

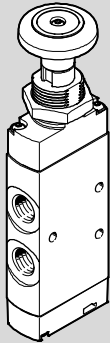
**Manually operated valves VHEF**



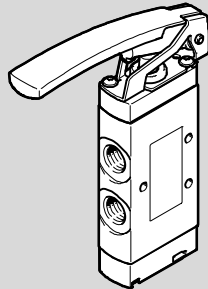
## Manually operated valves VHEF

Key features

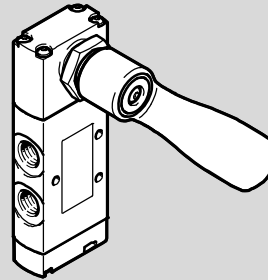
**FESTO**



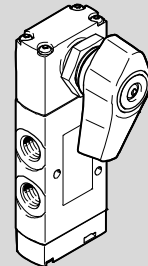
Pushbutton valve



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:
  - Pushbutton valve
  - Finger lever valve
  - Hand lever valve
  - Selector valve

### Reliable

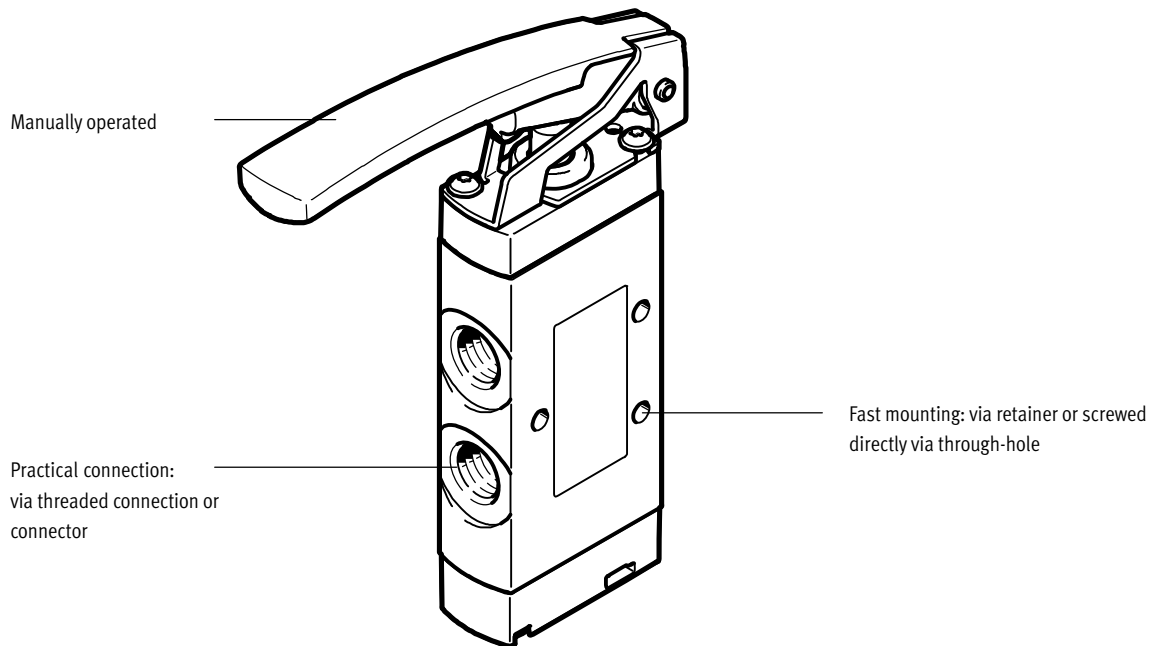
- Durable thanks to tried and tested piston spool and disc seat valves
- Robust construction: basic valve made from metal, cover made from plastic

### Easy to install

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

## Manually operated valves VHEF

Key features



### Equipment options

#### Similarities

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

#### Differences

3/2-way valve, monostable (M32)	bistable (B32) detenting (bistable)		
<ul style="list-style-type: none"> <li>• Normally open/closed (NO, NC)</li> <li>• Non-detenting (monostable)</li> </ul>			
5/2-way valve, monostable (M52)	bistable (B52) detenting (bistable)		
<ul style="list-style-type: none"> <li>• Resetting</li> <li>• Non-detenting (monostable)</li> </ul>			
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](http://www.festo.com)

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

Ordering system for valves  
→ Internet: [vhef](http://vhef)

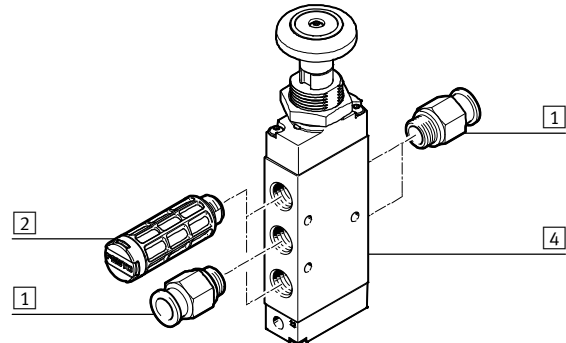
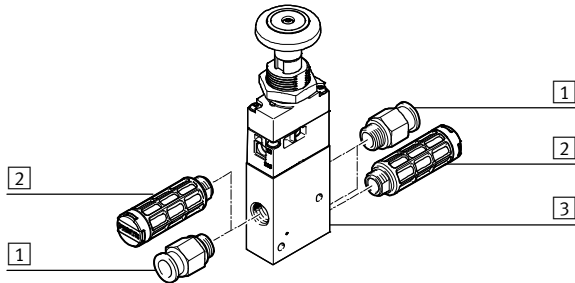
# Manually operated valves VHEF

Peripherals overview

## Pushbutton valve, manually operated

3/2-way valve

5/2-way valve

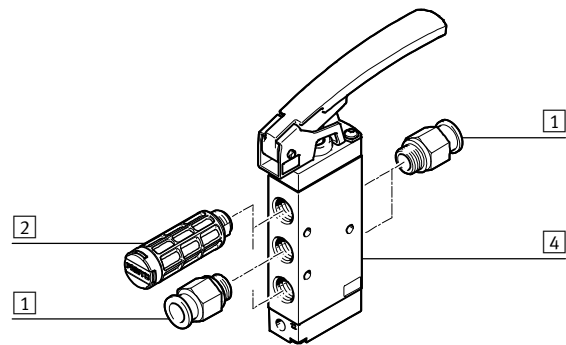
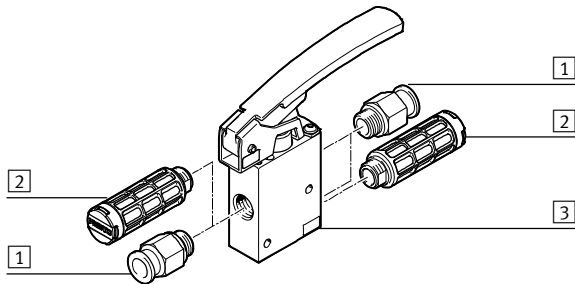


	Brief description	→ Page/Internet
1	Fitting	For supply air/exhaust ports (1, 3, 5) and working ports (2, 4)
2	Silencers	For exhaust ports (3, 5)
3	3/2-way valve	VHEF-PTC-M32..., VHEF-PTCZ-M32...
4	5/2-way valve	VHEF-P-M52...

## 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)
2	Silencers	For exhaust ports (3, 5)
3	3/2-way valve	VHEF-LT-M32...
4	5/2-way valve	VHEF-L-M52...

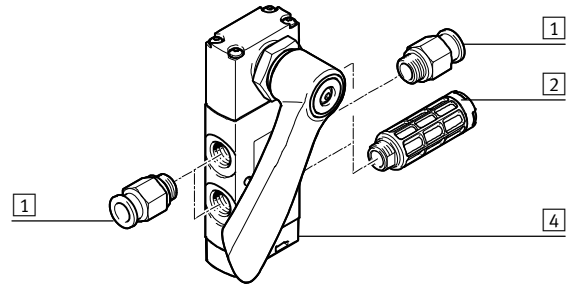
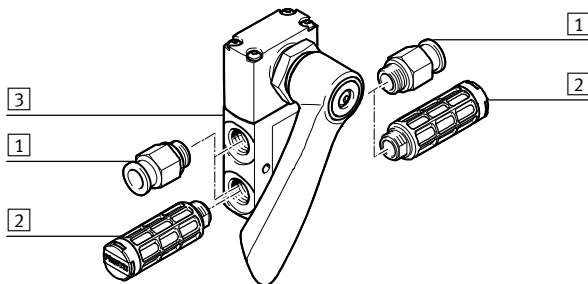
# Manually operated valves VHEF

Peripherals overview

## Hand lever valve, manually operated

3/2-way valve

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

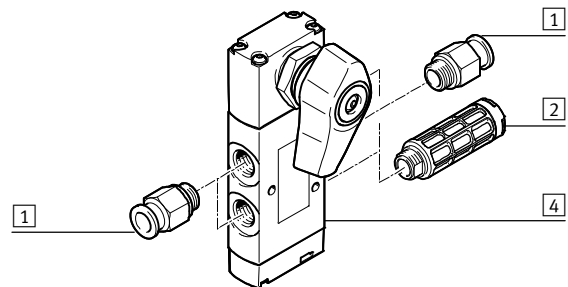
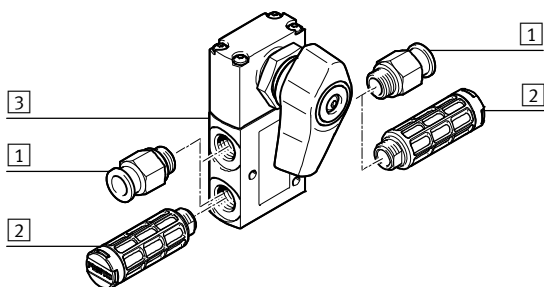


	Brief description	→ Page/Internet
1	Fitting	For supply air/exhaust ports (1, 3, 5) and working ports (2, 4)
2	Silencers	For exhaust ports (3, 5)
3	3/2-way valve	VHEF-HST...32...
4	5/2- or 5/3-way valve	VHEF-HS...52..., VHEF-HS...53...

## 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)
2	Silencers	For exhaust ports (3, 5)
3	3/2-way valve	VHEF-EST...32...
4	5/2- or 5/3-way valve	VHEF-ES...52..., VHEF-ES...53...

## Manually operated valves VHEF

Key features

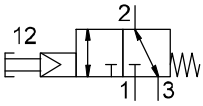
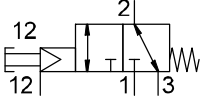
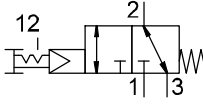
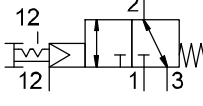
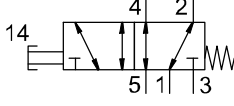
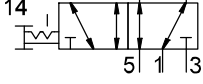
### Manually operated valves

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
Pushbutton valve		
	VHEF-PTC-M32-M...	3/2-way valve, monostable <ul style="list-style-type: none"> <li>• Normally closed (1 → 2)</li> <li>• Normally open (3 → 2)</li> <li>• Reset via mechanical spring</li> <li>• Pneumatically piloted, pilot air, internal</li> <li>• Reversible</li> </ul>
	VHEF-PTCZ-M32-M...	3/2-way valve, monostable <ul style="list-style-type: none"> <li>• Normally closed (1 → 2)</li> <li>• Normally open (3 → 2)</li> <li>• Reset via mechanical spring</li> <li>• Vacuum-compatible</li> <li>• Pneumatically piloted, pilot air, internal</li> <li>• Reversible</li> </ul>
	VHEF-PTC-B32...	3/2-way valve, bistable <ul style="list-style-type: none"> <li>• Normally closed (1 → 2)</li> <li>• Normally open (3 → 2)</li> <li>• Reset via mechanical spring</li> <li>• Pneumatically piloted, pilot air, internal</li> <li>• Reversible</li> </ul>
	VHEF-PTCZ-B32...	3/2-way valve, bistable <ul style="list-style-type: none"> <li>• Normally closed (1 → 2)</li> <li>• Normally open (3 → 2)</li> <li>• Reset via mechanical spring</li> <li>• Vacuum-compatible</li> <li>• Pneumatically piloted, pilot air, internal</li> <li>• Reversible</li> </ul>
	VHEF-P-M52-M...	5/2-way valve, monostable <ul style="list-style-type: none"> <li>• Reset via mechanical spring</li> <li>• Vacuum-compatible</li> <li>• Reversible</li> </ul>
	VHEF-P-B52...	5/2-way valve, bistable <ul style="list-style-type: none"> <li>• Vacuum-compatible</li> <li>• Reversible</li> </ul>

# Manually operated valves VHEF

Key features

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

# Manually operated valves VHEF

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"> <li>• Mid-position closed</li> <li>• Reverse operation possible</li> <li>• Suitable for vacuum</li> </ul>
	VHEF-HS-B53E-... VHEF-ES-B53E-...	5/3-way valve <ul style="list-style-type: none"> <li>• Mid-position open (exhausted)</li> <li>• Reverse operation possible</li> <li>• Suitable for vacuum</li> </ul>
	VHEF-HS-P53C-M-... VHEF-ES-P53C-M-...	5/3-way valve <ul style="list-style-type: none"> <li>• Mid-position closed</li> <li>• Reverse operation possible</li> <li>• Mechanical spring return</li> <li>• Suitable for vacuum</li> </ul>
	VHEF-HS-P53E-M-... VHEF-ES-P53E-M-...	5/3-way valve <ul style="list-style-type: none"> <li>• Mid-position open (exhausted)</li> <li>• Reverse operation possible</li> <li>• Mechanical spring return</li> <li>• Suitable for vacuum</li> </ul>

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 actuated valves VHEF

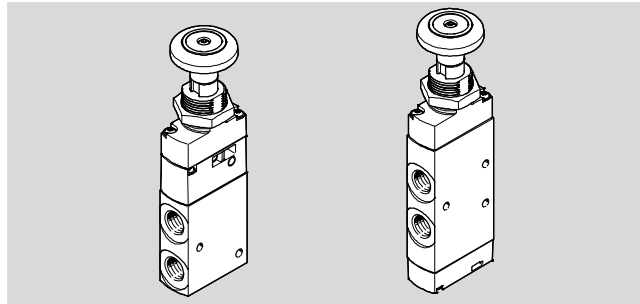
Type codes

		VHEF	-	P	T	C	Z	-	M32	-	M	-	G14
<b>Valve series</b>													
VHEF	Manually actuated valves												
<b>Version</b>													
<b>Actuation</b>													
L	Finger lever												
P	Pushbutton												
ES	Selector switch, on the side												
HS	Hand lever, on the side												
<b>Design principle</b>													
-	Piston slide												
T	Disc seat												
<b>Type of control</b>													
-	Directly actuated												
C	Indirectly actuated												
<b>Pilot air</b>													
-	Internal												
Z	External												
<b>Valve function</b>													
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												
<b>Reset method for monostable valves</b>													
-	None (for bistable valves)												
E	Pneumatic spring												
M	Mechanical spring												
<b>Pneumatic connection</b>													
G14	Thread G1/4												
G18	Thread G1/8												
N14	Thread 1/4 NPT												
N18	Thread 1/8 NPT												

# Manually actuated valves VHEF

Technical data – Pushbutton valve


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



General technical data	
Design	Pushbutton valve
Width [mm]	20
Note 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. switching frequency [Hz]	0.5

Technical data – 3/2-way valve				
Type	VHEF-...-B32...18	VHEF-...-B32...14	VHEF-...-M32...18	VHEF-...-M32...14
Version	Disc seat valve			
Standard nominal flow rate 1 → 2 [l/min]	750	870	750	870
inal flow rate 3 → 2 [l/min]	665	750	665	750
Valve function	3/2-way valve, bistable		3/2-way valve, open/closed, monostable	
Reset method	-		Mechanical spring	
Type of control	Piloted		Piloted	
Pilot air supply	Internal, external only PTCZ types		Internal, external only PTCZ types	
Manual override	Detenting		-	
Actuating force [N]	20	20	24.5	24.5
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
Pilot air port 12	-	-	M5 <sup>1)</sup>	M5 <sup>1)</sup>
Nominal width [mm]	5.6	6	5.6	6

1) Only for PTCZ types (external pilot air)

-  - Note

- An axial torque greater than 3 Nm on the pushbutton is to be avoided. This could overload it and cause it to break.
- It must be ensured that the max. operating force exerted on the pushbutton does not exceed 200 N in all directions. This could overload it and cause it to break.

# Manually actuated valves VHEF

Technical data – Pushbutton valve

Technical data – 5/2-way valve				
Type	VHEF-P-B52-...18	VHEF-P-B52-...14	VHEF-P-M52-M-...18	VHEF-P-M52-M-...14
Version	Piston slide			
Standard nominal flow rate 1 → 2 [l/min]	750	1200	750	1200
Valve function	5/2-way valve, bistable		5/2-way valve, monostable	
Reset method	–		Mechanical spring	
Type of control	Direct		Direct	
Manual override	Detenting		–	
Actuating force [N]	20		42	
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


**Note**

- An axial torque greater than 3 Nm on the pushbutton is to be avoided. This could overload it and cause it to break.
- It must be ensured that the max. operating force exerted on the pushbutton does not exceed 200 N in all directions. This could overload it and cause it to break.

Materials	
Housing	Anodised wrought aluminium alloy
Cover	PA-reinforced
Seal	NBR
Note on materials	RoHS-compliant

# Manually actuated valves VHEF

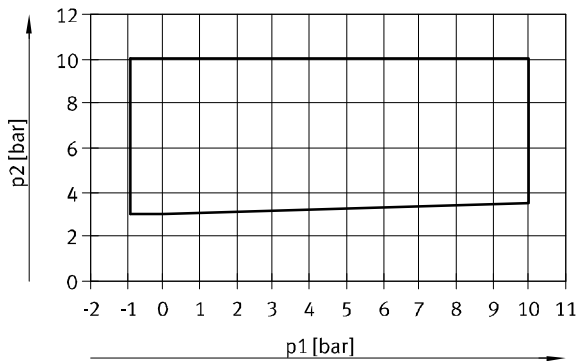
Technical data – Pushbutton valve

Operating and environmental conditions				
		VHER-PTC-M32-... VHER-PTC-B32-...	VHER-PTCZ-M32-... VHER-PTCZ-B32-...	VHER-P-...
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]	3.5 ... 10	-0.95 ... 10	-0.95 ... 10
With internal or external pilot air		Internal	External	-
NC valves	[bar]	3.5 ... 10	3 ... 10	-
NO valves	[bar]	3.5 ... 10	3 ... 10	-
Operating pressure range	[psi]	51 ... 145	-14 ... 145	-14 ... 145
With internal or external pilot air		Internal	External	-
NC valves	[psi]	51 ... 145	44 ... 145	-
NO valves	[psi]	51 ... 145	44 ... 145	-
Pilot pressure range	[bar]	3.5 ... 10	3 ... 10	-
Temperature of medium	[°C]	-10 ... +60		
Ambient temperature	[°C]	-10 ... +60		
Corrosion resistance class CRC <sup>1)</sup>		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).

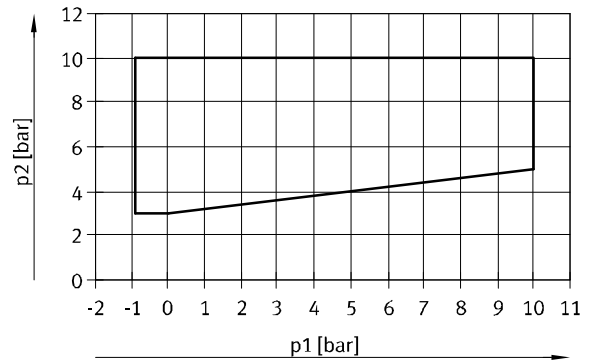
### Pilot pressure p2 as a function of working pressure p1

For disc seat valves VMEF-...-M32...  
(normally closed, NC)



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

For disc seat valves VMEF-...-M32...  
(normally open, NO)



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

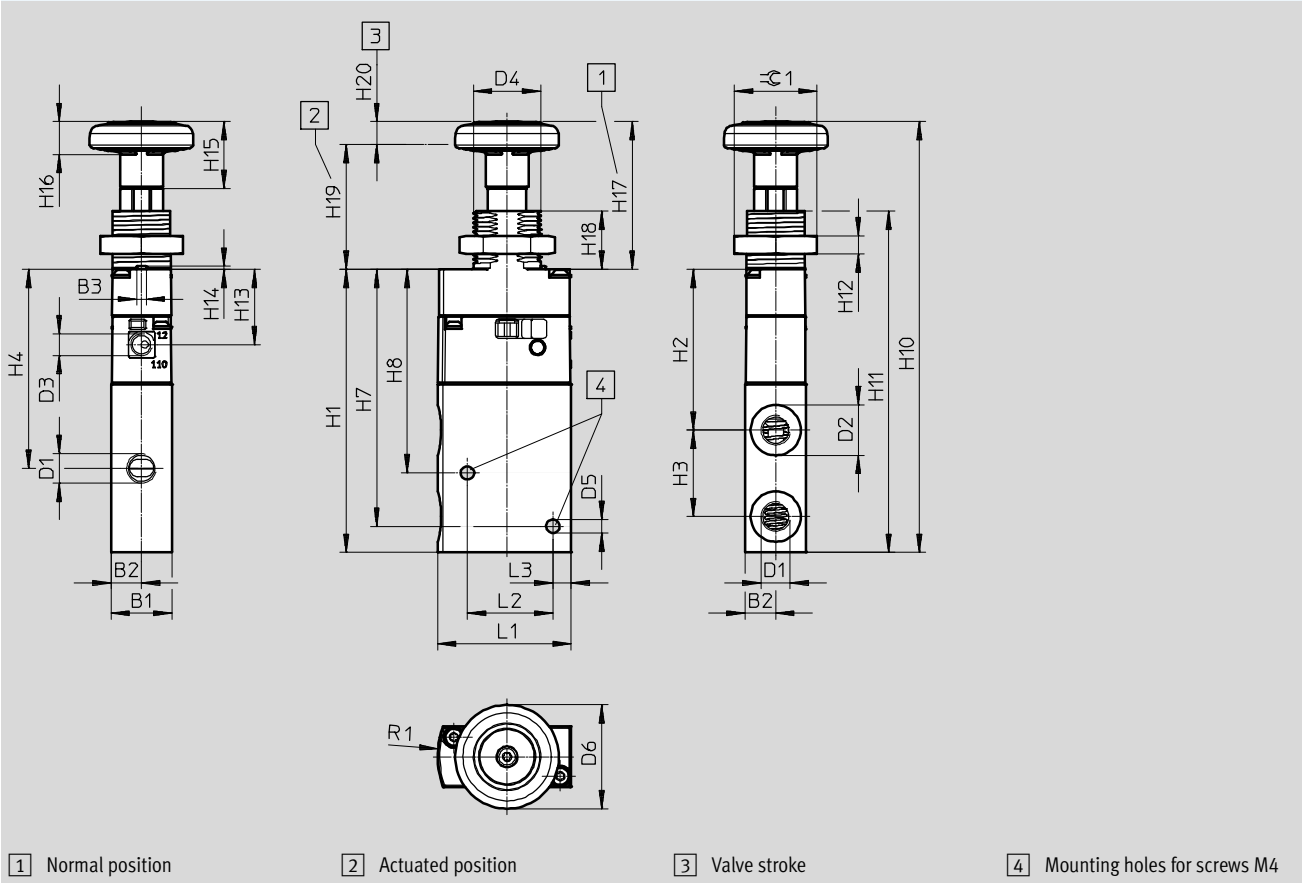
# Manually actuated valves VHEF

Technical data – Pushbutton valve

## Dimensions

3/2-way valve

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



Type	B1	B2	B3	D1	D2	D3	D4	D5	D6	H1	H2	H3	H4	H7	H8	H10
VHEF-PTC-...32-...-G18	20	10	3.1	G1/8	16.5	-	M22x1.5	4.4	34	92.7	52.7	28.3	65.2	84.2	66.7	141.1
VHEF-PTCZ-...32-...-G18						M5										
VHEF-PTC-...32-...-G14				G1/4	22	-										
VHEF-PTCZ-...32-...-G14						M5										
VHEF-PTC-...32-...-N18				1/8 NPT	16.5	-										
VHEF-PTCZ-...32-...-N18						M5										
VHEF-PTC-...32-...-N14				1/4 NPT	22	-										
VHEF-PTCZ-...32-...-N14						M5										

Type	H11	H12	H13	H14	H15	H16	H17	H18	H19	H20	L1	L2	L3	R1	∅ 1
VHEF-PTC-...32-...-G18	111.7	6	24.7	1	21.9	10.7	48.4	19	40.9	7.5	43.7	28	6	30	27
VHEF-PTCZ-...32-...-G18															
VHEF-PTC-...32-...-G14															
VHEF-PTCZ-...32-...-G14															
VHEF-PTC-...32-...-N18															
VHEF-PTCZ-...32-...-N18															
VHEF-PTC-...32-...-N14															
VHEF-PTCZ-...32-...-N14															

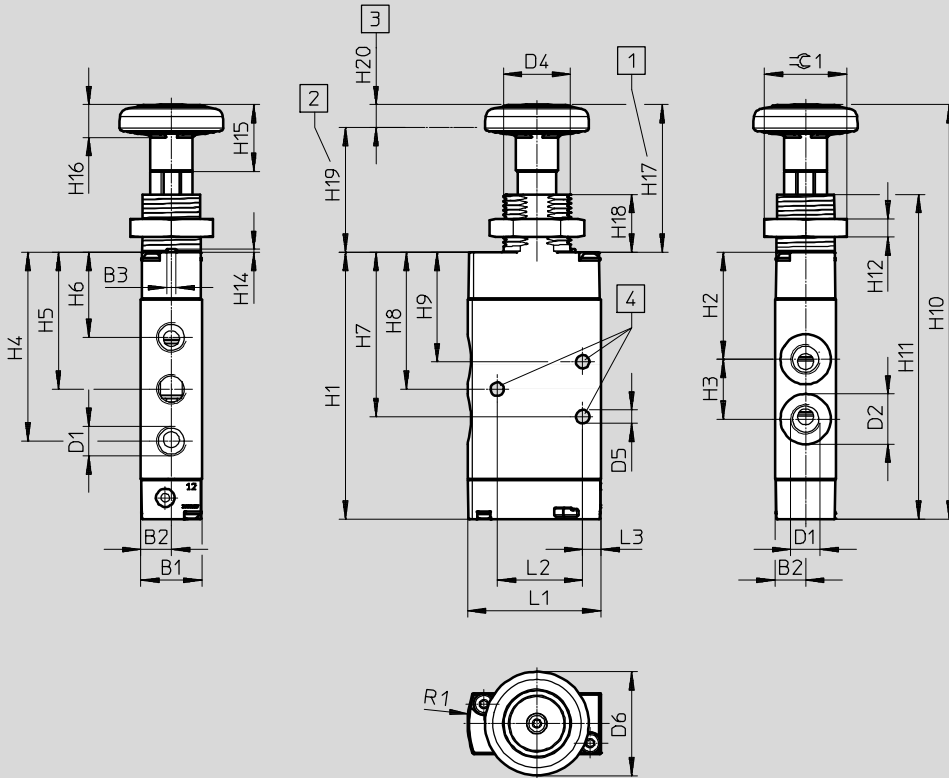
# Manually actuated valves VHEF

Technical data – Pushbutton valve

**Dimensions**

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

5/2-way valve, -G18/-N18



1 Normal position     
 2 Actuated position     
 3 Valve stroke     
 4 Mounting holes for screws M4

Type	B1	B2	B3	D1	D2 Ø	D4	D5 Ø	D6 Ø	H1	H2	H3	H4	H5	H6	H7	H8
VHEF-P-M52-M-G18	20	10	3.1	G1/8	16.5	M22x1.5	4.4	34	87.4	35.1	19.6	61.9	44.9	27.9	53.9	44.9
VHEF-P-B52-G18				1/8 NPT												
VHEF-P-M52-M-N18																
VHEF-P-B52-N18																

Type	H9	H10	H11	H12	H14	H15	H16	H17	H18	H19	H20	L1	L2	L3	R1	$\approx<$ 1
VHEF-P-M52-M-G18	35.9	135.8	106.4	6	1	21.9	10.7	48.4	19	40.9	7.5	43.7	28	6	30	27
VHEF-P-B52-G18																
VHEF-P-M52-M-N18																
VHEF-P-B52-N18																

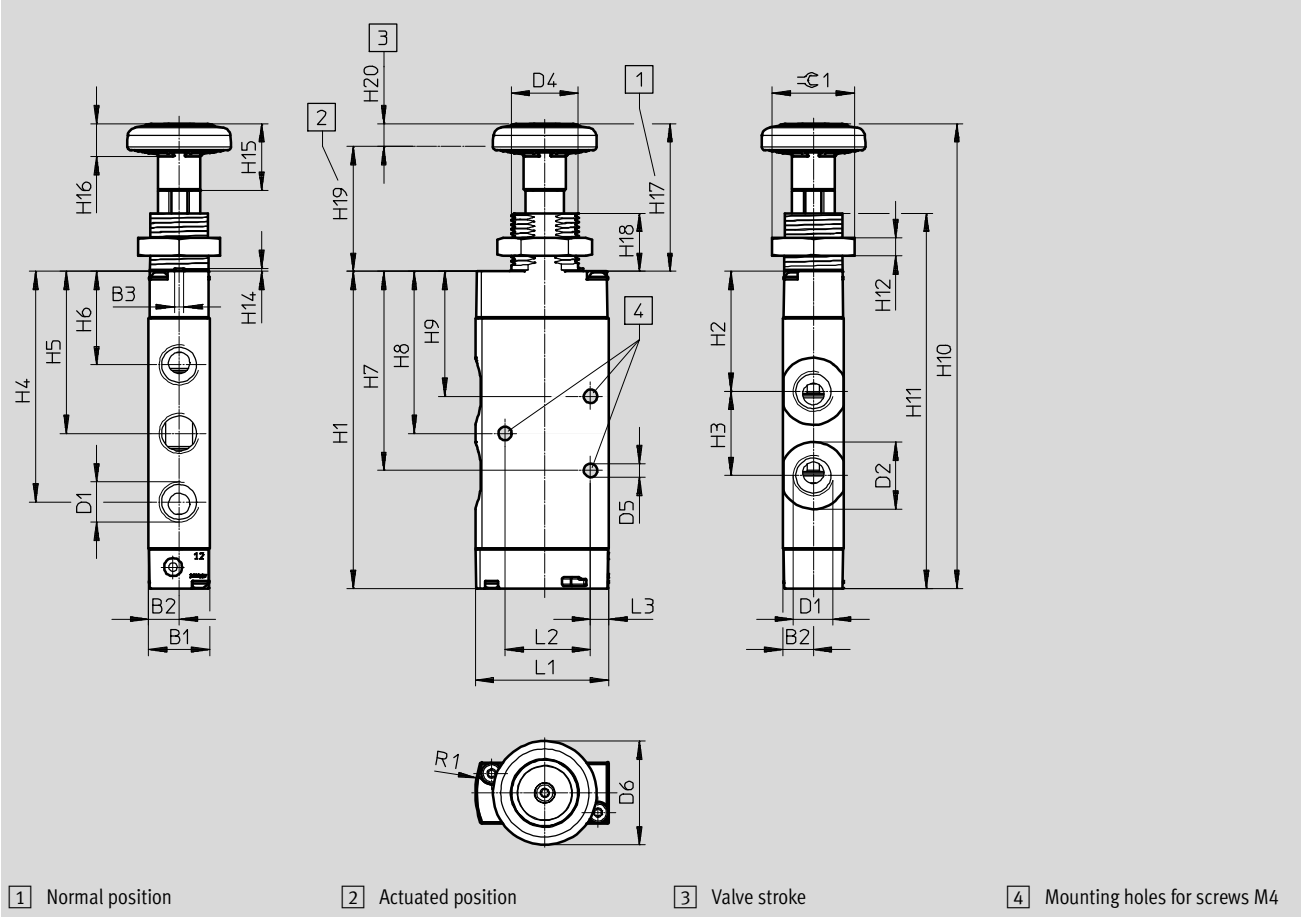
# Manually actuated valves VHEF

Technical data – Pushbutton valve

## Dimensions

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

5/2-way valve, -G14/-N14



Type	B1	B2	B3	D1	D2	D4	D5	D6	H1	H2	H3	H4	H5	H6	H7	H8	
VHEF-P-M52-M-G14	20	10	3.1	G1/4	22	M22x1.5	4.4	34	103.9	39.3	27.6	75.6	53.1	30.7	65.3	53.1	
VHEF-P-B52-G14				1/4 NPT													
VHEF-P-M52-M-N14																	
VHEF-P-B52-N14																	

Type	H9	H10	H11	H12	H14	H15	H16	H17	H18	H19	H20	L1	L2	L3	R1	≈ 1
VHEF-P-M52-M-G14	41	152.3	122.9	6	1	21.9	10.7	48.4	19	40.9	7.5	43.7	28	6	30	27
VHEF-P-B52-G14																
VHEF-P-M52-M-N14																
VHEF-P-B52-N14																

## Manually actuated valves VHEF




Technical data – Pushbutton valve

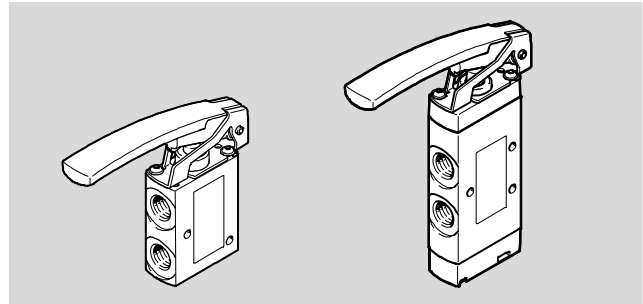
Ordering data					
Description	Reset	Nominal flow rate [l/min]	Weight [g]	Part No.	Type
G thread					
3/2-way valve	–	750	168	5299707	VHEF-PTC-B32-G18
		870	161	5299713	VHEF-PTC-B32-G14
	Mechanical	750	168	5299705	VHEF-PTC-M32-M-G18
		870	161	5299711	VHEF-PTC-M32-M-G14
	–	750	168	5299708	VHEF-PTCZ-B32-G18
		870	161	5299714	VHEF-PTCZ-B32-G14
	Mechanical	750	168	5299706	VHEF-PTCZ-M32-M-G18
		870	161	5299712	VHEF-PTCZ-M32-M-G14
5/2-way valve	–	750	182	5299710	VHEF-P-B52-G18
	Mechanical		182	5299709	VHEF-P-M52-M-G18
	–	1200	215	5299716	VHEF-P-B52-G14
	Mechanical		215	5299715	VHEF-P-M52-M-G14
NPT thread					
3/2-way valve	Mechanical	750	168	5299719	VHEF-PTC-B32-N18
	–		161	5299725	VHEF-PTC-B32-N14
	Mechanical	870	168	5299717	VHEF-PTC-M32-M-N18
	Mechanical		161	5299723	VHEF-PTC-M32-M-N14
	–	750	168	5299720	VHEF-PTCZ-B32-N18
	–		161	5299726	VHEF-PTCZ-B32-N14
	Mechanical	750	168	5299718	VHEF-PTCZ-M32-M-N18
	Mechanical	870	161	5299724	VHEF-PTCZ-M32-M-N14
5/2-way valve	–	750	182	5299722	VHEF-P-B52-N18
	Mechanical		182	5299721	VHEF-P-M52-M-N18
	–	1200	215	5299728	VHEF-P-B52-N14
	Mechanical		215	5299727	VHEF-P-M52-M-N14



# Manually operated valves VHEF

Technical data – Finger lever valve

-  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 VHEF

Technical data – Finger lever valve

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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 <sup>1)</sup>	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).

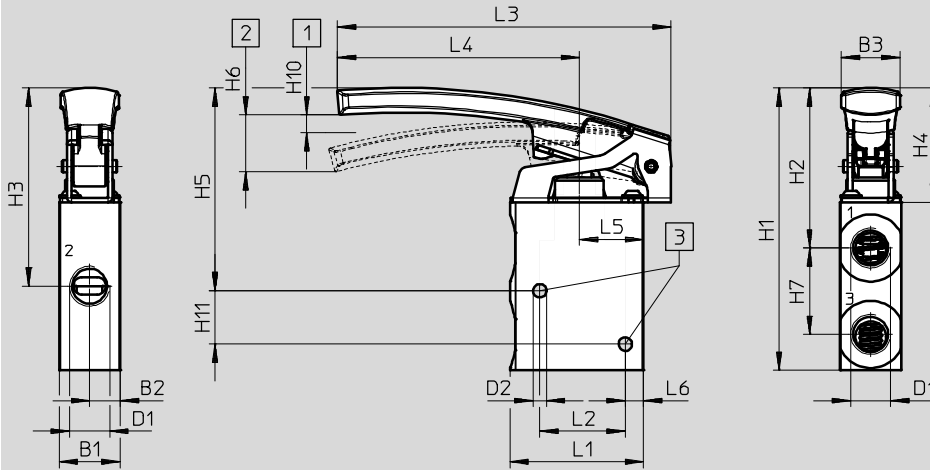
# Manually operated valves VHEF

Technical data – Finger lever valve

**Dimensions**

Download CAD data → [www.festo.com](http://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 VHEF

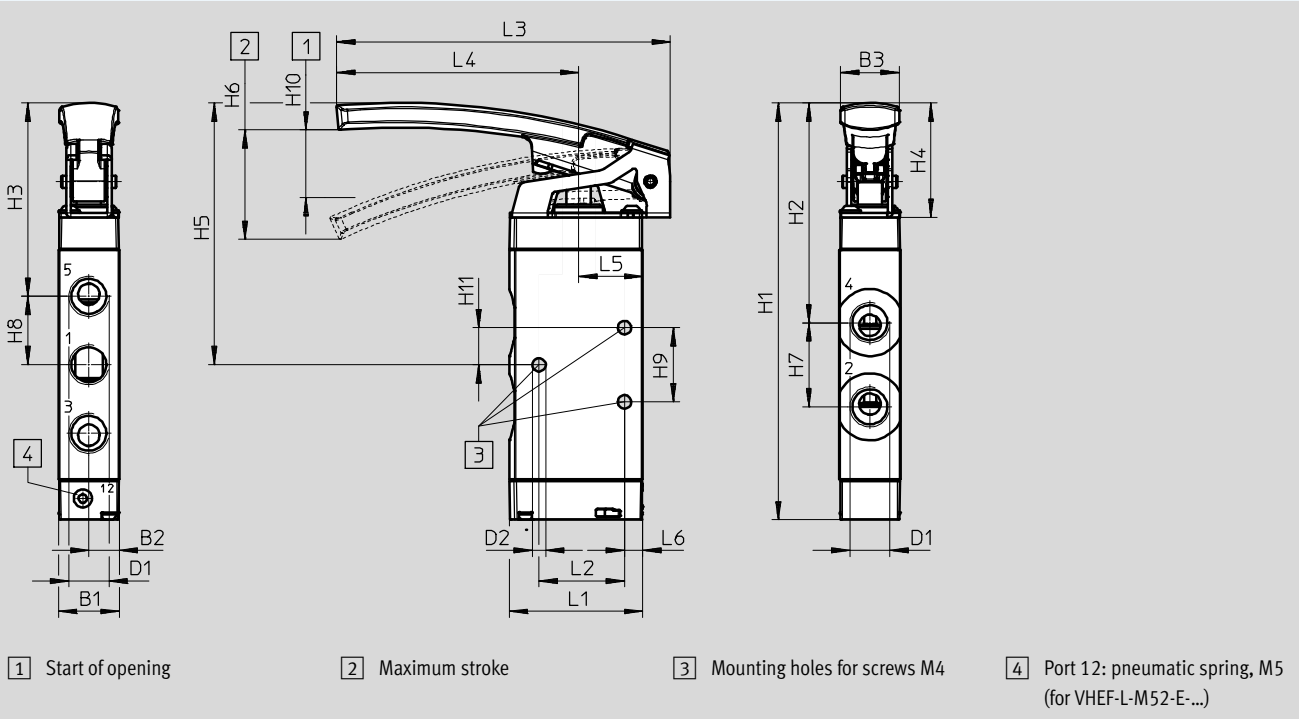
Technical data – Finger lever valve



## Dimensions

Download CAD data → [www.festo.com](http://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 VHEF




Technical data – Finger lever valve

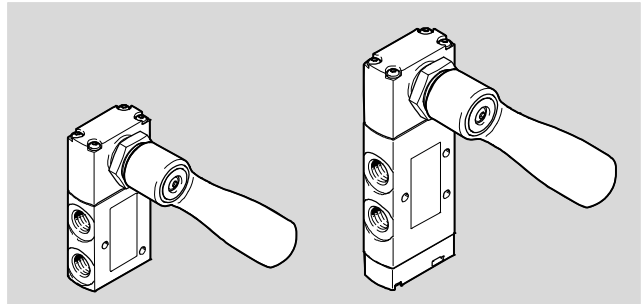
Ordering data					
Description	Reset	Nominal flow rate [l/min]	Weight [g]	Part No.	Type
G thread					
3/2-way valve	Mechanical	750	156	4500009	VHEF-LT-M32-M-G18
		870	150	4500008	VHEF-LT-M32-M-G14
5/2-way valve	Mechanical	750	185	4500001	VHEF-L-M52-M-G18
	Pneumatic		184	4500005	VHEF-L-M52-E-G18
	Mechanical	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 VHEF

Technical data – Hand lever valve

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-  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 <sup>1)</sup>	[N]	200
Max. lateral force when actuating the hand lever <sup>1)</sup>	[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 VHEF

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 <sup>1)</sup>	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 VHEF

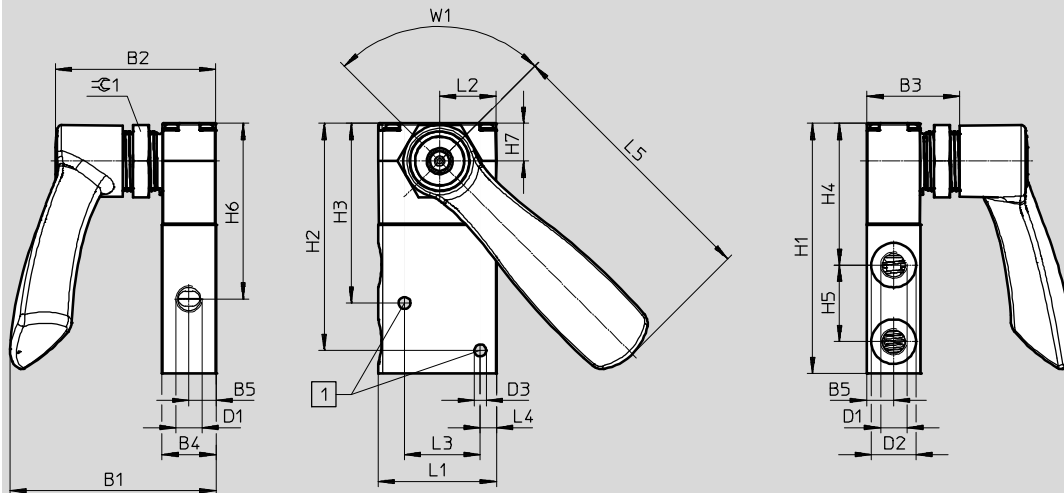
Technical data – Hand lever valve

FESTO

## Dimensions

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

3/2-way valve



1 Mounting holes for screws M4

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	22				
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											



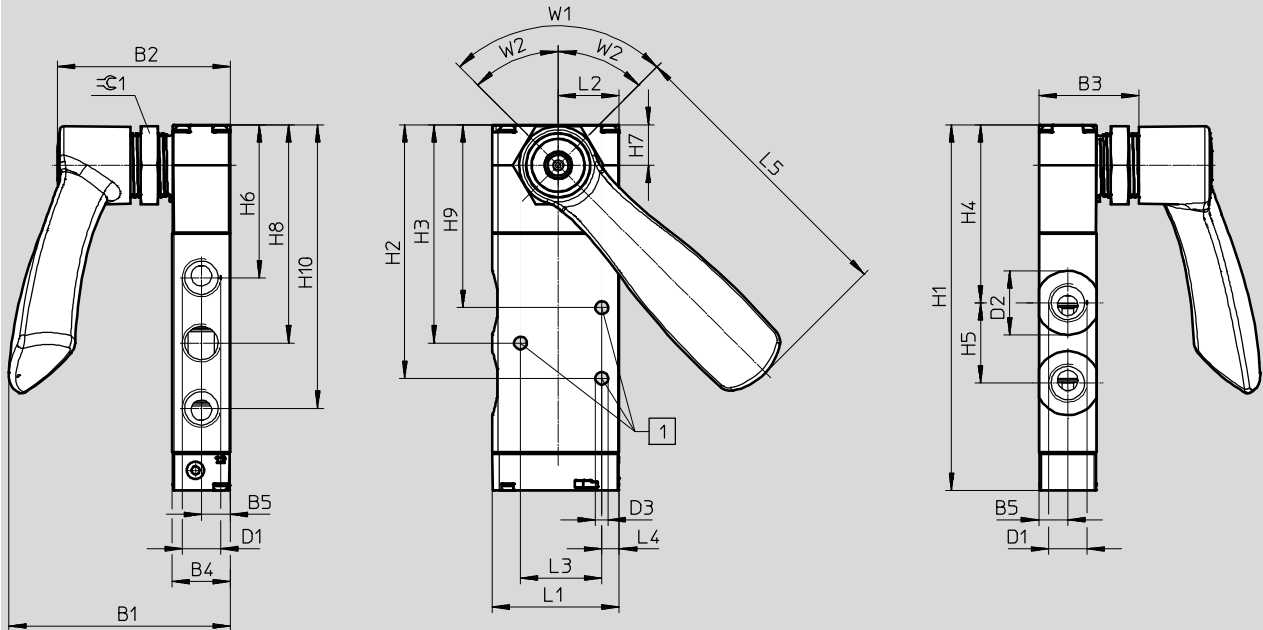
# Manually operated valves VHEF

Technical data – Hand lever valve

## Dimensions

Download CAD data → [www.festo.com](http://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										
VHEF-HS...52...-G14						125.9	87.3	75.1	61.3	G1/4	22					
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															
VHEF-HS...53...-G18															
VHEF-HS...53...-N18															
VHEF-HS...52...-G14	26.7	52.7		75.1	63	97.6					90°	-			
VHEF-HS...52...-N14															
VHEF-HS...53...-G14															
VHEF-HS...53...-N14															




# Manually operated valves VHEF

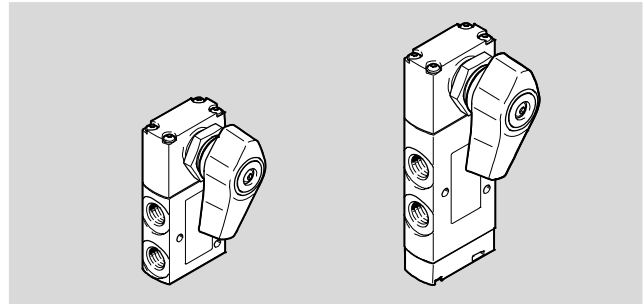
Technical data – Hand lever valve

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 VHEF

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 <sup>1)</sup> [N]	200
Max. lateral force when actuating the hand lever <sup>1)</sup> [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 VHEF

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 <sup>1)</sup>	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).

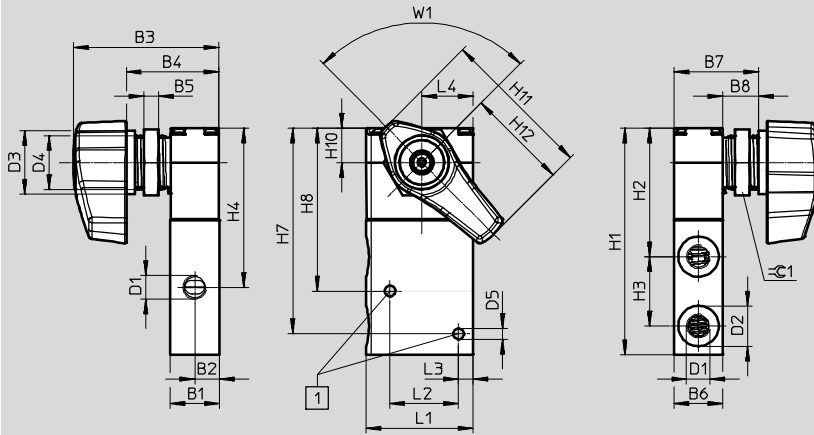
# Manually operated valves VHEF

Technical data – Selector valve

## Dimensions

Download CAD data → [www.festo.com](http://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 VHEF

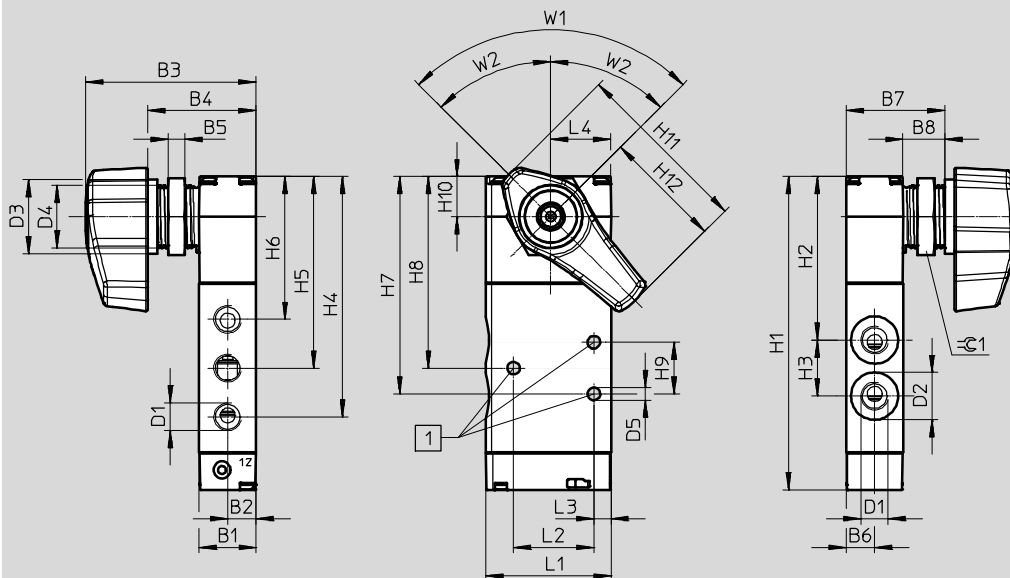
Technical data – Selector valve



## Dimensions

Download CAD data → [www.festo.com](http://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															-	45°		
VHEF-ES...53....N18															-	45°		
VHEF-ES...52....G14	97.6	75.1	52.7	87.3	75.1	24.3											90°	-
VHEF-ES...52....N14																	-	45°
VHEF-ES...53....G14																	-	45°
VHEF-ES...53....N14																	-	45°

# Manually operated valves VHEF




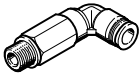
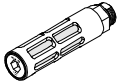
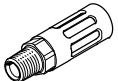
Technical data – Selector valve

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 VHEF

Accessories

FESTO



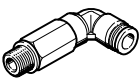
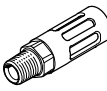
Ordering data – G thread						
	Description		Part No.	Type	PU <sup>1)</sup>	
<b>Push-in fitting, straight</b>						
	With external hex	Connecting thread G1/4 for tubing O.D.	12 mm	<b>186350</b>	<b>QS-G1/4-12</b>	<b>10</b>
	With internal hex	Connecting thread M5 for tubing O.D.	4 mm	<b>153315</b>	<b>QSM-M5-4-I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

1) Packaging unit quantity



# Manually operated valves VHEF

Accessories

Ordering data – NPT thread						
	Description		Part No.	Type	PU <sup>1)</sup>	
<b>Push-in fitting, straight</b>						
	With internal hex	Connecting thread 10-32 UNF for tubing O.D.	5/32"	<b>572312</b>	<b>QBM-10-32-UNF-5/32-I-U</b>	<b>10</b>
		Connecting thread 1/8 NPT for tubing O.D.	5/32"	<b>572317</b>	<b>QB-1/8-5/32-I-U</b>	<b>10</b>
	1/4"		<b>572318</b>	<b>QB-1/8-1/4-I-U</b>	<b>10</b>	
	5/16"		<b>572319</b>	<b>QB-1/8-5/16-I-U</b>	<b>10</b>	
	Connecting thread 1/4 NPT for tubing O.D.	5/16"	<b>572321</b>	<b>QB-1/4-5/16-I-U</b>	<b>10</b>	
		3/8"	<b>572322</b>	<b>QB-1/4-3/8-I-U</b>	<b>10</b>	
		1/2"	<b>567771</b>	<b>QB-1/4-1/2-U</b>	<b>10</b>	
<b>Push-in fitting, angled</b>						
	With external hex	Connecting thread 1/8 NPT for tubing O.D.	5/32"	<b>533290</b>	<b>QBL-1/8-5/32-U</b>	<b>10</b>
			1/4"	<b>533292</b>	<b>QBL-1/8-1/4-U</b>	<b>10</b>
			5/16"	<b>533293</b>	<b>QBL-1/8-5/16-U</b>	<b>10</b>
	Connecting thread 1/4 NPT for tubing O.D.	5/16"	<b>533296</b>	<b>QBL-1/4-5/16-U</b>	<b>10</b>	
		3/8"	<b>533297</b>	<b>QBL-1/4-3/8-U</b>	<b>5</b>	
		1/2"	<b>567775</b>	<b>QBL-1/4-1/2-U</b>	<b>5</b>	
<b>Push-in fitting, angled, long</b>						
	With external hex	Connecting thread 1/8 NPT for tubing O.D.	5/32"	<b>564668</b>	<b>QBLL-1/8-5/32-U</b>	<b>10</b>
			1/4"	<b>564670</b>	<b>QBLL-1/8-1/4-U</b>	<b>10</b>
			5/16"	<b>564671</b>	<b>QBLL-1/8-5/16-U</b>	<b>10</b>
<b>Silencer</b>						
	Metal design	With connecting thread	1/8 NPT	<b>12638</b>	<b>U-1/8-B-NPT</b>	<b>1</b>
			1/4 NPT	<b>12639</b>	<b>U-1/4-B-NPT</b>	<b>1</b>

1) Packaging unit