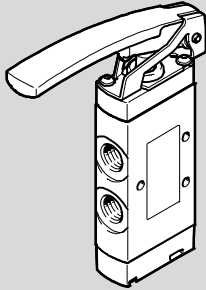


Manually operated valves

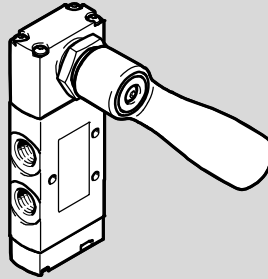


Manually operated valves

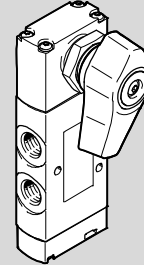
Key features



Finger lever valve



Hand lever valve



Selector valve

Innovative

- Small and compact for a wide range of pneumatic applications
- Numerous selectable valve functions: 3/2-way and 5/2-way functions
- With flow rates of up to 1200 l/min, valves VHEF offer outstanding pneumatic performance for a wide range of applications
- Light weight
- Minimal actuating forces

Versatile

- Flexibility of the pneumatic working lines provides a practical solution to different requirements
- The 3/2-way valve be used as normally closed (NC) or normally open (NO)
- Round silencer or ducted exhaust air
- Suitable for vacuum
- Reverse operation possible
- Pressure range from vacuum to 10 bar possible
- Version:
 - Finger lever valve
 - Hand lever valve
 - Selector valve

Reliable

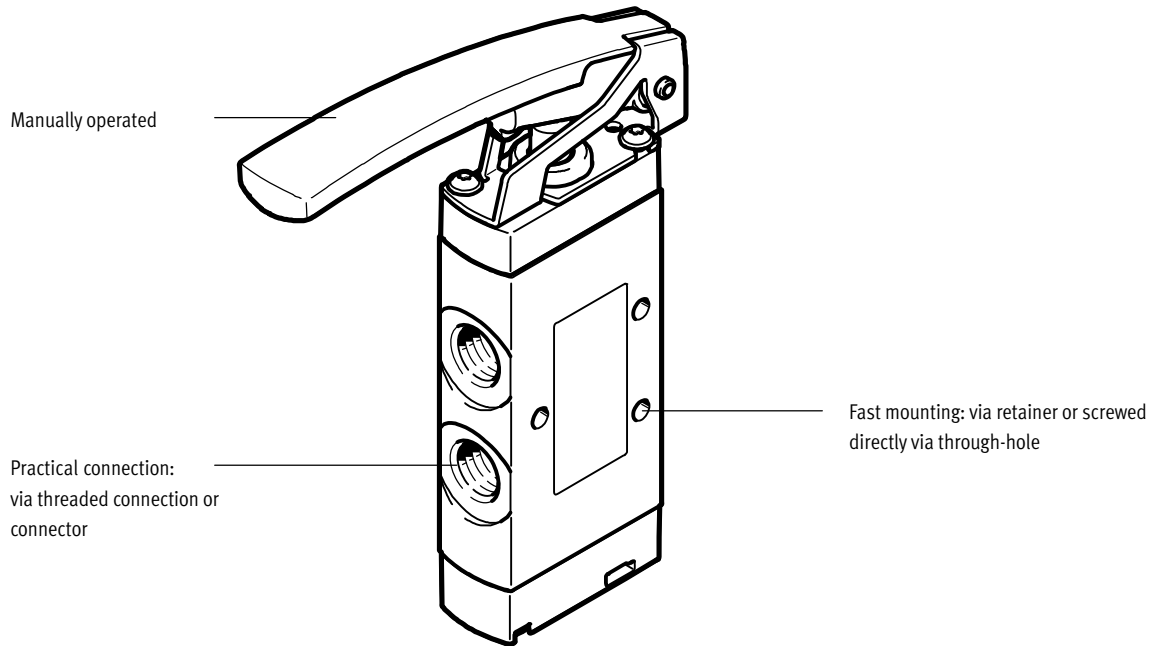
- Durable thanks to tried and tested piston spool and disc seat valves
- Robust construction: basic valve made from metal, cover made from plastic

Easy to install

- Mounted using mounting holes
- Front panel mounting possible for hand lever valve and selector valve using retaining nut

Manually operated valves

Key features



Equipment options

Similarities

- Mechanical spring
- Vacuum operation possible
- Reversible
- Directly actuated
- Ducted exhaust air

Differences

3/2-way valve,

monostable (M32)

- Normally open/closed (NO, NC)
- Non-detenting (monostable)

bistable (B32)

detenting (bistable)

5/2-way valve,

monostable (M52)

- Resetting
- Non-detenting (monostable)

bistable (B52)

detenting (bistable)

5/3-way valve,

detenting (B53C)

mid-position closed

detenting (B53E)

mid-position exhausted

non-detenting (P53C)

mid-position closed

non-detenting (P53E)

mid-position exhausted

Valve selection

→ Internet: www.festo.com

You can order mechanically and manually operated directional control valves using the order code:

Ordering system for valves

→ Internet: vhef

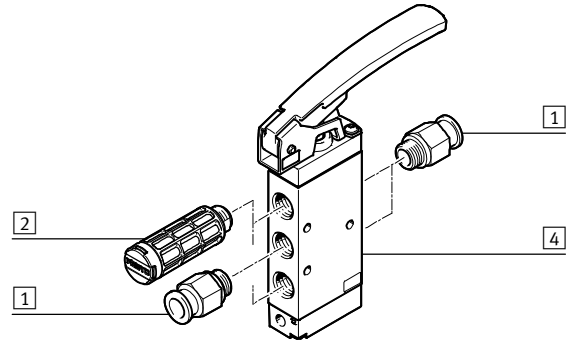
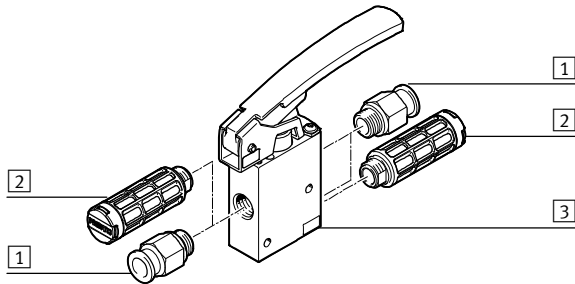
Manually operated valves

Peripherals overview

Finger lever valve, manually operated

3/2-way valve

5/2-way valve

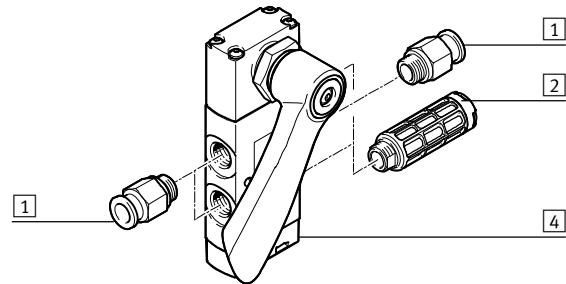
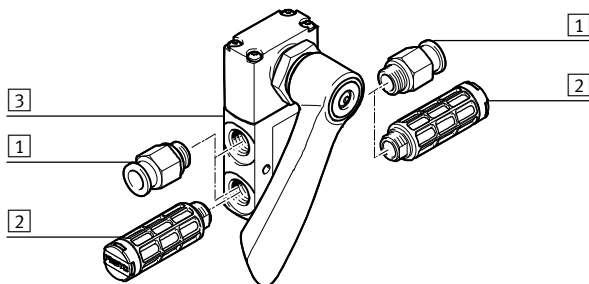


	Brief description	→ Page/Internet	
1	Fitting	For supply air/exhaust ports (1, 3, 5) and working ports (2, 4)	24
2	Silencers	For exhaust ports (3, 5)	24
3	3/2-way valve	VHEF-LT-M32...	9
4	5/2-way valve	VHEF-L-M52...	9

Hand lever valve, manually operated

3/2-way valve

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



	Brief description	→ Page/Internet	
1	Fitting	For supply air/exhaust ports (1, 3, 5) and working ports (2, 4)	24
2	Silencers	For exhaust ports (3, 5)	24
3	3/2-way valve	VHEF-HST...32...	14
4	5/2- or 5/3-way valve	VHEF-HS...52..., VHEF-HS...53...	14

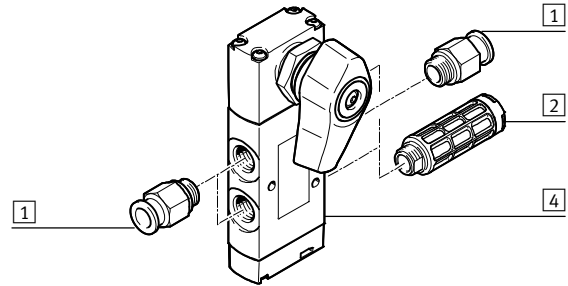
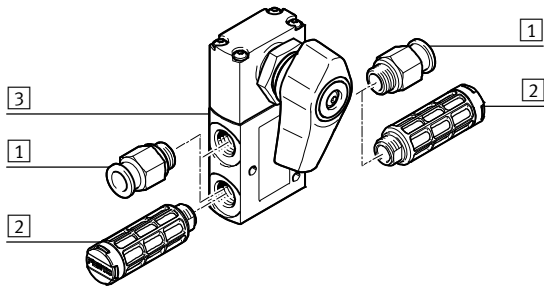
Manually operated valves

Peripherals overview

Selector valve, manually operated

3/2-way valve

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



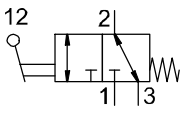
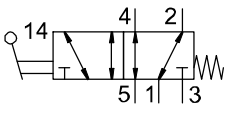
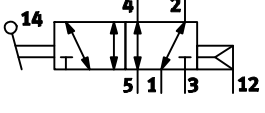
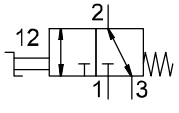
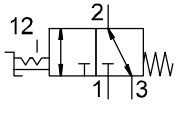
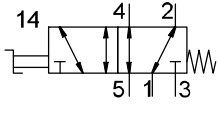
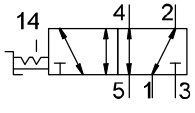
	Brief description	→ Page/Internet
1	Fitting For supply air/exhaust ports (1, 3, 5) and working ports (2, 4)	24
2	Silencers For exhaust ports (3, 5)	24
3	3/2-way valve VHEF-EST...32...	19
4	5/2- or 5/3-way valve VHEF-ES...52..., VHEF-ES...53...	19

Manually operated valves

Key features

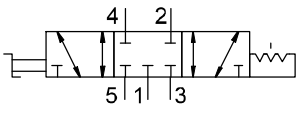
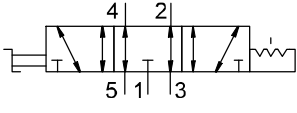
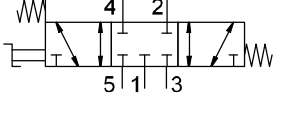
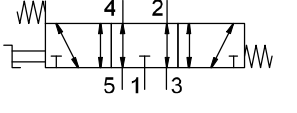
Manually operated valves

Manually operated valves are used in all industrial sectors, as well as in the skilled trades. They are used to carry out simple processes such as clamping or closing safety doors. Depending on the required actuation (pushing, rotating/swivelling or tilting), the valves are either resetting or non-resetting. The valves are directly actuated.

Valve functions		
Circuit symbol	Type	Description
Finger lever valve		
	VHEF-LT-M32-M...	3/2-way valve <ul style="list-style-type: none"> • Monostable • Reverse operation possible • Normally closed, can also be used as normally open • Reset via mechanical spring • Suitable for vacuum
	VHEF-L-M52-M...	5/2-way valve <ul style="list-style-type: none"> • Monostable • Reverse operation possible • Mechanical spring return • Suitable for vacuum
	VHEF-L-M52-E...	5/2-way valve <ul style="list-style-type: none"> • Monostable • Reverse operation possible • Reset via pneumatic spring • Suitable for vacuum
Hand lever valve, selector valve		
	VHEF-HST-M32-M... VHEF-EST-M32-M...	3/2-way valve <ul style="list-style-type: none"> • Monostable • Reverse operation possible • Normally closed, can also be used as normally open • Reset via mechanical spring • Suitable for vacuum
	VHEF-HST-B32-... VHEF-EST-B32-...	3/2-way valve <ul style="list-style-type: none"> • Bistable • Reverse operation possible • Normally closed, can also be used as normally open • Reset via mechanical spring • Suitable for vacuum
	VHEF-HS-M52-M... VHEF-ES-M52-M...	5/2-way valve <ul style="list-style-type: none"> • Monostable • Reverse operation possible • Mechanical spring return • Suitable for vacuum
	VHEF-HS-B52-... VHEF-ES-B52-...	5/2-way valve <ul style="list-style-type: none"> • Bistable • Reverse operation possible • Suitable for vacuum

Manually operated valves

Key features

Valve functions		
Circuit symbol	Type	Description
Hand lever valve, selector valve		
	VHEF-HS-B53C-... VHEF-ES-B53C-...	5/3-way valve <ul style="list-style-type: none"> • Mid-position closed • Reverse operation possible • Suitable for vacuum
	VHEF-HS-B53E-... VHEF-ES-B53E-...	5/3-way valve <ul style="list-style-type: none"> • Mid-position open (exhausted) • Reverse operation possible • Suitable for vacuum
	VHEF-HS-P53C-M-... VHEF-ES-P53C-M-...	5/3-way valve <ul style="list-style-type: none"> • Mid-position closed • Reverse operation possible • Mechanical spring return • Suitable for vacuum
	VHEF-HS-P53E-M-... VHEF-ES-P53E-M-...	5/3-way valve <ul style="list-style-type: none"> • Mid-position open (exhausted) • Reverse operation possible • Mechanical spring return • Suitable for vacuum

 **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).

Manually operated valves


Type codes


		VHEF	-		-		-		-	
Valve series										
VHEF	Manually operated valves									
Version										
Actuation										
L	Finger lever									
ES	Selector switch, at the side									
HS	Hand lever, at the side									
Design principle										
-	Piston spool									
T	Disc seat									
Valve function										
B32	3/2-way valve, detenting									
B52	5/2-way valve, detenting									
M32	3/2-way valve, monostable, normally closed or open									
M52	5/2-way valve, monostable, resetting									
B53C	5/3-way valve, detenting, mid-position closed									
B53E	5/3-way valve, detenting, mid-position exhausted									
P53C	5/3-way valve, mid-position closed									
P53E	5/3-way valve, mid-position exhausted									
Reset method for monostable valves										
-	None (for bistable valves)									
E	Pneumatic spring									
M	Mechanical spring									
Pneumatic connection										
G14	G1/4 thread									
G18	G1/8 thread									
N14	1/4 NPT thread									
N18	1/8 NPT thread									


Manually operated valves

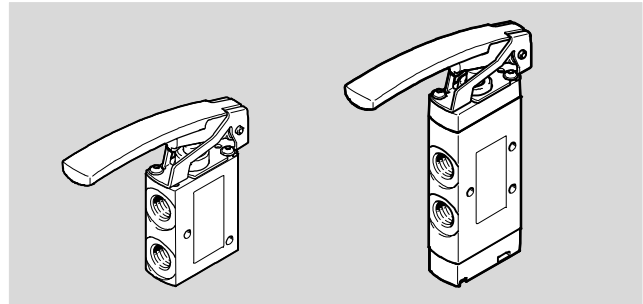
Technical data – Finger lever valve

FESTO

-  - Flow rate
750 ... 1200 l/min

-  - Pressure
-0.95 ... 10 bar

-  - Temperature range
-10 ... +60 °C



General technical data							
Type	VHEF-LT-M32-M-...		VHEF-L-M52-M-...		VHEF-L-M52-E-...		
Valve function	3/2-way valve, open/closed, monostable		5/2-way valve, monostable		5/2-way valve, monostable		
Standard nominal flow rate [l/min] 1 → 2	750	870	750	1200	750	1200	
Design	Disc seat		Piston spool		Piston spool		
Type of reset	Mechanical spring		Mechanical spring		Pneumatic spring		
Flow direction	Reversible						
Type of control	Directly actuated						
Mounting position	Any						
Width [mm]	20						
Actuation type	Manual						
Exhaust air function	With flow control option						
Sealing principle	Soft						
Notes regarding use	Actuate manually only						
Type of mounting	Via through-hole						
Max. switching frequency [Hz]	0.5						
Actuating force [N]	14	14	10	12	8	14	
Pneumatic connection: G thread 1, 2, 3 4, 5	G1/8 -	G1/4 -	G1/8 G1/8	G1/4 G1/4	G1/8 G1/8	G1/4 G1/4	
Pneumatic connection: NPT thread 1, 2, 3 4, 5	1/8 NPT -	1/4 NPT -	1/8 NPT 1/8 NPT	1/4 NPT 1/4 NPT	1/8 NPT 1/8 NPT	1/4 NPT 1/4 NPT	
Pilot air port 12/14	-	-	-	-	M5	M5	
Nominal width [mm]	5.6	6	5.2	7	5.2	7	

Manually operated valves

Technical data – Finger lever valve

Materials	
Housing	Anodised wrought aluminium alloy
Lever	Reinforced PA
Cover	Reinforced PA (VMEF...-M52)
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
	[psi] -14 ... 145
Temperature of medium	[°C] -10 ... +60
Ambient temperature	[°C] -10 ... +60
Corrosion resistance class CRC ¹⁾	1

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

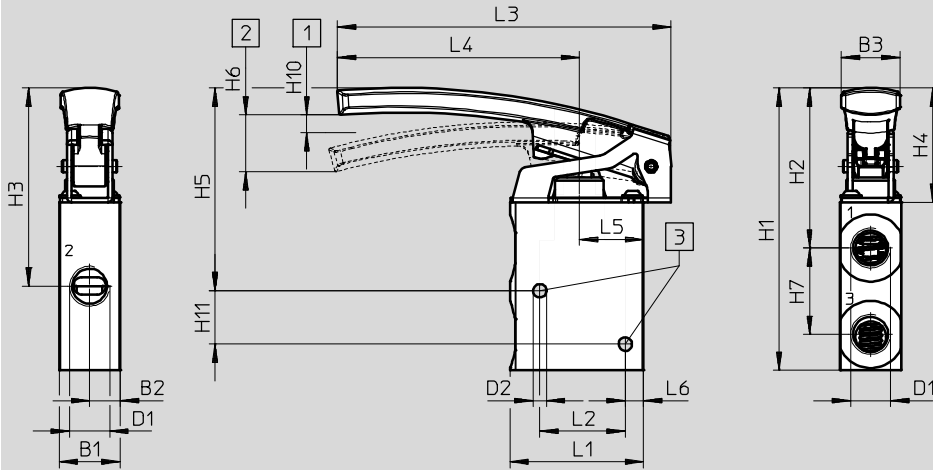
Manually operated valves

Technical data – Finger lever valve

Dimensions

Download CAD data → www.festo.com

3/2-way valve



- 1 Start of opening
- 2 Maximum stroke
- 3 Mounting holes for screws M4

Type	B1	B2	B3	D1	D2 Ø	L1	L2	L3	L4	L5
VHEF-LT-M32-M-G14	20	10	19.1	G1/4	4.4	43.7	28	109.3	79.3	21
VHEF-LT-M32-M-N14				1/4 NPT						
VHEF-LT-M32-M-G18				G1/8						
VHEF-LT-M32-M-N18				1/8 NPT						

Type	L6	H1	H2	H3	H4	H5	H6	H7	H10	H11
VHEF-LT-M32-M-G14	6	92.5	52.5	65	37.5	66.5	18.6	28.3	6.3	17.5
VHEF-LT-M32-M-N14										
VHEF-LT-M32-M-G18										
VHEF-LT-M32-M-N18										

Manually operated valves

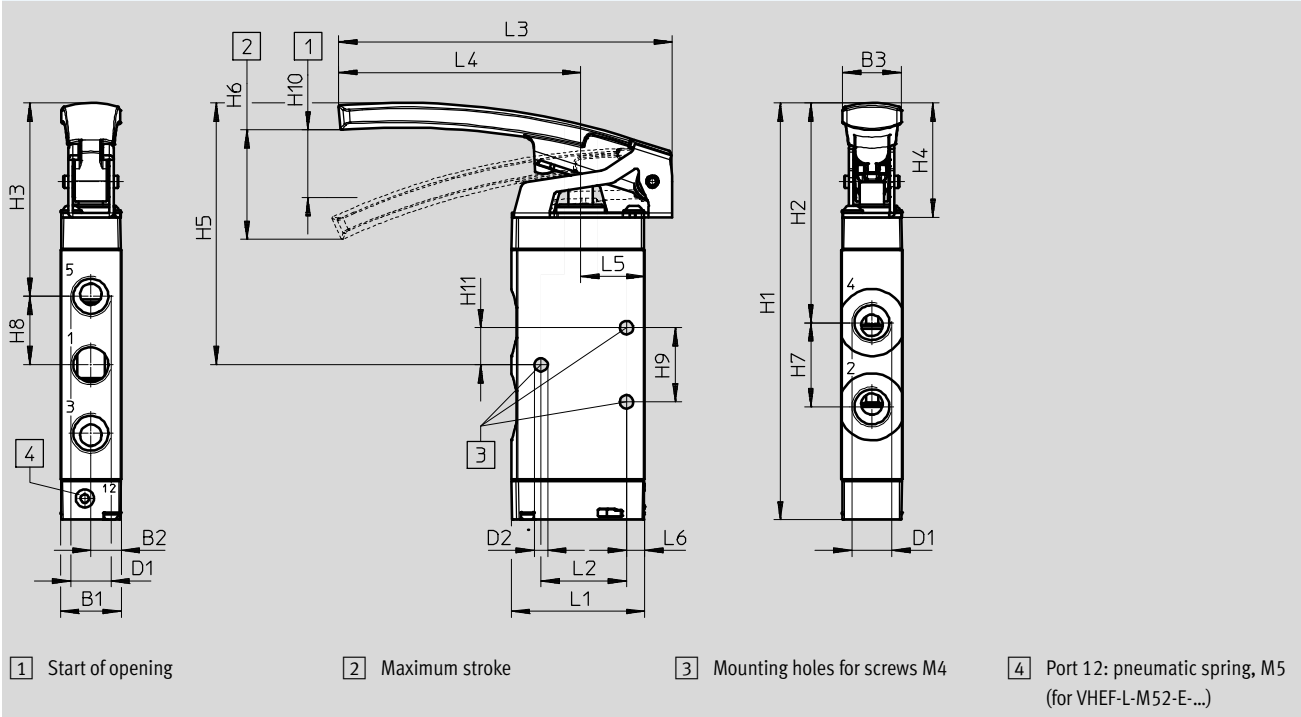
Technical data – Finger lever valve

FESTO

Dimensions

Download CAD data → www.festo.com

5/2-way valve



Type	B1	B2	B3	D1	D2 ∅	L1	L2	L3	L4	L5	L6
VHEF-L-M52-M-G18	20	10	19.1	G1/8	4.4	43.7	28	109.3	79.3	21	6
VHEF-L-M52-M-N18				1/8 NPT							
VHEF-L-M52-E-G18				G1/8							
VHEF-L-M52-E-N18				1/8 NPT							
VHEF-L-M52-M-G14				G1/4							
VHEF-L-M52-M-N14				1/4 NPT							
VHEF-L-M52-E-G14				G1/4							
VHEF-L-M52-E-N14				1/4 NPT							

Type	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	H11
VHEF-L-M52-M-G18	120	67.7	60.5	37.5	77.5	35.8	19.6	17	18	13.2	9
VHEF-L-M52-M-N18											
VHEF-L-M52-E-G18											
VHEF-L-M52-E-N18											
VHEF-L-M52-M-G14	136.6	72	63.3	85.8			27.6	22.5	24.3	22.2	12.2
VHEF-L-M52-M-N14											
VHEF-L-M52-E-G14											
VHEF-L-M52-E-N14											




Manually operated valves

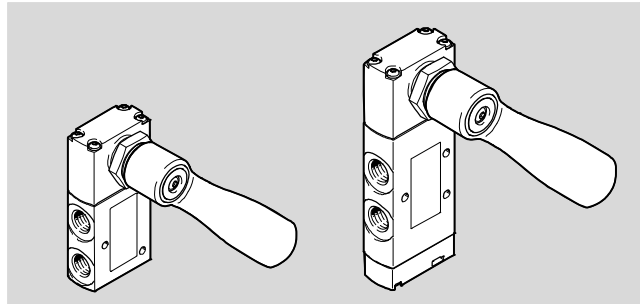
Technical data – Finger lever valve

Ordering data					
Description	Reset	Nominal flow rate [l/min]	Weight [g]	Part No.	Type
G thread					
3/2-way valve	Mechanical	750	156	4500009	VHEF-LT-M32-M-G18
		870	150	4500008	VHEF-LT-M32-M-G14
5/2-way valve	Mechanical	750	185	4500001	VHEF-L-M52-M-G18
	Pneumatic		184	4500005	VHEF-L-M52-E-G18
	Mechanical	1200	218	4500000	VHEF-L-M52-M-G14
	Pneumatic		217	4500004	VHEF-L-M52-E-G14
NPT thread					
3/2-way valve	Mechanical	750	156	4500011	VHEF-LT-M32-M-N18
		870	150	4500010	VHEF-LT-M32-M-N14
5/2-way valve	Mechanical	750	185	4500003	VHEF-L-M52-M-N18
	Pneumatic	750	184	4500007	VHEF-L-M52-E-N18
	Mechanical	1200	218	4500002	VHEF-L-M52-M-N14
	Pneumatic	1200	217	4500006	VHEF-L-M52-E-N14

Manually operated valves

Technical data – Hand lever valve

-  Flow rate
650 ... 1200 l/min
-  Pressure
-0.95 ... 10 bar
-  Temperature range
-10 ... +60 °C



General technical data	
Design	Hand lever, at the side
Width [mm]	20
Type of control	Directly actuated
Notes regarding use	Actuate manually only
Actuation type	Manual
Type of mounting	Via through-hole or front panel using retaining nut
Sealing principle	Soft
Non-overlapping	Yes
Flow direction	Reversible
Exhaust air function	With flow control option
Mounting position	Any
Max. force when actuating the hand lever ¹⁾ [N]	200
Max. lateral force when actuating the hand lever ¹⁾ [N]	200
Max. switching frequency [Hz]	0.5

1) Determined at a distance of 80 mm from the centre of the hand lever fitting

Technical data – 3/2-way valve				
Type	VHEF-HST-B32...18	VHEF-HST-B32...14	VHEF-HST-M32...18	VHEF-HST-M32...14
Version	Disc seat valve			
Standard nominal flow rate 1 → 2 [l/min]	750	870	750	870
Valve function	3/2-way valve, bistable		3/2-way valve, open/closed, monostable	
Type of reset	-		Mechanical spring	
Manual override	Detenting		-	
Actuating torque [Nm]	0.7		0.6	
Pneumatic connection G thread 1, 2, 3	G1/8	G1/4	G1/8	G1/4
Pneumatic connection NPT thread 1, 2, 3	1/8 NPT	1/4 NPT	1/8 NPT	1/4 NPT
Nominal width [mm]	5.6	6	5.6	6

Manually operated valves

Technical data – Hand lever valve

Technical data – 5/2-way valve				
Type	VHEF-HS-M52-M-...18	VHEF-HS-M52-M-...14	VHEF-HS-B52-...18	VHEF-HS-B52-...14
Version	Piston spool			
Standard nominal flow rate [l/min] 1 → 2	750	1200	750	1200
Valve function	5/2-way valve, monostable		5/2-way valve, bistable	
Type of reset	Mechanical spring		–	
Manual override	–	–	Detenting	Detenting
Actuating torque [Nm]	0.6			
Pneumatic connection G thread 1, 2, 3, 4, 5	G1/8	G1/4	G1/8	G1/4
Pneumatic connection NPT thread 1, 2, 3, 4, 5	1/8 NPT	1/4 NPT	1/8 NPT	1/4 NPT
Nominal width [mm]	5.2	7	5.2	7

Technical data – 5/3-way valve								
Type VHEF-HS-	B53C-...18	B53C-...14	B53E-...18	B53E-...14	P53C-...18	P53C-...14	P53E-...18	P53E-...14
Version	Piston spool							
Standard nominal flow rate [l/min] 1 → 2	750	1200	530	900	700	1200	530	900
Valve function	5/3-way valve, closed		5/2-way valve, exhausted		5/3-way valve, closed		5/3-way valve, exhausted	
Type of reset	–		–		Mechanical spring		Mechanical spring	
Manual override	Detenting		Detenting		–		–	
Actuating torque [Nm]	0.7							
Pneumatic connection G thread 1, 2, 3, 4, 5	G1/8	G1/4	G1/8	G1/4	G1/4	G1/4	G1/4	G1/4
Pneumatic connection NPT thread 1, 2, 3, 4, 5	1/8 NPT	1/4 NPT	1/8 NPT	1/4 NPT	1/4 NPT	1/4 NPT	1/4 NPT	1/4 NPT
Nominal width [mm]	5.2	7	5.2	7	5.2	7	5.2	7

Materials	
Housing	Anodised wrought aluminium alloy
Lever	Reinforced PA
Cover	Reinforced PA
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
[psi]	–14 ... 145
Temperature of medium [°C]	–10 ... +60
Ambient temperature [°C]	–10 ... +60
Corrosion resistance class CRC ¹⁾	1

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

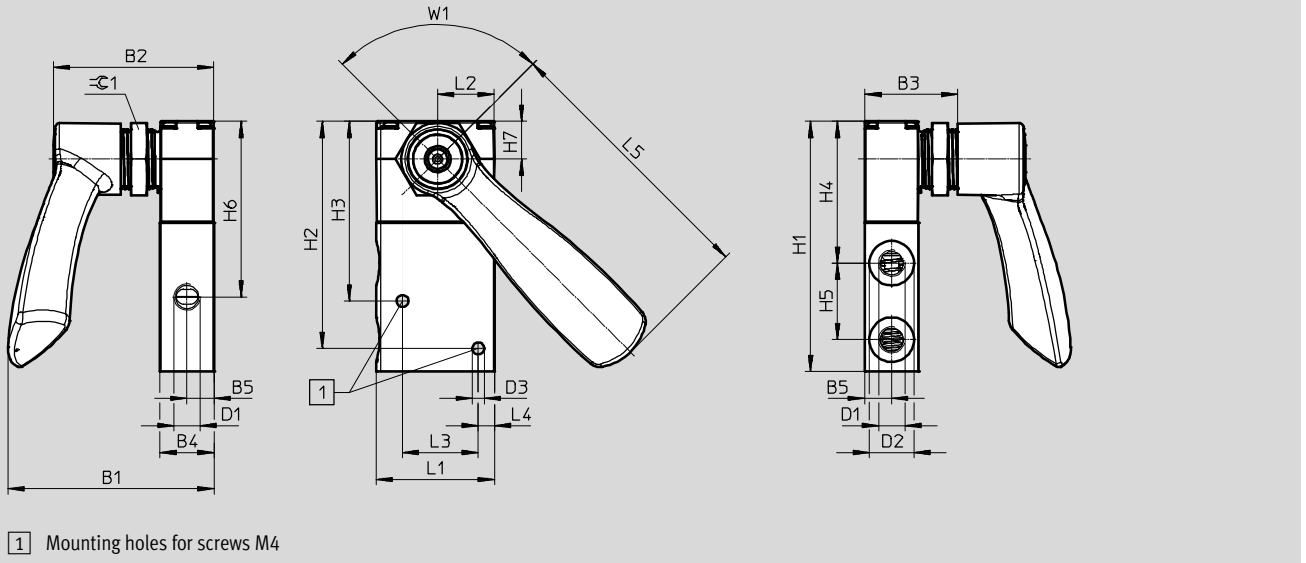
Manually operated valves

Technical data – Hand lever valve

Dimensions

Download CAD data → www.festo.com

3/2-way valve



Type	B1	B2	B3	B4	B5	D1	D2 Ø	D3 Ø	H1	H2	H3
VHEF-HST...32...-G18	76.2	59.5	34.5	20	10	G1/8	16.5	4.4	92.5	84	66.5
VHEF-HST...32...-N18						1/8 NPT					
VHEF-HST...32...-G14						G1/4					
VHEF-HST...32...-N14						1/4 NPT					

Type	H4	H5	H6	H7	L1	L2	L3	L4	L5	W1	⊥ 1
VHEF-HST...32...-G18	52.5	28.3	65	14	43.7	20.9	28	6	100.8	90°	A/F 27
VHEF-HST...32...-N18											
VHEF-HST...32...-G14											
VHEF-HST...32...-N14											

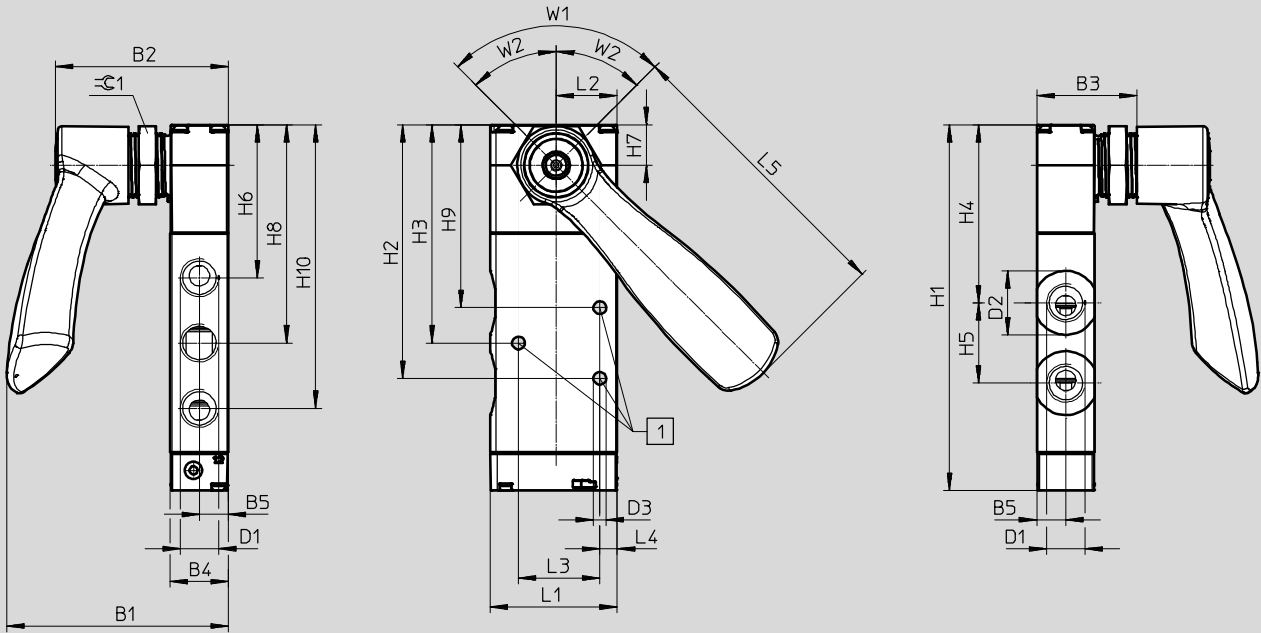
Manually operated valves

Technical data – Hand lever valve

Dimensions

Download CAD data → www.festo.com

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



1 Mounting holes for screws M4

W1 Angle 90° for 5/2-way valve
(2 switching positions)

W2 Angle 2x45° for 5/3-way valve
(3 switching positions)

Type	B1	B2	B3	B4	B5	D1	D2 Ø	D3 Ø	H1	H2	H3	H4
VHEF-HS...52...-G18	76.2	59.5	34.5	20	10	G1/8	16.5	4.4	109.4	75.9	66.9	57.1
VHEF-HS...52...-N18						1/8 NPT						
VHEF-HS...53...-G18						G1/8						
VHEF-HS...53...-N18						1/8 NPT	22	125.9	87.3	75.1	61.3	
VHEF-HS...52...-G14						G1/4						
VHEF-HS...52...-N14						1/4 NPT						
VHEF-HS...53...-G14						G1/4						
VHEF-HS...53...-N14	1/4 NPT											

Type	H5	H6	H7	H8	H9	H10	L1	L2	L3	L4	W1	W2	≈ 1
VHEF-HS...52...-G18	19.6	49.9	14	66.9	57.9	83.9	43.7	20.9	28	6	90°	-	27 mm
VHEF-HS...52...-N18				-	45°								
VHEF-HS...53...-G18				-	45°								
VHEF-HS...53...-N18	26.7	52.7	14	75.1	63	97.6	43.7	20.9	28	6	90°	-	
VHEF-HS...52...-G14				-	45°								
VHEF-HS...52...-N14				-	45°								
VHEF-HS...53...-G14				-	45°								
VHEF-HS...53...-N14	-	-	-	-	-	-	-	-	-	-	-	-	




Manually operated valves

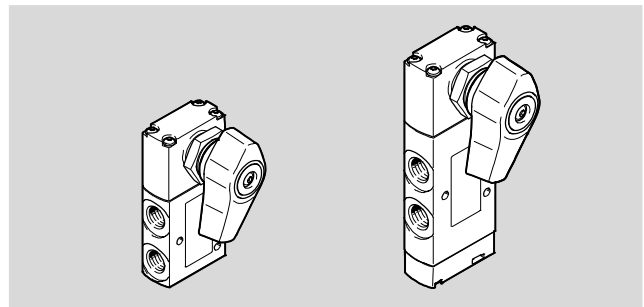
Technical data – Hand lever valve

Ordering data					
Description	Reset	Nominal flow rate [l/min]	Weight [g]	Part No.	Type
G thread					
3/2-way valve	–	750	236	4165861	VHEF-HST-B32-G18
		870	230	4165862	VHEF-HST-B32-G14
	Mechanical spring	750	236	4165853	VHEF-HST-M32-M-G18
		870	230	4165854	VHEF-HST-M32-M-G14
5/2-way valve	Mechanical spring	750	265	4165855	VHEF-HS-M52-M-G18
		1200	298	4165856	VHEF-HS-M52-M-G14
	–	750	265	4165863	VHEF-HS-B52-G18
		1200	298	4165864	VHEF-HS-B52-G14
5/3-way valve	–	700	265	4165865	VHEF-HS-B53C-G18
		1200	298	4165866	VHEF-HS-B53C-G14
		650	265	4165867	VHEF-HS-B53E-G18
		900	298	4165868	VHEF-HS-B53E-G14
	Mechanical spring	700	265	4165857	VHEF-HS-P53C-M-G18
		1200	298	4165858	VHEF-HS-P53C-M-G14
		650	265	4165859	VHEF-HS-P53E-M-G18
		900	298	4165860	VHEF-HS-P53E-M-G14
NPT thread					
3/2-way valve	–	750	236	4414861	VHEF-HST-B32-N18
		870	230	4414862	VHEF-HST-B32-N14
	Mechanical spring	750	236	4414853	VHEF-HST-M32-M-N18
		870	230	4414854	VHEF-HST-M32-M-N14
5/2-way valve	Mechanical spring	750	265	4414855	VHEF-HS-M52-M-N18
		1200	298	4414856	VHEF-HS-M52-M-N14
	–	750	265	4414863	VHEF-HS-B52-N18
		1200	298	4414864	VHEF-HS-B52-N14
5/3-way valve	–	700	265	4414865	VHEF-HS-B53C-N18
		1200	298	4414866	VHEF-HS-B53C-N14
		650	265	4414867	VHEF-HS-B53E-N18
		900	298	4414868	VHEF-HS-B53E-N14
	Mechanical spring	700	265	4414857	VHEF-HS-P53C-M-N18
		1200	298	4414858	VHEF-HS-P53C-M-N14
		650	265	4414859	VHEF-HS-P53E-M-N18
		900	298	4414860	VHEF-HS-P53E-M-N14

Manually operated valves

Technical data – Selector valve

-  Flow rate
650 ... 1200 l/min
-  Pressure
-0.95 ... 10 bar
-  Temperature range
-10 ... +60 °C



General Technical data	
Design	Selector switch, at the side
Width [mm]	20
Type of control	Directly actuated
Notes regarding use	Actuate manually only
Actuation type	Manual
Type of mounting	Via through-hole or front panel using retaining nut
Sealing principle	Soft
Non-overlapping	Yes
Flow direction	Reversible
Exhaust air function	With flow control option
Mounting position	Any
Max. force when actuating the hand lever ¹⁾ [N]	200
Max. lateral force when actuating the hand lever ¹⁾ [N]	200
Max. switching frequency [Hz]	0.5

1) Determined at a distance of 80 mm from the centre of the hand lever fitting

Technical data – 3/2-way valve				
Type	VHEF-EST-B32...18	VHEF-EST-B32...14	VHEF-EST-M32...18	VHEF-EST-M32...14
Version	Disc seat valve			
Standard nominal flow rate [l/min] 1 → 2	750	870	750	870
Valve function	3/2-way valve, bistable		3/2-way valve, open/closed, monostable	
Type of reset	-		Mechanical spring	
Manual override	Detenting		-	
Actuating torque [Nm]	0.4			
Pneumatic connection G thread 1, 2, 3	G1/8	G1/4	G1/8	G1/4
Pneumatic connection NPT thread 1, 2, 3	1/8 NPT	1/4 NPT	1/8 NPT	1/4 NPT
Nominal width [mm]	5.6	6	5.6	6

Manually operated valves

Technical data – Selector valve

Technical data – 5/2-way valve				
Type	VHEF-ES-M52-M-...18	VHEF-ES-M52-M-...14	VHEF-ES-B52-...18	VHEF-ES-B52-...14
Version	Piston spool			
Standard nominal flow rate [l/min] 1 → 2	750	1200	750	1200
Valve function	5/2-way valve, monostable		5/2-way valve, bistable	
Type of reset	Mechanical spring		–	
Manual override	–	–	Detenting	Detenting
Actuating torque [Nm]	0.3		0.2	
Pneumatic connection G thread 1, 2, 3, 4, 5	G1/8	G1/4	G1/8	G1/4
Pneumatic connection NPT thread 1, 2, 3, 4, 5	1/8 NPT	1/4 NPT	1/8 NPT	1/4 NPT
Nominal width [mm]	5.2	7	5.2	7

Technical data – 5/3-way valve								
Type VHEF-ES-	B53C-...18	B53C-...14	B53E-...18	B53E-...14	P53C-...18	P53C-...14	P53E-...18	P53E-...14
Version	Piston spool							
Standard nominal flow rate [l/min] 1 → 2	750	1200	650	900	700	1200	650	900
Valve function	5/3-way valve, closed		5/2-way valve, exhausted		5/3-way valve, closed		5/3-way valve, exhausted	
Type of reset	–		–		Mechanical spring		Mechanical spring	
Manual override	Detenting		Detenting		–		–	
Actuating torque [Nm]	0.3				0.7			
Pneumatic connection G thread 1, 2, 3, 4, 5	G1/8	G1/4	G1/8	G1/4	G1/4	G1/4	G1/4	G1/4
Pneumatic connection NPT thread 1, 2, 3, 4, 5	1/8 NPT	1/4 NPT	1/8 NPT	1/4 NPT	1/4 NPT	1/4 NPT	1/4 NPT	1/4 NPT
Nominal width [mm]	5.2	7	5.2	7	5.2	7	5.2	7

Materials	
Housing	Anodised wrought aluminium alloy
Lever	Reinforced PA
Cover	Reinforced PA
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
[psi]	–14 ... 145
Temperature of medium [°C]	–10 ... +60
Ambient temperature [°C]	–10 ... +60
Corrosion resistance class CRC ¹⁾	1

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

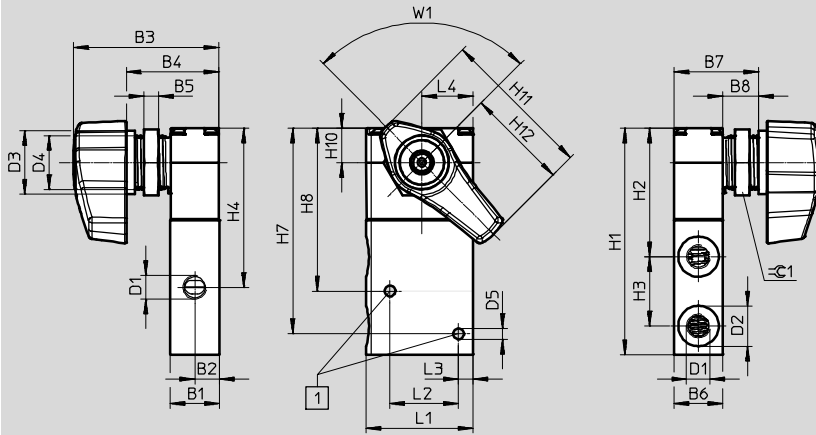
Manually operated valves

Technical data – Selector valve

Dimensions

Download CAD data → www.festo.com

3/2-way valve



1 Mounting holes for screws M4

Type	B1	B2	B3	B4	B5	B6	B7	B8	D1	D2 Ø	D3 Ø	D4	D5 Ø	H1
VHEF-EST...32...G18	20	10	59.4	38	6	10	34.5	14.6	G1/8	16.5	26	M22x1.5	4.4	92.5
VHEF-EST...32...N18									1/8 NPT					
VHEF-EST...32...G14									G1/4	22				
VHEF-EST...32...N14									1/4 NPT					

Type	H2	H3	H4	H7	H8	H10	H11	H12	L1	L2	L3	L4	W1	≈ 1
VHEF-EST...32...G18	52.5	28.3	65	84	66.5	14	62.2	41.5	43.7	28	6	20.9	90°	A/F 27
VHEF-EST...32...N18														
VHEF-EST...32...G14														
VHEF-EST...32...N14														

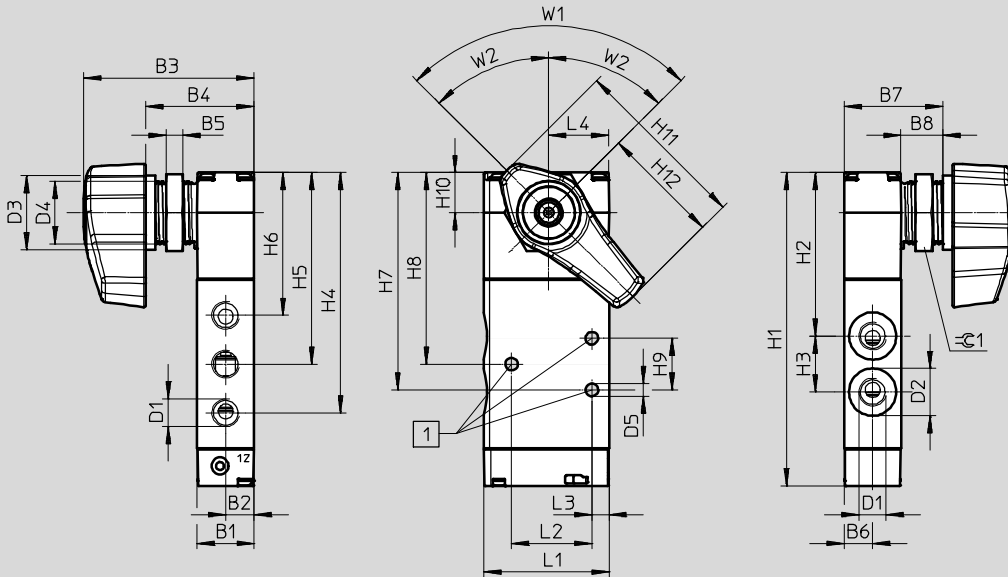
Manually operated valves

Technical data – Selector valve

Dimensions

Download CAD data → www.festo.com

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



1 Mounting holes for screws M4

W1 Angle 90° for 5/2-way valve
(2 switching positions)

W2 Angle 2x45° for 5/3-way valve
(3 switching positions)

Type	B1	B2	B3	B4	B5	B6	B7	B8	D1	D2	D3	D4	D5	H1	H2	H3
VHEF-ES...52...-G18	20	10	59.4	38	6	10	34.5	14.6	G1/8	16.5	26	M22x1.5	4.4	109.4	57.1	19.6
VHEF-ES...52...-N18									1/8 NPT							
VHEF-ES...53...-G18									G1/8							
VHEF-ES...53...-N18									1/8 NPT							
VHEF-ES...52...-G14									G1/4	22			125.9	61.3	27.6	
VHEF-ES...52...-N14									1/4 NPT							
VHEF-ES...53...-G14									G1/4							
VHEF-ES...53...-N14									1/4 NPT							

Type	H4	H5	H6	H7	H8	H9	H10	H11	H12	L1	L2	L3	L4	W1	W2	±C 1													
VHEF-ES...52...-G18	83.9	66.9	49.9	75.9	66.9	18	14		62.2	41.5	43.7	28	6	20.9	90°	-	27 mm												
VHEF-ES...52...-N18															-	45°													
VHEF-ES...53...-G18															97.6	75.1	52.7	87.3	75.1	24.3								90°	-
VHEF-ES...53...-N18																												-	45°
VHEF-ES...52...-G14																													
VHEF-ES...52...-N14																													

Manually operated valves




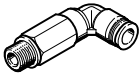
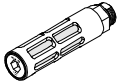
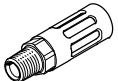
Technical data – Selector valve

Ordering data					
Description	Reset	Nominal flow rate [l/min]	Weight [g]	Part No.	Type
G thread					
3/2-way valve	–	750	206	4106814	VHEF-EST-B32-G18
		870	200	4106815	VHEF-EST-B32-G14
	Mechanical spring	750	206	4106806	VHEF-EST-M32-M-G18
		870	200	4106807	VHEF-EST-M32-M-G14
5/2-way valve	Mechanical spring	750	235	4106808	VHEF-ES-M52-M-G18
		1200	268	4106809	VHEF-ES-M52-M-G14
	–	750	235	4106816	VHEF-ES-B52-G18
		1200	268	4106817	VHEF-ES-B52-G14
5/3-way valve	–	700	235	4106818	VHEF-ES-B53C-G18
		1200	268	4106819	VHEF-ES-B53C-G14
		650	235	4106820	VHEF-ES-B53E-G18
		900	268	4106821	VHEF-ES-B53E-G14
	Mechanical spring	700	235	4106810	VHEF-ES-P53C-M-G18
		1200	268	4106811	VHEF-ES-P53C-M-G14
		650	235	4106812	VHEF-ES-P53E-M-G18
		900	268	4106813	VHEF-ES-P53E-M-G14
NPT thread					
3/2-way valve	–	750	206	4414814	VHEF-EST-B32-N18
		870	200	4414815	VHEF-EST-B32-N14
	Mechanical spring	750	206	4414806	VHEF-EST-M32-M-N18
		870	200	4414807	VHEF-EST-M32-M-N14
5/2-way valve	Mechanical spring	750	235	4414808	VHEF-ES-M52-M-N18
		1200	268	4414809	VHEF-ES-M52-M-N14
	–	750	235	4414816	VHEF-ES-B52-N18
		1200	268	4414817	VHEF-ES-B52-N14
5/3-way valve	–	700	235	4414818	VHEF-ES-B53C-N18
		1200	268	4414819	VHEF-ES-B53C-N14
		650	235	4414820	VHEF-ES-B53E-N18
		900	268	4414821	VHEF-ES-B53E-N14
	Mechanical spring	700	235	4414810	VHEF-ES-P53C-M-N18
		1200	268	4414811	VHEF-ES-P53C-M-N14
		650	235	4414812	VHEF-ES-P53E-M-N18
		900	268	4414813	VHEF-ES-P53E-M-N14

Manually operated valves

Accessories

FESTO


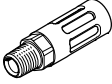
Ordering data – G thread						
	Description		Part No.	Type	PU ¹⁾	
Push-in fitting, straight						
	With external hex	Connecting thread G1/4 for tubing O.D.	12 mm	186350 QS-G1/4-12	10	
	With internal hex	Connecting thread M5 for tubing O.D.	4 mm	153315 QSM-M5-4-I	10	
			Connecting thread G1/8 for tubing 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.	8 mm	186110 QS-G1/4-8-I	10	
10 mm	186112 QS-G1/4-10-I		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 QSLL-G1/8-4	10	
				133015 QSLL-G1/8-4-100	100	
			6 mm	186128 QSLL-G1/8-6	10	
				133016 QSLL-G1/8-6-100	100	
			8 mm	186130 QSLL-G1/8-8	10	
				133017 QSLL-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 design	With connecting thread	G1/8	6841 U-1/8-B	1	
			G1/4	6842 U-1/4-B	1	

1) Packaging unit quantity

Manually operated valves

Accessories

FESTO

Ordering data – NPT thread						
	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
	Connecting thread 1/4 NPT for tubing O.D.	1/4"	572318	QB-1/8-1/4-I-U	10	
		5/16"	572319	QB-1/8-5/16-I-U	10	
		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 design	With connecting thread	1/8 NPT	12638	U-1/8-B-NPT	1
			1/4 NPT	12639	U-1/4-B-NPT	1

1) Packaging unit