		G1/8	151 842	HS-4/3-1/8-B
		G1/4	9 339	HS-4/3-1/4
		G1/2	9 784	HS-4/3-1/2-B
	Mid-position exhausted	M5	34 539	HSO-4/3-M5
		G1/8	151 843	HSO-4/3-1/8-B
		G1/4	9 340	HSO-4/3-1/4
		G1/2	9 785	HSO-4/3-1/2-B

1) The hand lever valve HS can be used as a 3/3-way valve by sealing port 2, blanking plugs → 2 / 4.6-6

# Hand lever valves HS/HSO

Accessories

**FESTO**

Ordering data				
	Description	Pneumatic connection	Part No.	Type
<b>Blanking plugs</b>				
	For sealing connections	M5	<b>3 843</b>	<b>B-M5<sup>1)</sup></b>
		G1/8	<b>3 568</b>	<b>B-1/8<sup>1)</sup></b>
		G1/4	<b>3 569</b>	<b>B-1/4<sup>1)</sup></b>
		G1/2	<b>3 571</b>	<b>B-1/2<sup>1)</sup></b>
<b>Silencer</b>				
	For fitting in exhaust ports	-	→ Volume 3	
<b>Push-in/threaded fittings QS</b>				
	For connecting compressed air tubing with standard external diameters	-	→ Volume 3	

1) Scope of delivery 10 pieces