

Hand lever valves VHER


FESTO



Key features



Powerful

-  - Flow rate
170 ... 3800 l/min

Versatile

- 4/3-way valve
mid-position closed
mid-position exhausted
mid-position pressurised
- Connections M5, G1/8, G1/4, G1/2
- 3/3-way valve
Hand lever valves VHER can be used as 3/3-way valves by sealing port 2

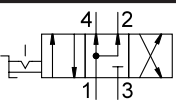
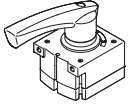
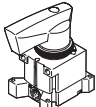
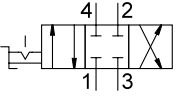
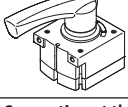
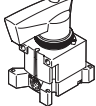
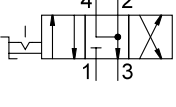

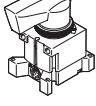
Practical

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.

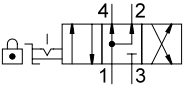
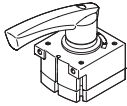
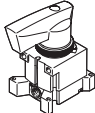
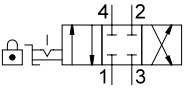
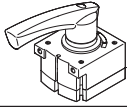
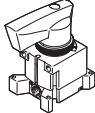
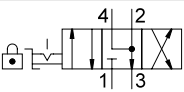
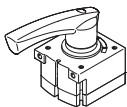
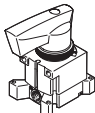
With mid-position closed, the drive piston moves until the forces are balanced.

With mid-position exhausted the piston can be moved manually; only the frictional forces have to be overcome. With mid-position pressurised, the pressure at ports 2 and 4 is the same. The piston is not moved (in the case of flat surfaces).

Product range overview – Metal lever

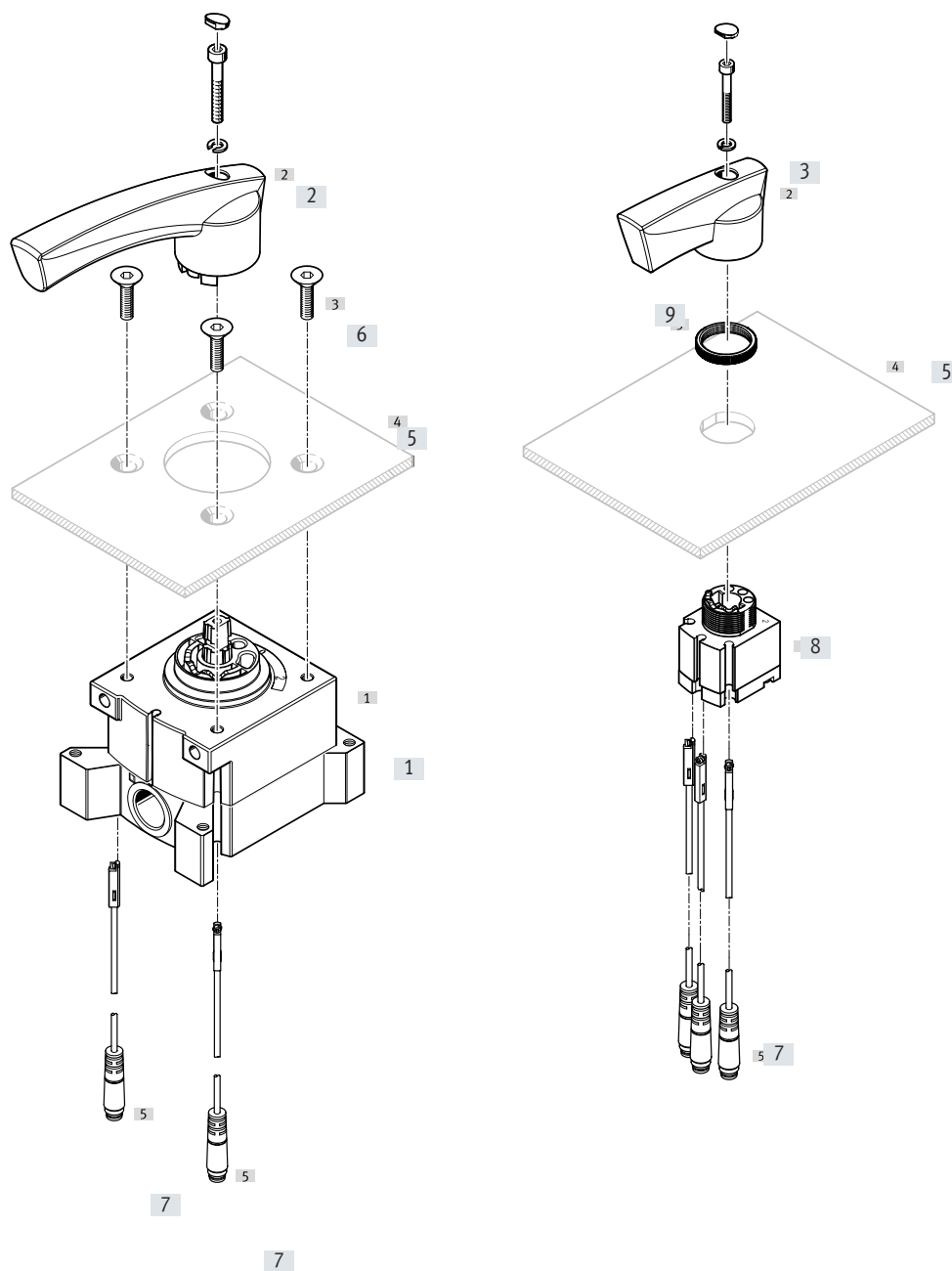
Function	Design	Type	Nominal flow rate [l/min]	Hand lever		→ Page/ Internet
		Connection underneath, mid-position pressurised				
		VHER-H-B43U-B-G18	800	Metal	Without lock	3
		VHER-H-B43U-B-G14	1500			
	VHER-H-B43U-B-G12	3800				
		Connection at the side, mid-position pressurised				
		VHER-H-B43U-G18	600	Metal	Without lock	3
VHER-H-B43U-G14		1150				
VHER-H-B43U-G12	3200					
		Connection underneath, mid-position closed				
		VHER-H-B43C-B-G18	800	Metal	Without lock	3
		VHER-H-B43C-B-G14	1500			
	VHER-H-B43C-B-G12	3800				
		Connection at the side, mid-position closed				
		VHER-H-B43C-G18	600	Metal	Without lock	3
VHER-H-B43C-G14		1150				
VHER-H-B43C-G12	3200					
		Connection underneath, mid-position exhausted				
		VHER-H-B43E-B-G18	800	Metal	Without lock	3
		VHER-H-B43E-B-G14	1500			
	VHER-H-B43E-B-G12	3800				
		Connection at the side, mid-position exhausted				
		VHER-H-B43E-G18	600	Metal	Without lock	3
VHER-H-B43E-G14		1150				
VHER-H-B43E-G12	3200					

Product range overview – Polymer lever

Function	Design	Type	Nominal flow rate [l/min]	Hand lever		→ Page/ Internet
	Connection underneath, mid-position pressurised					
		VHER-P-H-B43U-B-M5	260	Polymer	With lock	4
		VHER-P-H-B43U-B-G18	800			
		VHER-P-H-B43U-B-G14	1500			
		VHER-P-H-B43U-B-G12	3800			
	Connection at the side, mid-position pressurised					
		VHER-P-H-B43U-M5	170	Polymer	With lock	4
		VHER-P-H-B43U-G18	600			
VHER-P-H-B43U-G14		1150				
VHER-P-H-B43U-G12		3200				
	Connection underneath, mid-position closed					
		VHER-P-H-B43C-B-M5	260	Polymer	With lock	4
		VHER-P-H-B43C-B-G18	800			
		VHER-P-H-B43C-B-G14	1500			
		VHER-P-H-B43C-B-G12	3800			
	Connection at the side, mid-position closed					
		VHER-P-H-B43C-M5	170	Polymer	With lock	4
		VHER-P-H-B43C-G18	600			
VHER-P-H-B43C-G14		1150				
VHER-P-H-B43C-G12		3200				
	Connection underneath, mid-position exhausted					
		VHER-P-H-B43E-B-M5	260	Polymer	With lock	4
		VHER-P-H-B43E-B-G18	800			
		VHER-P-H-B43E-B-G14	1500			
		VHER-P-H-B43E-B-G12	3800			
	Connection at the side, mid-position exhausted					
		VHER-P-H-B43E-M5	170	Polymer	With lock	4
		VHER-P-H-B43E-G18	600			
VHER-P-H-B43E-G14		1150				
VHER-P-H-B43E-G12		3200				

Peripherals overview

Control panel installation – Metal lever

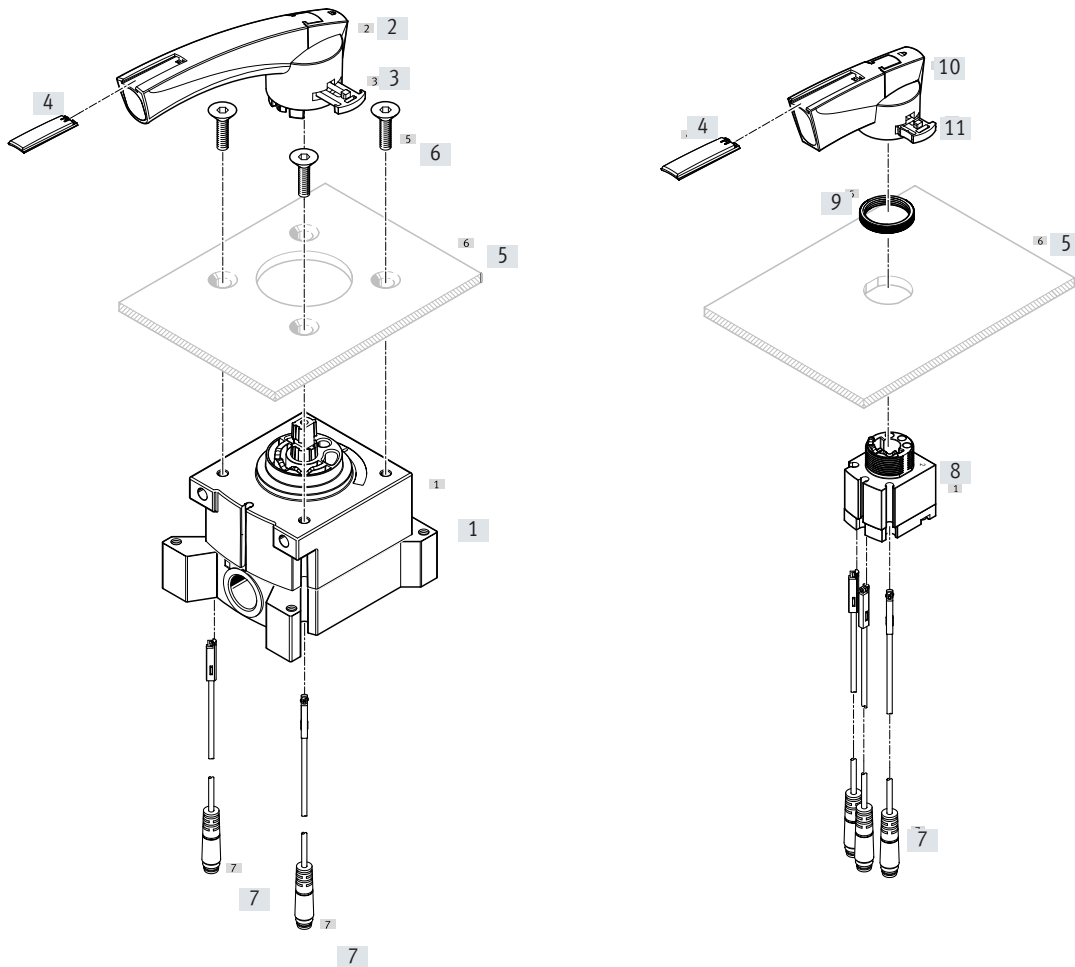


Component parts and accessories		Brief description	→ Page/ Internet
[1]	Hand lever valve VHER	Connection size M5, G1/8, G1/4, G1/2 (pneumatic connections at the side)	5
[2]	Actuating lever	Large, metal	–
[3]	Actuating lever	Small, metal	–
[5]	Control panel	Not included in the scope of delivery	–
[6]	Mounting screws ¹⁾	Not included in the scope of delivery	–
[7]	Proximity switch SME-10-KL, SME-10-SL	Not included in the scope of delivery (electrical connection, in-line outlet)	5, 5
[8]	Hand lever valve VHER	Connection size M5, G1/8, G1/4, G1/2 (pneumatic connections underneath)	5
[9]	Knurled nut	Control panel mounting	–

1) For design reasons, it is not possible for every hand lever valve VHER to be screwed to a control panel on the lever side using mounting screws.

Peripherals overview

Control panel installation – Polymer lever

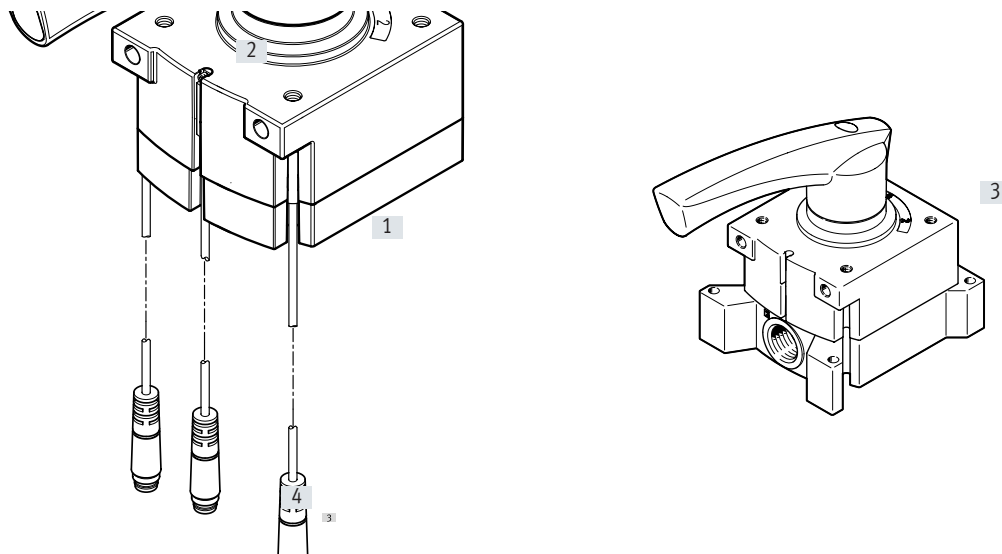


Component parts and accessories	Brief description	→ Page/ Internet	
[1]	Hand lever valve VHER	Connection size M5, G1/8, G1/4, G1/2 (pneumatic connections at the side)	6
[2]	Actuating lever	Large, polymer	–
[3]	Lever mounting clip	Large	–
[4]	Inscription label	–	–
[5]	Control panel	Not included in the scope of delivery	–
[6]	Mounting screws ¹⁾	Not included in the scope of delivery	–
[7]	Proximity switch SME-10-KL, SME-10-SL	Not included in the scope of delivery (electrical connection, in-line outlet)	6, 6
[8]	Hand lever valve VHER	Connection size M5, G1/8, G1/4, G1/2 (pneumatic connections underneath)	6
[9]	Knurled nut	Control panel mounting	–
[10]	Actuating lever	Small, polymer	–
[11]	Lever mounting clip	Small	–


1) For design reasons, it is not possible for every hand lever valve VHER to be screwed to a control panel on the lever side using mounting screws.

Peripherals overview

Mounted valves with accessories



Component parts and accessories		Brief description	→ Page/ Internet
[1]	Hand lever valves VHER-P-H...	Connection size M5, G1/8, G1/4, G1/2 with polymer lever, large (pneumatic connections underneath)	7
[2]	Lock	Not included in the scope of delivery	–
[3]	Hand lever valve VHER-H...	Connection size G1/8, G1/4, G1/2 with metal lever, large (pneumatic connections at the side)	7
[4]	Proximity switch SME-10-KL, SME-10-SL	Not included in the scope of delivery (electrical connection, in-line outlet)	7, 7

-  - **Note**

For design reasons, it is not possible for every hand lever valve VHER to be screwed to a control panel on the lever side using mounting screws.

Type codes

001	Series	
VHER	Hand lever valve with detent	

002	Product version	
	Standard	
P	Mainly polymer	

003	Actuation type	
H	Hand lever, top	




004	Valve function	
B43C	4/3-way valve, detenting, mid-position closed	
B43E	4/3-way valve, detenting, mid-position open	
B43U	4/3-way valve, detenting, mid-position pressurised	

005	Flow direction	
	Standard	

006	Connection direction	
	On the side	
B	Underneath	

007	Pneumatic connection	
M5	M5	
G18	G1/8	
G14	G1/4	
G12	G1/2	

Data sheet – Version with metal lever

-  Flow rate
600 ... 3800 l/min
-  Pressure
-0.95 ... +10 bar
-  Temperature range
-20 ... +80°C



General technical data			G1/8	G1/4	G1/2	
Connection size			G1/8	G1/4	G1/2	
Valve function			4/3-way, detenting, mid-position closed, exhausted or pressurised			
Design			Rotary slide valve			
Sealing principle			Hard			
Type of mounting			Option of front panel mounting or through-holes			
Type of control			Direct			
Actuation type			Manual			
Actuating lever (can be removed)			Metal (die-cast aluminium)			
Actuator lock			None			
Switching position indication			Via accessories			
Mounting position			Any			
Flow direction			Non-reversible			
Non-overlapping			Yes			
Exhaust air function			Can be throttled			
Standard nominal flow rate	Connection at the side	[l/min]	600	1150	3200	
	Connection underneath	[l/min]	800	1500	3800	
Nominal size		[mm]	6	8	12	
Pneumatic connection 1, 2, 3, 4			G1/8	G1/4	G1/2	
Actuating torque at 6 bar			[Nm]	0.9	2	5

Operating and environmental conditions			G1/8	G1/4	G1/2
Connection size			G1/8	G1/4	G1/2
Operating medium			Compressed air to ISO 8573-1:2010 [7:4:4]		
Note on the operating/pilot medium			Lubricated operation possible (in which case lubricated operation will always be required)		
Operating pressure			[bar]	0 ... 10 (vacuum only permitted at port 3)	
Ambient temperature			[°C]	-20 ... +80	
Temperature of medium			[°C]	-20 ... +80	
Corrosion resistance class CRC ¹⁾			2		

- 1) Corrosion resistance class 2 to Festo standard 940070
Components subject to moderate corrosion stress. External visible parts with primarily decorative surface requirements which are in direct contact with the surrounding industrial environment or media such as coolants or lubricating agents.

Proximity switches for switching position indication		
Connection size	Connection direction	Type
		SME-10-... -L...
G1/8	Underneath	■
	At the side	-
G1/4	Underneath	■
	At the side	-
G1/2	Underneath	■
	At the side	-

Data sheet – Version with metal lever

Operation with different pressures

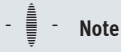
Vacuum operation

The direction of flow of the VHER-B43 valves is clearly defined and cannot be reversed.

Vacuum must only be connected to port 3 in order to maintain the direction of flow.

Vacuum operation at port 3:
-0.95 ... 0 bar

During vacuum operation, the valve function changes from exhausted (VHER...-B43E...) to pressurised (VHER...-B43U...) and vice versa.



Note

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



Note

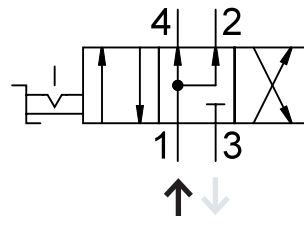
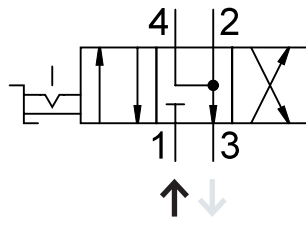
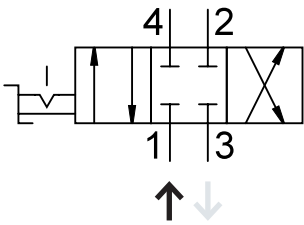
Vacuum must not be connected to port 1.

With vacuum operation:
Mid-position closed
(VHER...-B43C...)

With vacuum operation:
Mid-position pressurised
(VHER...-B43U...)

With vacuum operation:
Mid-position exhausted
(VHER...-B43E...)

Connections with vacuum:



- Vacuum is generated by connecting vacuum generator to port 3
- Exhaust (or pressurisation) takes place via port 1
- Vacuum operation (e.g. suction cup) takes place at port 2 (or 4)

(During normal operation: mid-position closed VHER...-B43C...)

(During normal operation: mid-position exhausted VHER...-B43E...)

(During normal operation: mid-position pressurised VHER...-B43U...)

Dual-pressure operation

Valves VHER-B43 are suitable for dual-pressure operation.

Please note that for design reasons compressed air may only be applied to port 1 and 3.



Note

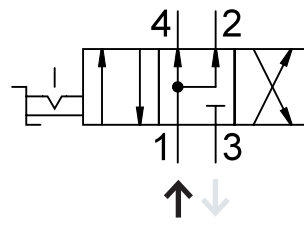
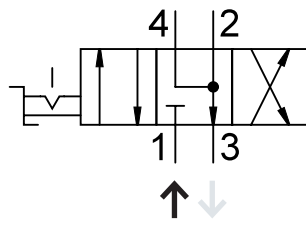
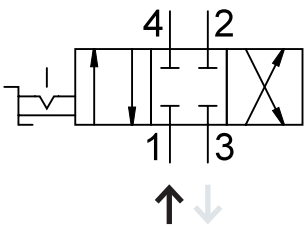
In the case of dual-pressure operation, the higher pressure must always be applied to port 1.

Mid-position closed
VHER...-B43C...

Mid-position exhausted
VHER...-B43E...

Mid-position pressurised
VHER...-B43U...

Connections with dual-pressure operation:



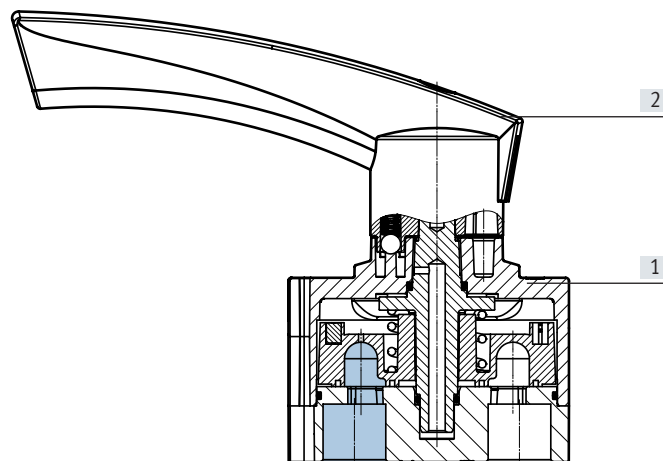
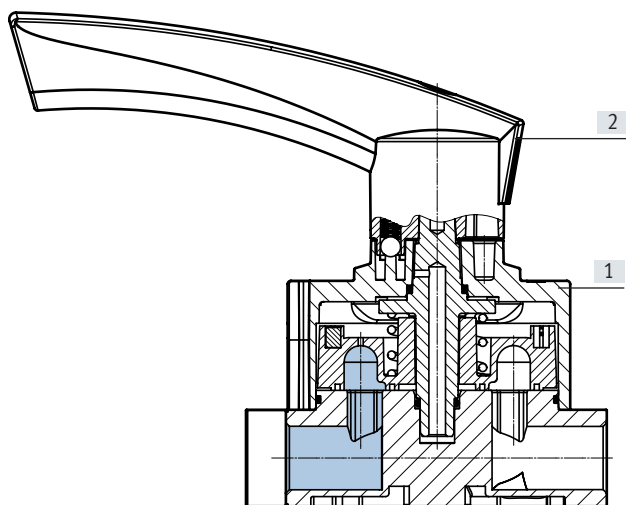
- Supply port: port 1 (high pressure)
- Supply port: port 3 (lower pressure)

Data sheet – Version with metal lever

Sectional view

Hand lever valve VHER-H-B43-...

Hand lever valve VHER-H-B43...-B-...



Materials

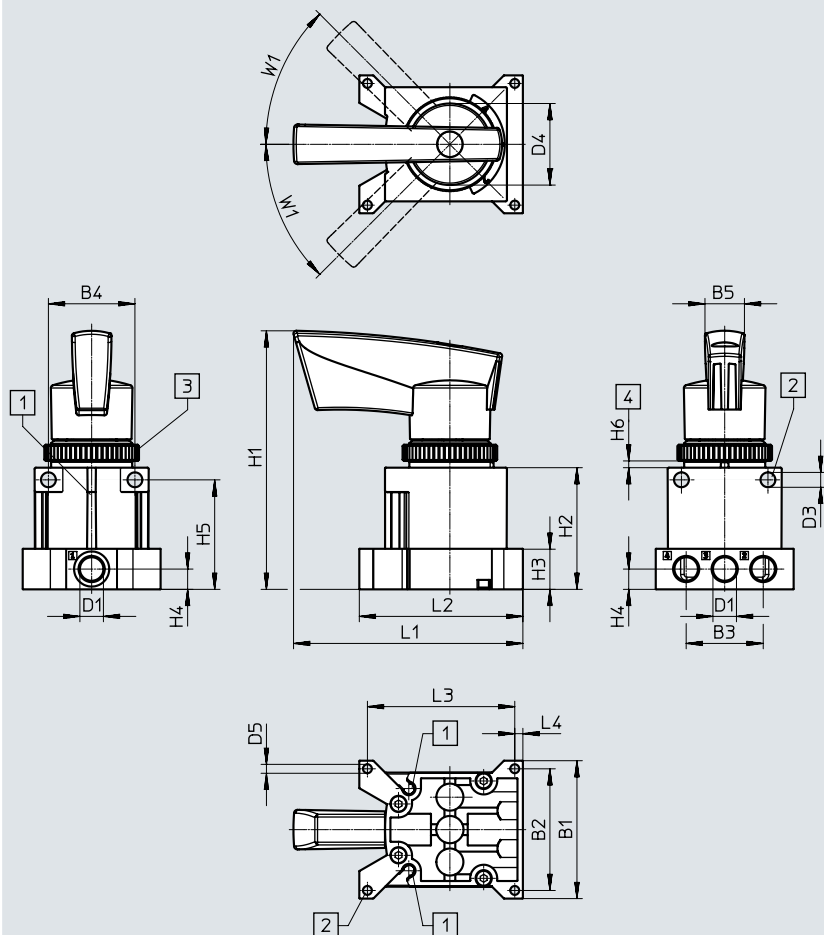
[1]	Housing	Die-cast aluminium
[2]	Actuating lever	Metal (die-cast aluminium)
-	Seals	NBR
-	Note on materials	RoHS-compliant
-	Note on materials	Free of copper and PTFE

Data sheet – Version with metal lever

Dimensions

Download CAD data → www.festo.com

Pneumatic connection G1/8, at the side



[1] Slot for proximity switch
SM...-10...

[2] Mounting hole

[3] Knurled nut M30

[4] Control panel

Type	B1	B2	B3	B4	B5	D1	D3 ∅	D4 ∅	D5 ∅
VHER-H-B43...-G18	51	45	28.5	32	14.6	G1/8	5.5	30.2	3.3

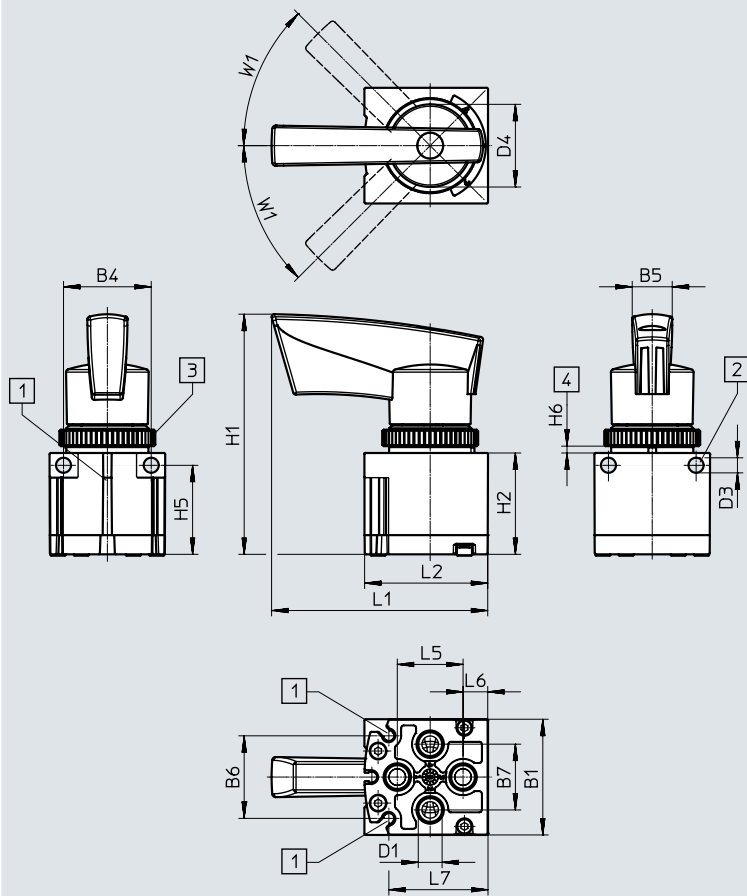
Type	H1	H2	H3	H4	H5	H6		L1	L2	L3	L4	W1
						min.	max.					
VHER-H-B43...-G18	95.6	45	15	7.5	40.5	2	4	84.9	60.5	54.5	3	45°

Data sheet – Version with metal lever

Dimensions

Download CAD data → www.festo.com

Pneumatic connection G1/8, underneath



- [1] Slot for proximity switch SM...-10...
- [2] Mounting hole
- [3] Knurled nut M30
- [4] Control panel

Type	B1	B4	B5	B6	B7	D1	D3 ∅	D4 ∅
VHER-H-B43...-B-G18	42.2	32	14.6	30.4	24	G1/8	5.5	30.2

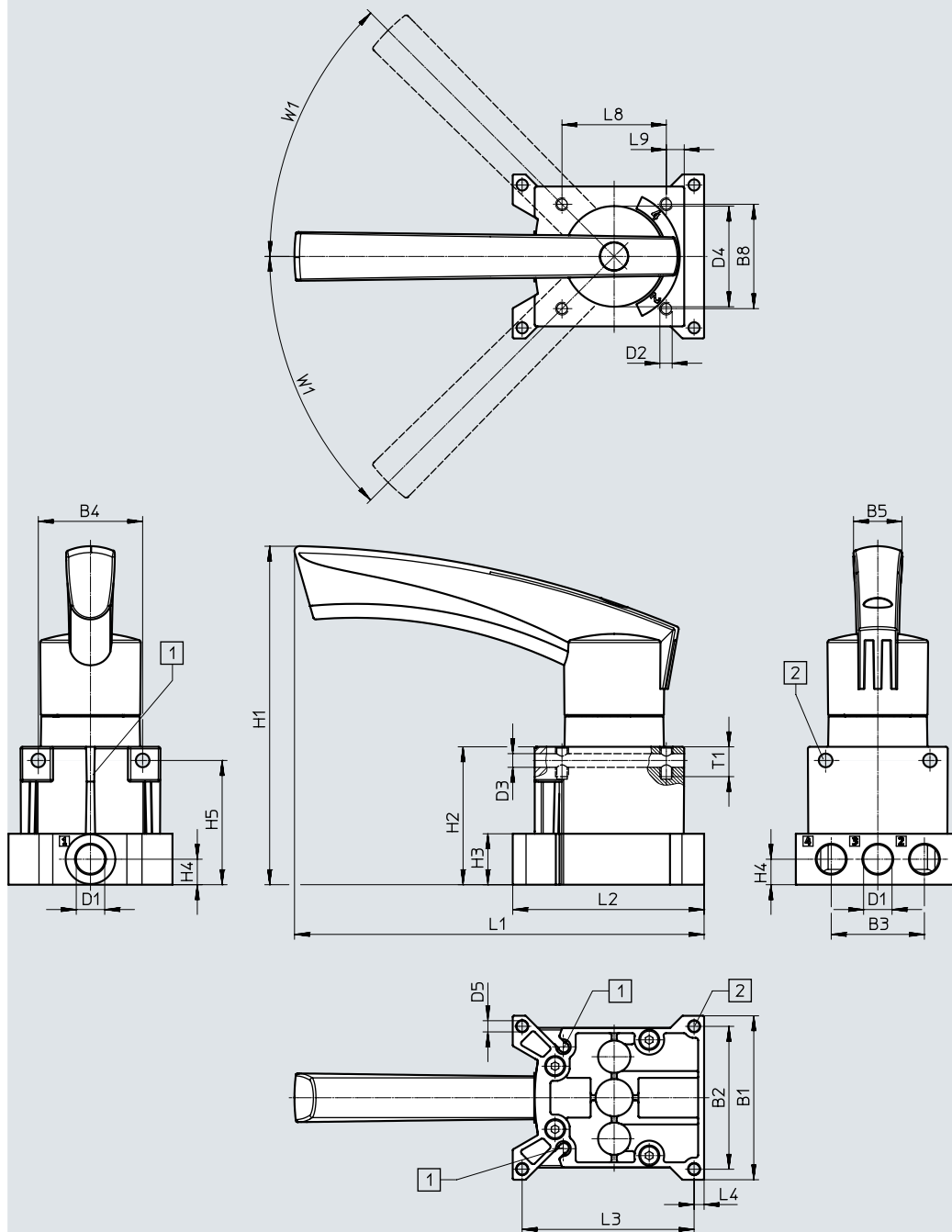
Type	H1	H2	H5	H6		L1	L2	L5	L6	L7	W1
				min.	max.						
VHER-H-B43...-B-G18	87.6	37	32.5	2	4	78.6	44.9	24	9	36.2	45°

Data sheet – Version with metal lever

Dimensions

Download CAD data → www.festo.com

Pneumatic connection G1/4, at the side



[1] Slot for proximity switch
SM....-10...

[2] Mounting hole

Type	B1	B2	B3	B4	B5	B8	D1	D2	D3	D4	D5
VHER-H-B43...-G14	66	57.5	37.5	42	19.5	42	G1/4	M5	5.5	40.5	4.5

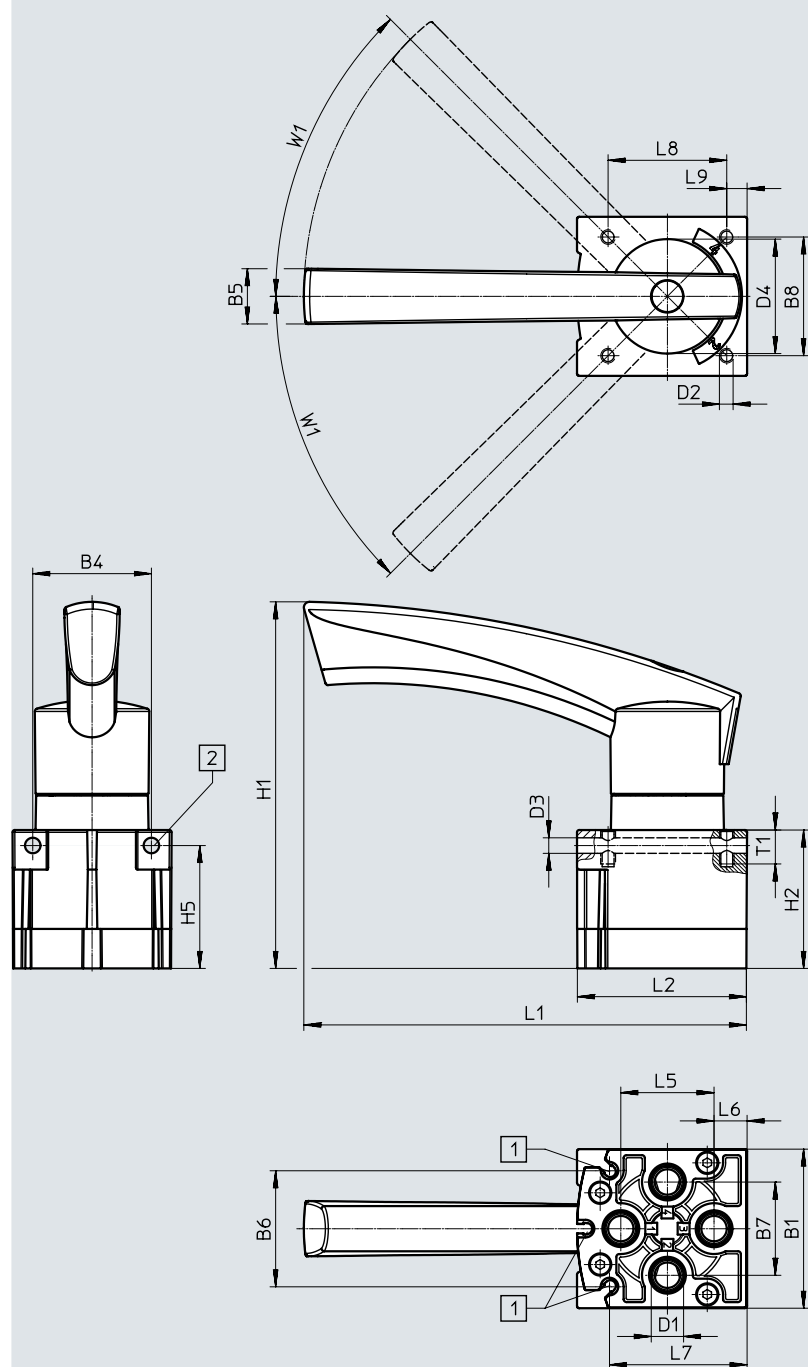
Type	H1	H2	H3	H4	H5	L1	L2	L3	L4	L8	L9	T1	W1
VHER-H-B43...-G14	136.3	55.5	20.5	10.3	50	164.8	77	69.2	4	42	7.2	12	45°

Data sheet – Version with metal lever

Dimensions

Download CAD data → www.festo.com

Pneumatic connection G1/4, underneath



[1] Slot for proximity switch
SM...-10...

[2] Mounting hole

Type	B1	B4	B5	B6	B7	B8	D1	D2	D3 ∅	D4 ∅
VHER-H-B43...-B-G14	56.3	42	19.5	40.4	33	42	G1/4	M5	5.5	40.5

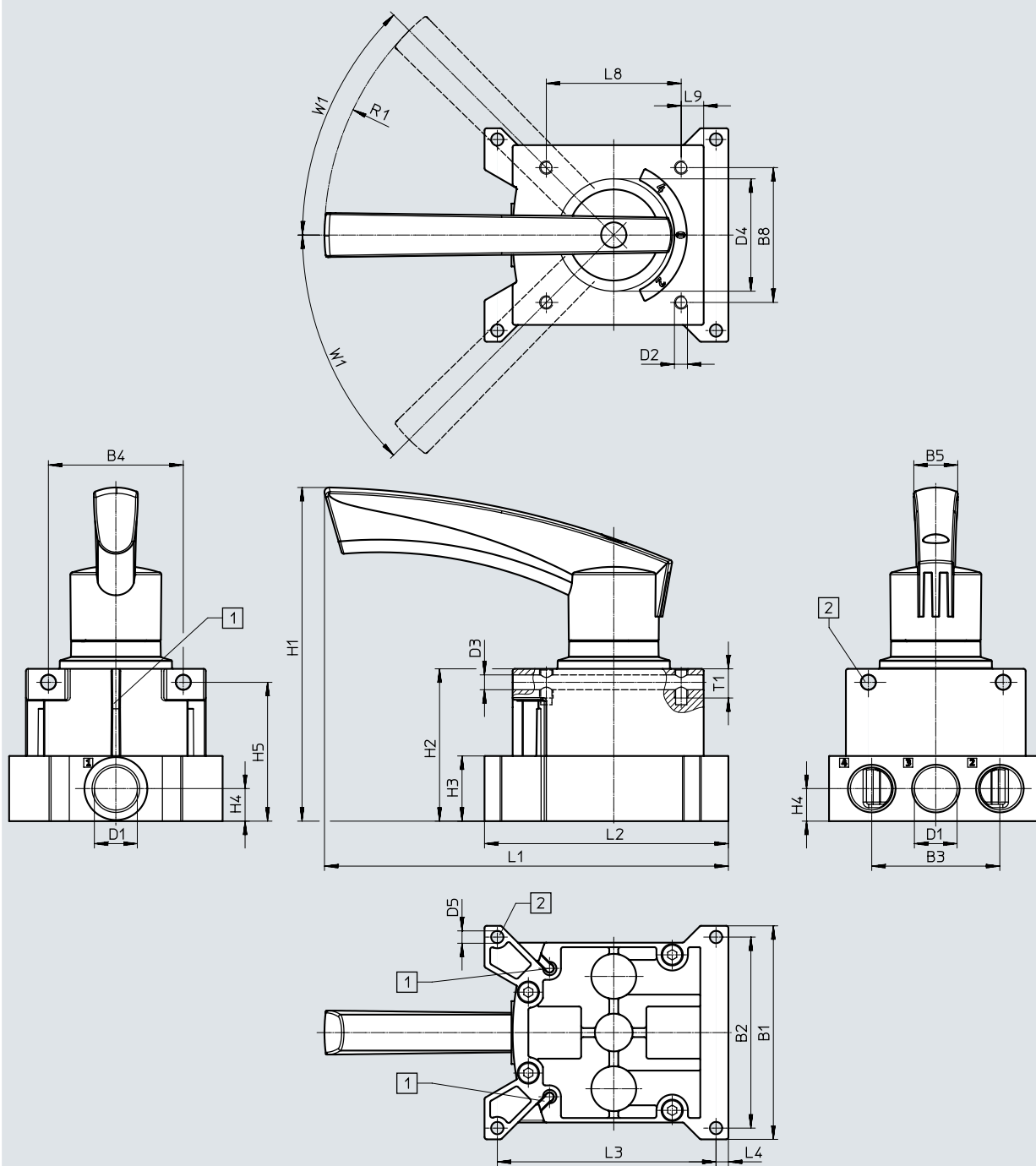
Type	H1	H2	H5	L1	L2	L5	L6	L7	L8	T1	W1
VHER-H-B43...-B-G14	129.8	49	43.5	156.6	59.8	33	11	48.2	42	12	45°

Data sheet – Version with metal lever

Dimensions

Download CAD data → www.festo.com

Pneumatic connection G1/2, at the side



[1] Slot for proximity switch
SM...-10...

[2] Mounting hole

Type	B1	B2	B3	B4	B5	B8	D1	D2	D3	D4	D5
VHER-H-B43-...-G12	95	85	57	60	19.5	60	G1/2	M5	6.6	51	5.5

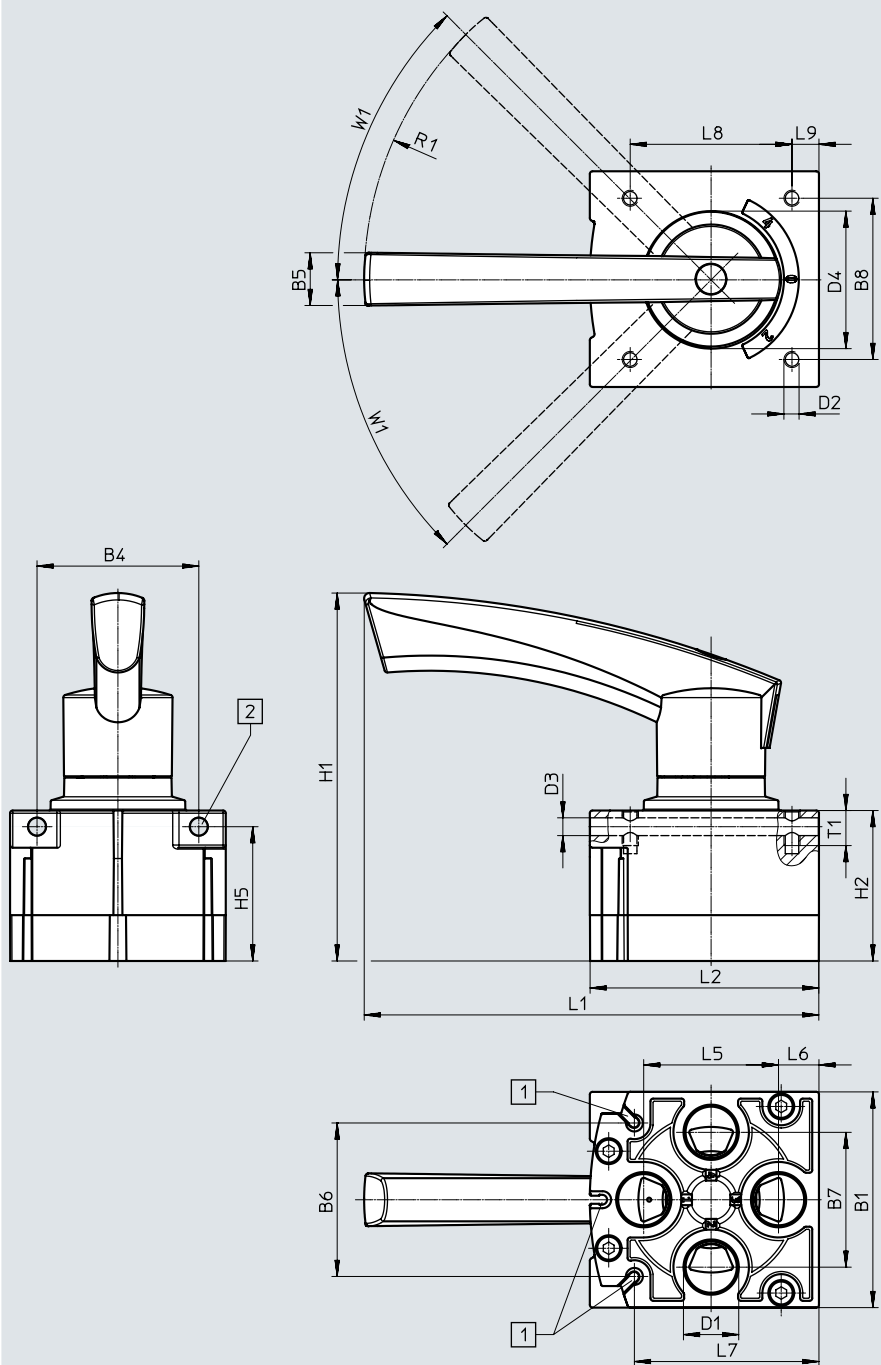
Type	H1	H2	H3	H4	H5	L1	L2	L3	L4	L8	L9	R1	T1	W1
VHER-H-B43-...-G12	149	68	29	14.5	61.8	180	108.8	97.3	5.5	60	10	128	13	45°

Data sheet – Version with metal lever

Dimensions

Download CAD data → www.festo.com

Pneumatic connection G1/2, underneath



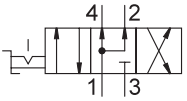
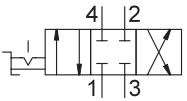
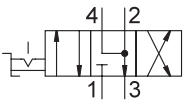
[1] Slot for proximity switch
SM...-10...

[2] Mounting hole









Type	B1	B4	B5	B6	B7	B8	D1	D2	D3	D4
VHER-H-B43-...-B-G12	80	60	19.5	56.9	50	60	G1/2	M5	6.6	51

Type	H1	H2	H5	L1	L2	L5	L6	L7	L8	L9	R1	T1	W1
VHER-H-B43-...-B-G12	136.5	55.8	49.8	168.8	84.8	50	15	68.5	60	10	128	13	45°

Ordering data





Ordering data – Hand lever valves							
Circuit symbol	Description	Actuator lock	Pneumatic connection	Width [mm]	Weight [g]	Part no.	Type
4/3-way valve¹⁾							
	Mid-position pressurised	–	Underneath	42	220	3488215	VHER-H-B43U-B-G18
				56	510	3515286	VHER-H-B43U-B-G14
				80	860	3192072	VHER-H-B43U-B-G12
	–	At the side	51	260	3488214	VHER-H-B43U-G18	
			66	560	3515108	VHER-H-B43U-G14	
			95	1010	3192071	VHER-H-B43U-G12	
	Mid-position closed	–	Underneath	42	220	3488205	VHER-H-B43C-B-G18
				56	510	3515202	VHER-H-B43C-B-G14
				80	860	3192066	VHER-H-B43C-B-G12
	–	At the side	51	260	3488204	VHER-H-B43C-G18	
			66	560	3514710	VHER-H-B43C-G14	
			95	1010	3192065	VHER-H-B43C-G12	
	Mid-position exhausted	–	Underneath	42	220	3488207	VHER-H-B43E-B-G18
				56	510	3515258	VHER-H-B43E-B-G14
				80	860	3192068	VHER-H-B43E-B-G12
	–	At the side	51	260	3488206	VHER-H-B43E-G18	
			66	560	3515082	VHER-H-B43E-G14	
			95	1010	3192067	VHER-H-B43E-G12	

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



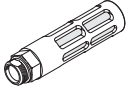

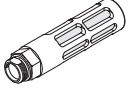
Ordering data – Push-in fittings						
Description	Connection		Part no.	Type	PU ¹⁾	
Pneumatic connection: underneath, external hexagon						
	G1/8	G thread with sealing ring for (short design)	Tubing O.D. 4 mm	186264	QSM-G1/8-4	10
			Tubing O.D. 6 mm	186265	QSM-G1/8-6	10
	G1/8	G thread with sealing ring for	Tubing O.D. 4 mm	186095	QS-G1/8-4	10
			Tubing O.D. 6 mm	186096	QS-G1/8-6	10
			Tubing O.D. 8 mm	186098	QS-G1/8-8	10
	G1/4	G thread with sealing ring for	Tubing O.D. 6 mm	186097	QS-G1/4-6	10
			Tubing O.D. 8 mm	186098	QS-G1/4-8	10
			Tubing O.D. 10 mm	186101	QS-G1/4-10	10
	G1/2	G thread with sealing ring for	Tubing O.D. 12 mm	186104	QS-G1/2-12	1
			Tubing O.D. 16 mm	186105	QS-G1/2-16	1
Pneumatic connection: underneath, internal hexagon						
	G1/8	G thread with sealing ring for (short design)	Tubing O.D. 4 mm	186266	QSM-G1/8-4-I	10
			Tubing O.D. 6 mm	186267	QSM-G1/8-6-I	10
	G1/8	G thread with sealing ring for	Tubing O.D. 4 mm	186106	QS-G1/8-4-I	10
			Tubing O.D. 6 mm	186107	QS-G1/8-6-I	10
			Tubing O.D. 8 mm	186109	QS-G1/8-8-I	10
	G1/4	G thread with sealing ring for	Tubing O.D. 6 mm	186108	QS-G1/4-6-I	10
			Tubing O.D. 8 mm	186110	QS-G1/4-8-I	10
			Tubing O.D. 10 mm	186112	QS-G1/4-10-I	10
	G1/2	G thread with sealing ring for	Tubing O.D. 12 mm	186115	QS-G1/2-12-I	1

1) Packaging unit

Accessories

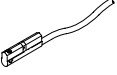
Ordering data – Push-in fittings							
Description	Connection	Materials			Part no.	Type	PU ¹⁾
		Screwed trunnion	Cushioning insert	Housing			
Pneumatic connection: at the side, internal hexagon							
	G1/8	G thread with sealing ring for (short design)	Tubing O.D. 4 mm		186266	QSM-G1/8-4-I	10
			Tubing O.D. 6 mm		186267	QSM-G1/8-6-I	10
	G1/8	G thread with sealing ring for	Tubing O.D. 4 mm		186106	QS-G1/8-4-I	10
			Tubing O.D. 6 mm		186107	QS-G1/8-6-I	10
			Tubing O.D. 8 mm		186109	QS-G1/8-8-I	10
	G1/4	G thread with sealing ring for	Tubing O.D. 6 mm		186108	QS-G1/4-6-I	10
			Tubing O.D. 8 mm		186110	QS-G1/4-8-I	10
			Tubing O.D. 10 mm		186112	QS-G1/4-10-I	10
	G1/2	G thread with sealing ring for	Tubing O.D. 12 mm		186115	QS-G1/2-12-I	1

1) Packaging unit


Ordering data – Silencers							
Description	Connection	Materials			Part no.	Type	PU ¹⁾
		Screwed trunnion	Cushioning insert	Housing			
Pneumatic connection: underneath							
	G1/8	PE	PE	–	161419	UC-1/8	1
	G1/4	PE	PE	–	165004	UC-1/4	1
	G1/8	Die-cast aluminium	PE	Die-cast aluminium	6841	U-1/8-B	1
		PA	PE	PA	2307	U-1/8	1
	G1/4	Die-cast aluminium	PE	Die-cast aluminium	6842	U-1/4-B	1
		PA	PE	PA	2316	U-1/4	1
	G1/2	Die-cast aluminium	PE	Die-cast aluminium	6844	U-1/2-B	1
Pneumatic connection: at the side							
	G1/8	PE	PE	–	161419	UC-1/8	1
	G1/4	PE	PE	–	165004	UC-1/4	1
	G1/2	Die-cast aluminium	PE	Die-cast aluminium	6844	U-1/2-B	1

1) Packaging unit

Accessories




Ordering data – Proximity switches							
	Outlet direction of connection	Use	Electrical connection	Cable length [m]	Part no.	Type	PU ¹⁾
	In-line	<ul style="list-style-type: none"> For valves with pneumatic connections underneath 	Cable, 3-wire	2.5	173210	SME-10-KL-LED-24	1
			Plug M8x1, 3-pin	0.3	173212	SME-10-SL-LED-24	1

1) Packaging unit

Ordering data – Blanking plugs					
	Description	Connection	Part no.	Type	PU ¹⁾
	With sealing ring, internal hexagon	G1/8	3568	B-1/8	10
			534213	B-1/8-100	100
		G1/4	3569	B-1/4	10
			534214	B-1/4-50	50
		G1/2	3571	B-1/2	10
			534216	B-1/2-20	20

1) Packaging unit

Data sheet – Version with polymer lever

-  Flow rate
170 ... 3800 l/min
-  Pressure
-0.95 ... +10 bar
-  Temperature range
-20 ... +80°C



General technical data		M5	G1/8	G1/4	G1/2
Connection size		M5	G1/8	G1/4	G1/2
Valve function		4/3-way, detenting, mid-position closed, exhausted or pressurised			
Design		Rotary slide valve			
Sealing principle		Hard			
Type of mounting		Option of front panel mounting or through-holes			
Type of control		Direct			
Actuation type		Manual			
Actuating lever (can be removed)		Polymer (plastic, PA)			
Actuator lock		With accessories (actuating lever can be latched and locked in 3 positions. If the actuating lever is locked, it cannot be removed.)			
Switching position indication		Via accessories			
Mounting position		Any			
Flow direction		Non-reversible			
Non-overlapping		Yes			
Exhaust air function		Can be throttled			
Standard nominal flow rate	Connection at the side [l/min]	170	600	1150	3200
	Connection underneath [l/min]	260	800	1500	3800
Nominal size	[mm]	4	6	8	12
Pneumatic connection 1, 2, 3, 4		M5	G1/8	G1/4	G1/2
Actuating torque at 6 bar	[Nm]	0.5	0.9	2	5

Operating and environmental conditions		M5	G1/8	G1/4	G1/2
Connection size		M5	G1/8	G1/4	G1/2
Operating medium		Compressed air to ISO 8573-1:2010 [7:4:4]			
Note on the operating/pilot medium		Lubricated operation possible (in which case lubricated operation will always be required)			
Operating pressure	[bar]	0 ... 10 (vacuum only permitted at port 3)			
Ambient temperature	[°C]	-20 ... +80			
Temperature of medium	[°C]	-20 ... +80			
Corrosion resistance class CRC ¹⁾		2			

1) Corrosion resistance class 2 to Festo standard 940070

Components subject to moderate corrosion stress. External visible parts with primarily decorative surface requirements which are in direct contact with the surrounding industrial environment or media such as coolants or lubricating agents.

Proximity switches for switching position indication		
Connection size	Connection direction	Type
		SME-10-... -L...
M5	Underneath	■
	At the side	-
G1/8	Underneath	■
	At the side	-
G1/4	Underneath	■
	At the side	-
G1/2	Underneath	■
	At the side	-

Data sheet – Version with polymer lever

Operation with different pressures


Vacuum operation

The direction of flow of the VHER-B43 valves is clearly defined and cannot be reversed.


Vacuum must only be connected to port 3 in order to maintain the direction of flow.

Vacuum operation at port 3:
-0.95 ... 0 bar

During vacuum operation, the valve function changes from exhausted (VHER...-B43E...) to pressurised (VHER...-B43U...) and vice versa.

 **Note**

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

 **Note**

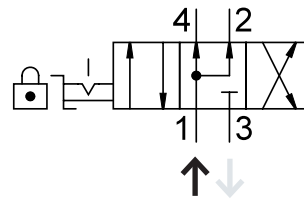
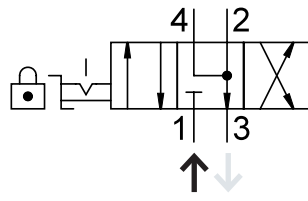
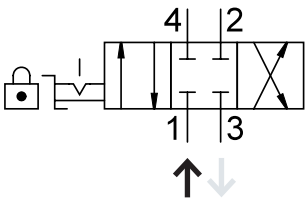
Vacuum must not be connected to port 1.

With vacuum operation:
Mid-position closed
(VHER...-B43C...)

With vacuum operation:
Mid-position pressurised
(VHER...-B43U...)

With vacuum operation:
Mid-position exhausted
(VHER...-B43E...)

Connections with vacuum:



- Vacuum is generated by connecting vacuum generator to port 3
- Exhaust (or pressurisation) takes place via port 1
- Vacuum operation (e.g. suction cup) takes place at port 2 (or 4)

(During normal operation: mid-position closed VHER...-B43C...)


(During normal operation: mid-position exhausted VHER...-B43E...)

(During normal operation: mid-position pressurised VHER...-B43U...)

Dual-pressure operation

Valves VHER-B43 are suitable for dual-pressure operation.

Please note that for design reasons compressed air may only be applied to port 1 and 3.

 **Note**

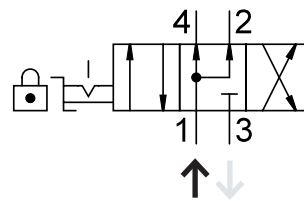
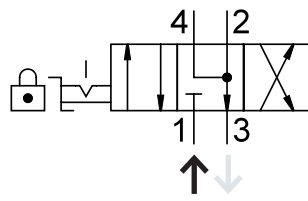
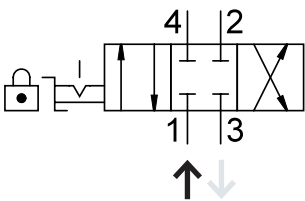
In the case of dual-pressure operation, the higher pressure must always be applied to port 1.

Mid-position closed
VHER...-B43C...

Mid-position exhausted
VHER...-B43E...

Mid-position pressurised
VHER...-B43U...

Connections with dual-pressure operation:



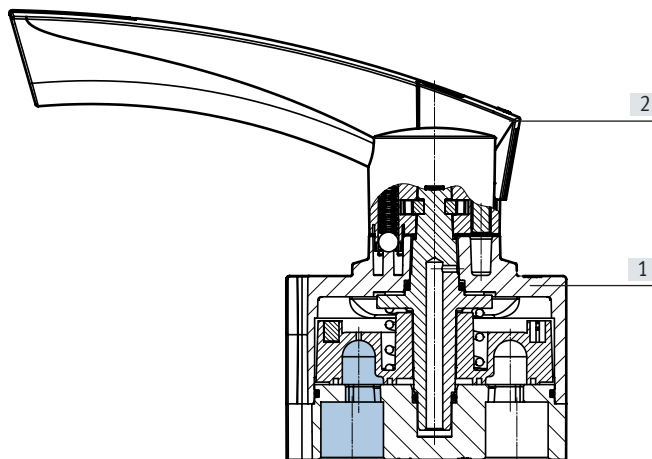
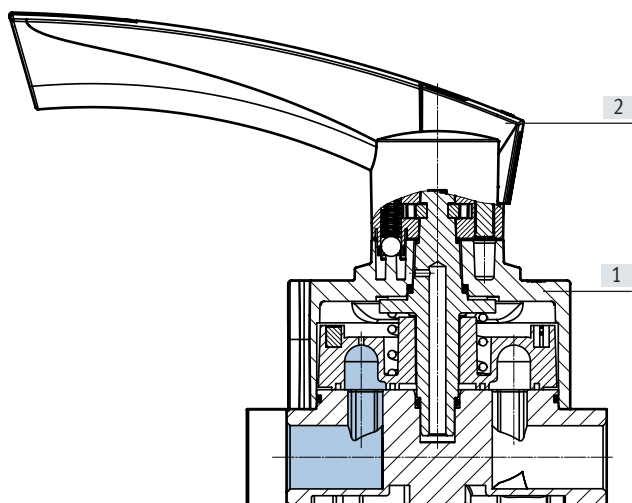
- Supply port: port 1 (high pressure)
- Supply port: port 3 (lower pressure)

Data sheet – Version with polymer lever

Sectional view

Hand lever valves VHER-P-H-B43-...

Hand lever valves VHER-P-H-B43...-B-...



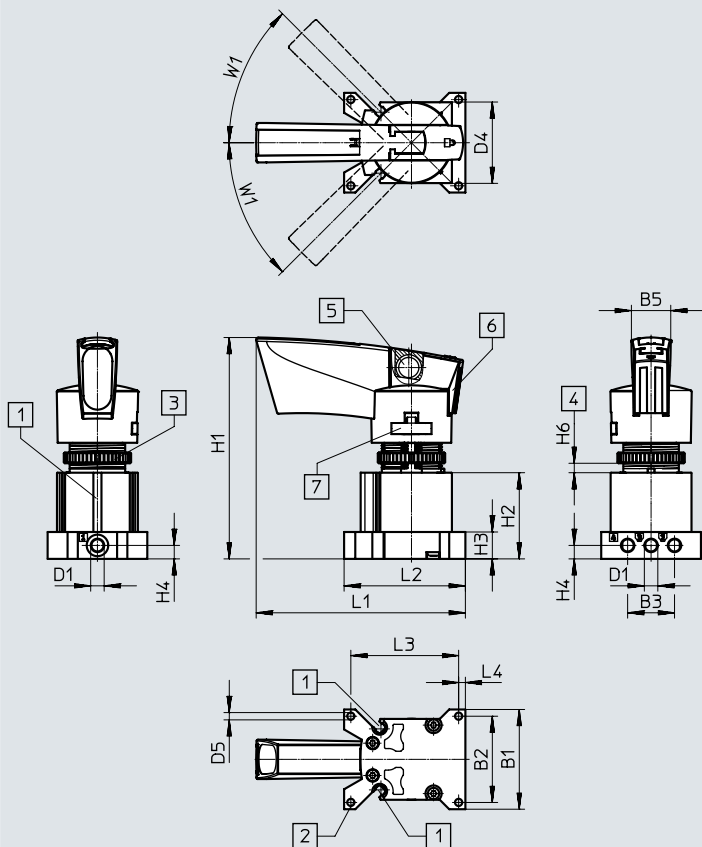
Materials		M5	G1/8	G1/4	G1/2
[1]	Housing	PA	PA	PA	Die-cast aluminium
[2]	Actuating lever	PA			
-	Seals	NBR			
-	Note on materials	RoHS-compliant			
-	Note on materials	Free of copper and PTFE			

Data sheet – Version with polymer lever

Dimensions

Download CAD data → www.festo.com

Pneumatic connection M5, at the side



- [1] Slot for proximity switch SM...-10...
- [2] Mounting hole
- [3] Knurled nut M22
- [4] Control panel
- [5] Drilled hole for locking mechanism \varnothing 7.5 mm
- [6] Latching button with lock
- [7] Lever mounting clip, removable

Type	B1	B2	B3	B5	D1	D4 \varnothing	D5 \varnothing
VHER-P-H-B43...-M5	37	32	17.4	14.6	M5	30.2	2.7

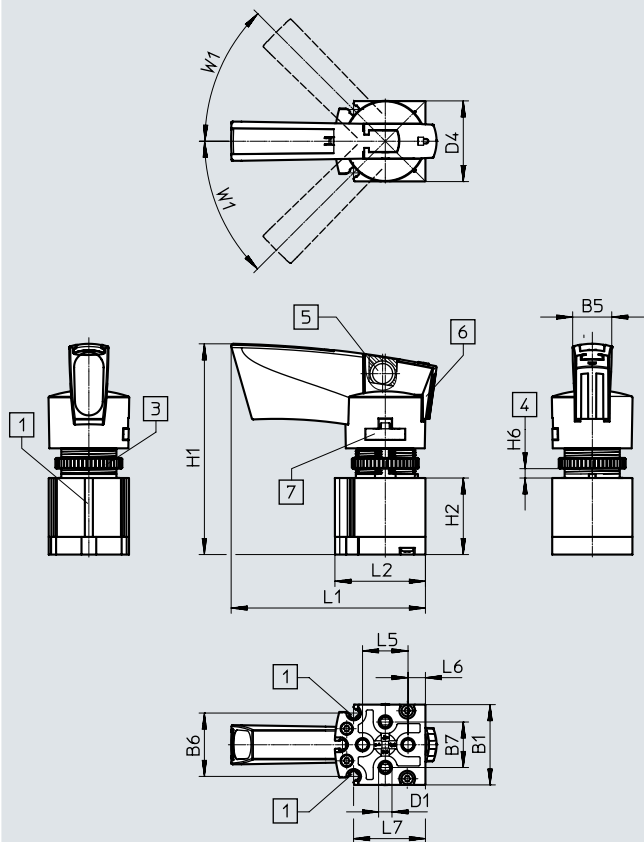
Type	H1	H2	H3	H4	H6		L1	L2	L3	L4	W1
					min.	max.					
VHER-P-H-B43...-M5	82.1	32	10	5	1.5	5.5	77.6	45	40	2.5	45°

Data sheet – Version with polymer lever

Dimensions

Download CAD data → www.festo.com

Pneumatic connection M5, underneath



- [1] Slot for proximity switch SM...-10...
- [2] Knurled nut M22
- [3] Control panel
- [4] Drilled hole for locking mechanism \varnothing 7.5 mm
- [5] Latching button with lock
- [6] Lever mounting clip, removable

Type	B1	B5	B6	B7	D1	D4 \varnothing
VHER-P-H-B43...-M5	30	14.6	23.7	17	M5	30.2

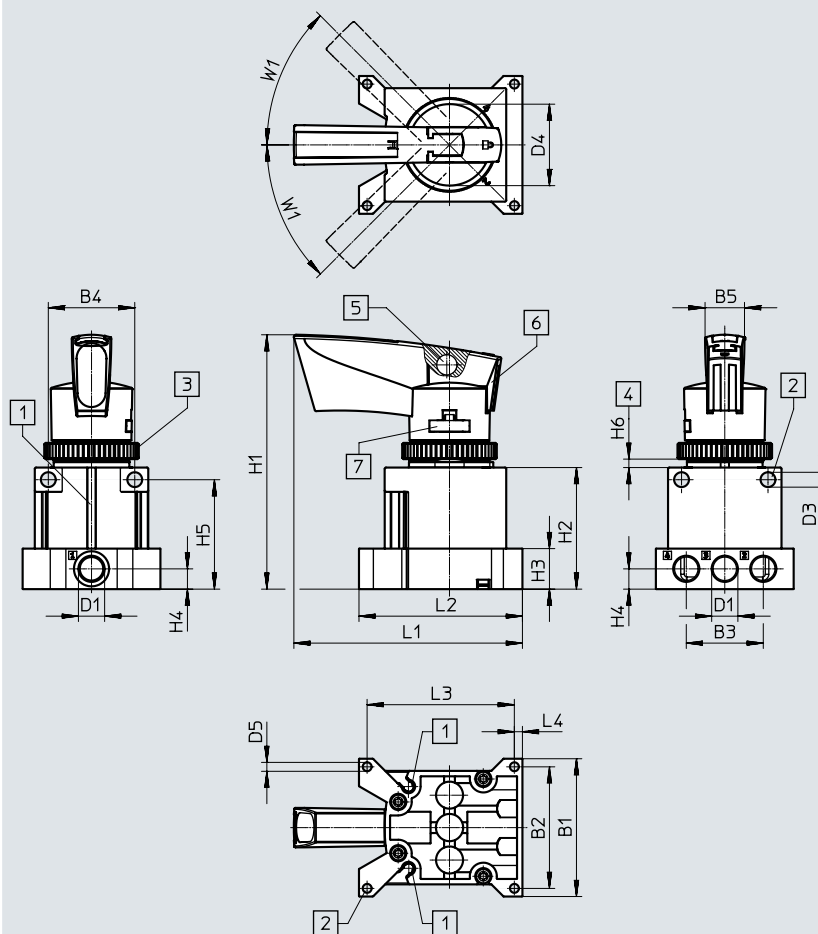
Type	H1	H2	H6		L1	L2	L5	L6	L7	W1
			min.	max.						
VHER-P-H-B43...-M5	78.7	28.6	1.5	5.5	72.6	33.8	17	6.5	26.8	45°

Data sheet – Version with polymer lever

Dimensions

Download CAD data → www.festo.com

Pneumatic connection G1/8, at the side



- [1] Slot for proximity switch SM...-10...
- [2] Mounting hole
- [3] Knurled nut M30
- [4] Control panel
- [5] Drilled hole for locking mechanism \varnothing 7.5 mm
- [6] Latching button with lock
- [7] Lever mounting clip, removable

Type	B1	B2	B3	B4	B5	D1	D3 \varnothing	D4 \varnothing	D5 \varnothing
VHER-P-H-B43...-G18	51	45	28.5	32	14.6	G1/8	5.5	30.2	3.3

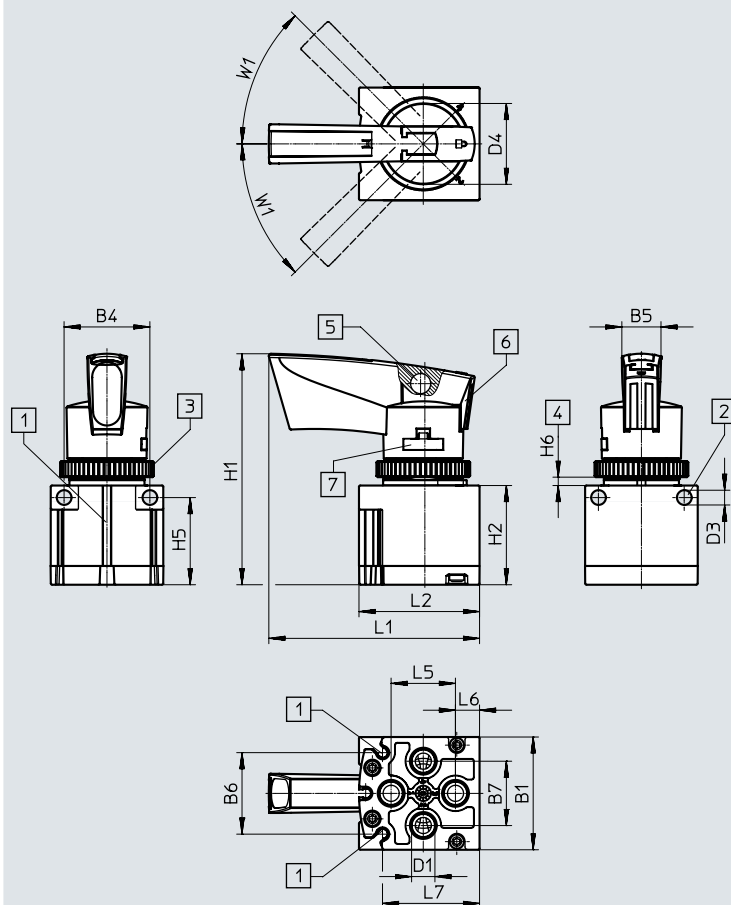
Type	H1	H2	H3	H4	H5	H6		L1	L2	L3	L4	W1
						min.	max.					
VHER-P-H-B43...-G18	94	45	15	7.5	40.5	2	4	84.6	60.5	54.5	3	45°

Data sheet – Version with polymer lever

Dimensions

Download CAD data → www.festo.com

Pneumatic connection G1/8, underneath



- [1] Slot for proximity switch SM...-10...
- [2] Mounting hole
- [3] Knurled nut M30
- [4] Control panel
- [5] Drilled hole for locking mechanism \varnothing 7.5 mm
- [6] Latching button with lock
- [7] Lever mounting clip, removable

Type	B1	B4	B5	B6	B7	D1	D3 \varnothing	D4 \varnothing
VHER-P-H-B43...-B-G18	42	32	14.6	30.4	24	G1/8	5.5	30.2

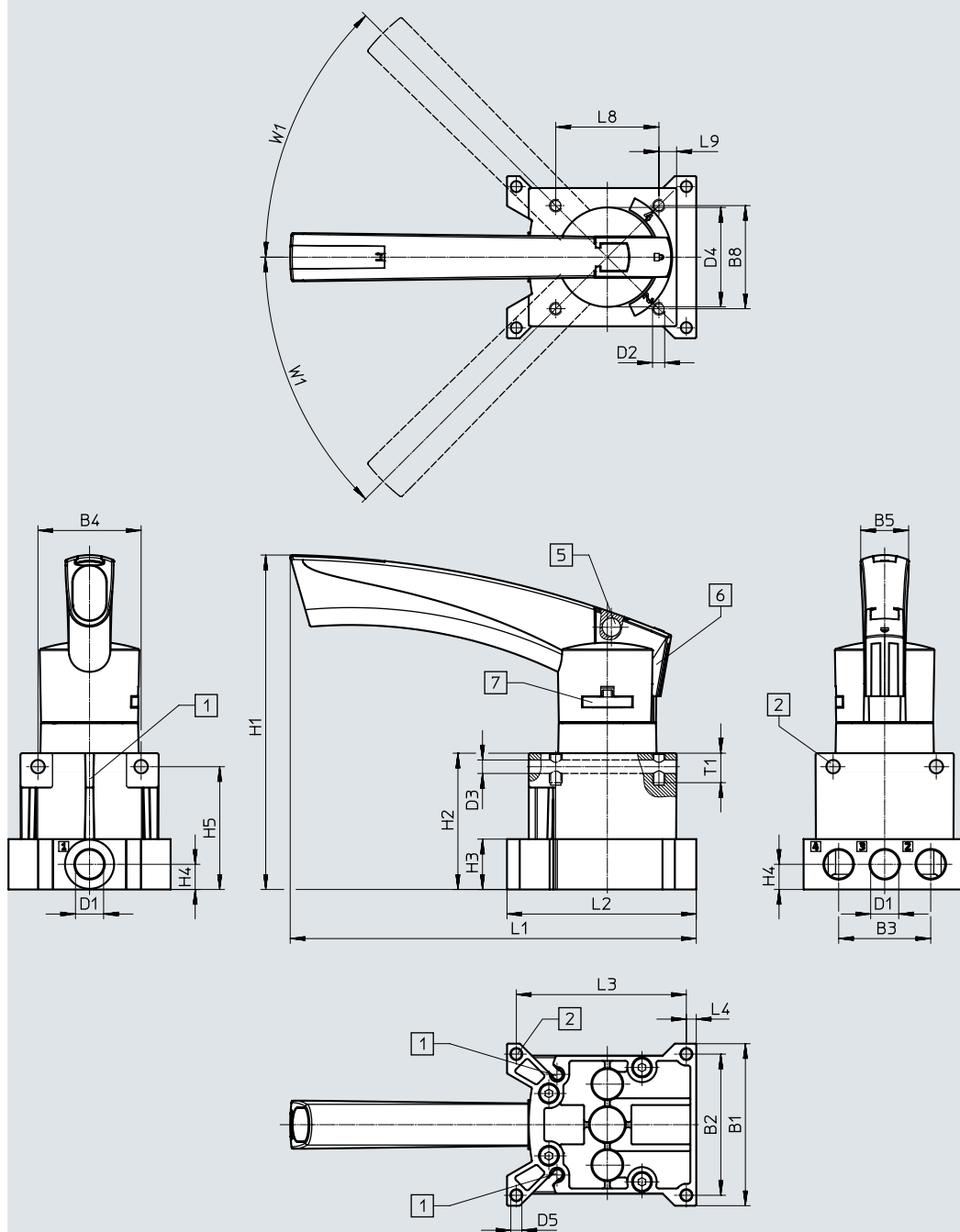
Type	H1	H2	H5	H6		L1	L2	L5	L6	L7	W1
				min.	max.						
VHER-P-H-B43...-B-G18	86	37	32.5	2	4	78.6	45	24	9	36.2	45°

Data sheet – Version with polymer lever

Dimensions

Download CAD data → www.festo.com

Pneumatic connection G1/4, at the side



[1] Slot for proximity switch SM...-10...

[5] Drilled hole for locking mechanism \varnothing 7.5 mm

[6] Latching button with lock

[7] Lever mounting clip, removable

[2] Mounting hole

Type	B1	B2	B3	B4	B5	B8	D1	D2	D3 ∅	D4 ∅	D5 ∅
VHER-P-H-B43...-G14	66	57.5	37.5	42	19.5	42	G1/4	M5	5.5	40.5	4.5

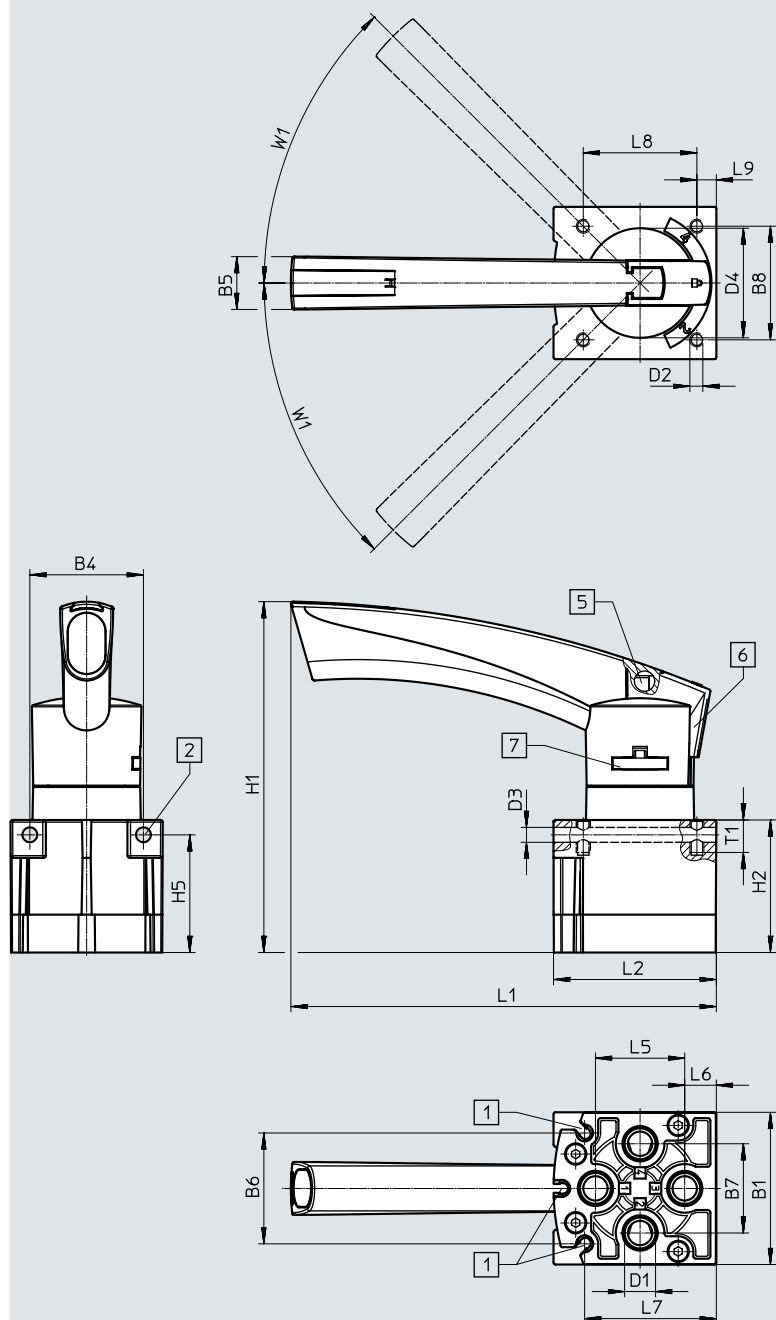
Type	H1	H2	H3	H4	H5	L1	L2	L3	L4	L8	L9	T1	W1
VHER-P-H-B43...-G14	135.7	55.5	20.5	10.3	50	165.3	77	69.2	4	42	7.2	12	45°

Data sheet – Version with polymer lever

Dimensions

Download CAD data → www.festo.com

Pneumatic connection G1/4, underneath



- [1] Slot for proximity switch SM...-10...
- [2] Mounting hole

- [5] Drilled hole for locking mechanism \varnothing 7.5 mm

- [6] Latching button with lock

- [7] Lever mounting clip, removable

Type	B1	B4	B5	B6	B7	B8	D1	D2	D3 ∅	D4 ∅
VHER-P-H-B43...-B-G14	56.3	42	19.5	41	33	42	G1/4	M5	5.5	40.5

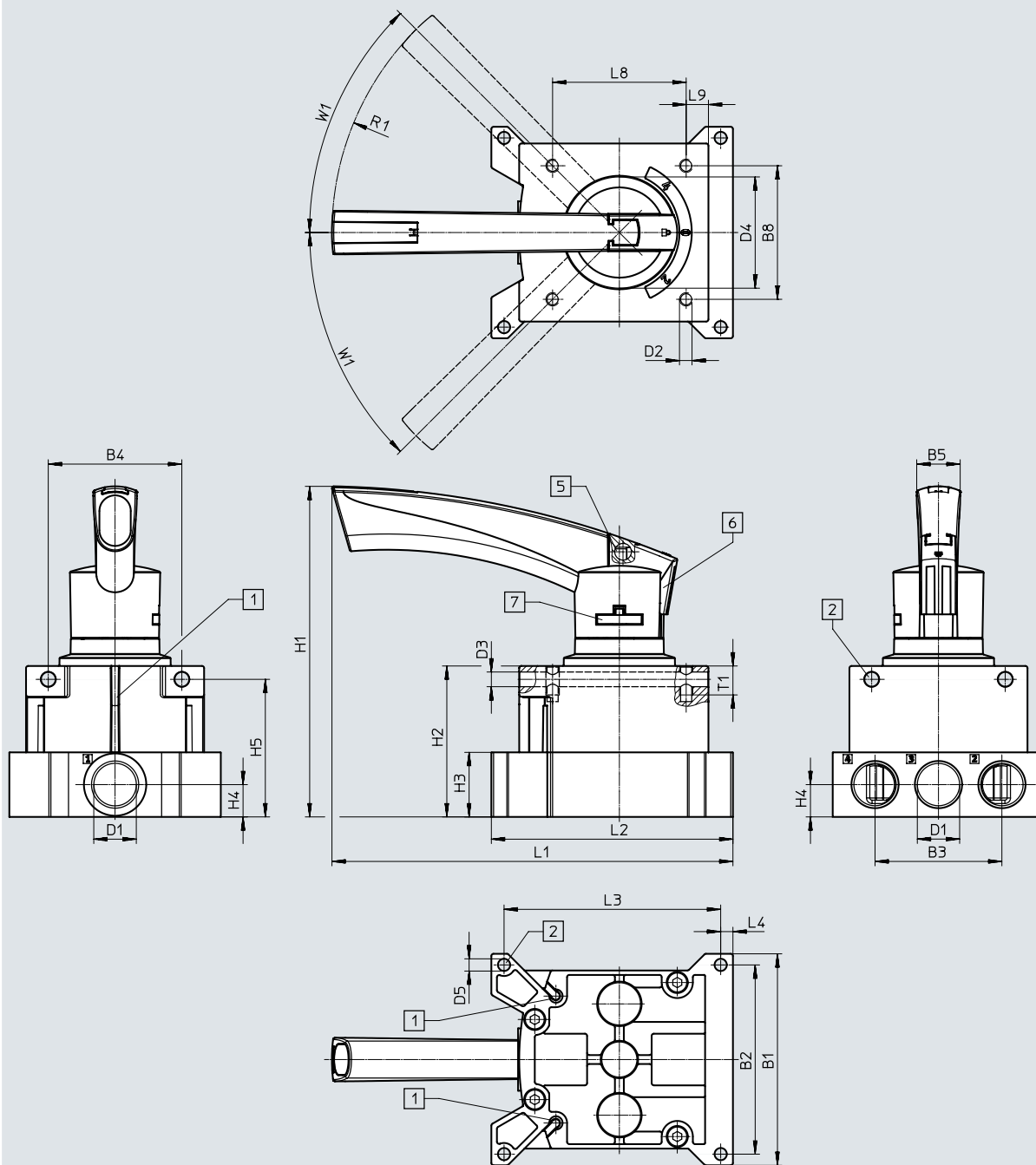
Type	H1	H2	H5	L1	L2	L5	L6	L7	L8	L9	T1	W1
VHER-P-H-B43...-B-G14	129.2	49	43.5	157	60.2	33	11.5	48.7	42	7.2	12	45°

Data sheet – Version with polymer lever

Dimensions

Download CAD data → www.festo.com

Pneumatic connection G1/2, at the side



- [1] Slot for proximity switch SM...-10...
- [2] Mounting hole

- [5] Drilled hole for locking mechanism \varnothing 7.5 mm

- [6] Latching button with lock

- [7] Lever mounting clip, removable

Type	B1	B2	B3	B4	B5	B8	D1	D2	D3 Ø	D4 Ø	D5 Ø
VHER-P-H-B43...-G12	95	85	57	60	19.5	60	G1/2	M5	6.6	51	5.5

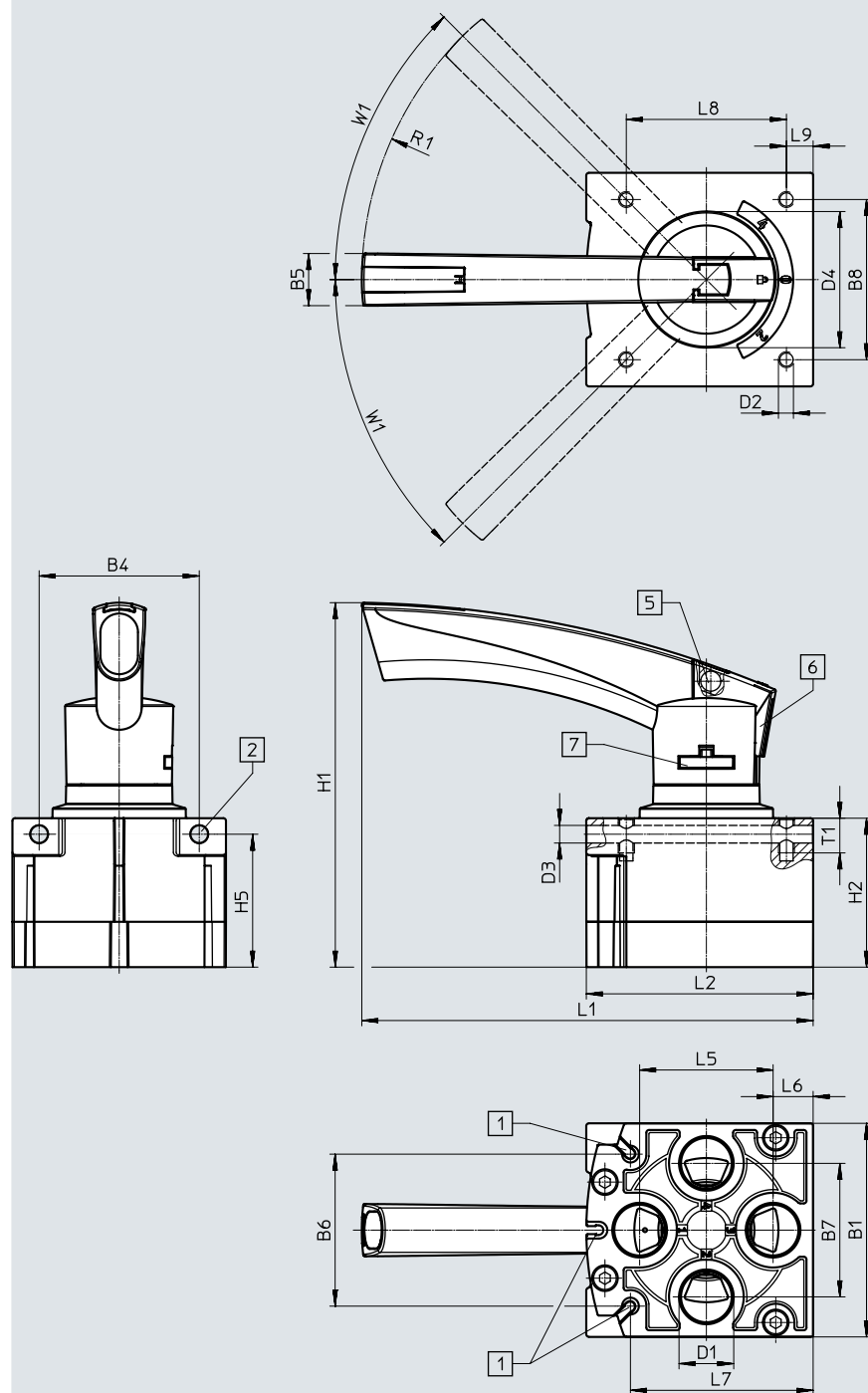
Type	H1	H2	H3	H4	H5	L1	L2	L3	L4	L8	L9	R1	T1	W1
VHER-P-H-B43...-G12	148	67.8	29	14.5	61.8	180.1	108.5	97.3	5.5	60	10	128	13	45°

Data sheet – Version with polymer lever

Dimensions

Download CAD data → www.festo.com

Pneumatic connection G1/2, underneath



[1] Slot for proximity switch
SM...-10...

[5] Drilled hole for locking
mechanism \varnothing 7.5 mm

[6] Latching button with lock

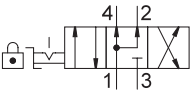
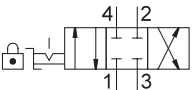
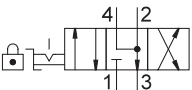
[7] Lever mounting clip, removable

[2] Mounting hole

Type	B1	B4	B5	B6	B7	B8	D1	D2	D3 ∅	D4 ∅
VHER-P-H-B43-...-B-G12	80	60	19.5	56.9	50	60	G1/2	M5	6.6	51
















Type	H1	H2	H5	L1	L2	L5	L6	L7	L8	L9	R1	T1	W1
VHER-P-H-B43-...-B-G12	137	55.8	49.8	169	84.8	50	15	68.5	60	10	128	13	45°

Ordering data

Ordering data – Hand lever valves							
Circuit symbol	Description	Actuator lock	Pneumatic connection	Width [mm]	Weight [g]	Part no.	Type
4/3-way valve¹⁾							
	Mid-position pressurised	Lockable using accessories	Underneath	30	80	3410684	VHER-P-H-B43U-B-M5
				42	125	3488217	VHER-P-H-B43U-B-G18
				56	375	3515683	VHER-P-H-B43U-B-G14
				80	740	3192084	VHER-P-H-B43U-B-G12
			At the side	37	95	3410683	VHER-P-H-B43U-M5
				51	165	3488216	VHER-P-H-B43U-G18
				66	435	3515573	VHER-P-H-B43U-G14
				95	900	3192082	VHER-P-H-B43U-G12
	Mid-position closed	Lockable using accessories	Underneath	30	80	3410680	VHER-P-H-B43C-B-M5
				42	125	3488209	VHER-P-H-B43C-B-G18
				56	375	3515601	VHER-P-H-B43C-B-G14
				80	740	3192075	VHER-P-H-B43C-B-G12
			At the side	37	95	3410679	VHER-P-H-B43C-M5
				51	165	3488208	VHER-P-H-B43C-G18
				66	435	3515361	VHER-P-H-B43C-G14
				95	900	3192074	VHER-P-H-B43C-G12
	Mid-position exhausted	Lockable using accessories	Underneath	30	80	3410682	VHER-P-H-B43E-B-M5
				42	125	3488211	VHER-P-H-B43E-B-G18
				56	375	3515640	VHER-P-H-B43E-B-G14
				80	740	3192077	VHER-P-H-B43E-B-G12
			At the side	37	95	3410681	VHER-P-H-B43E-M5
				51	165	3488210	VHER-P-H-B43E-G18
				66	435	3515542	VHER-P-H-B43E-G14
				95	900	3192076	VHER-P-H-B43E-G12



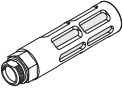

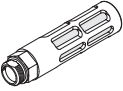
1) The hand lever valve can be used as a 3/3-way valve by sealing port 2.

Accessories

Ordering data – Push-in fittings						
Description	Connection			Part no.	Type	PU ¹⁾
Pneumatic connection: underneath, external hexagon						
	M5	Metric thread with sealing ring for (short design)	Tubing O.D. 3 mm	153302	QSM-M5-3	10
			Tubing O.D. 4 mm	153304	QSM-M5-4	10
			Tubing O.D. 6 mm	153306	QSM-M5-6	10
	G1/8	G thread with sealing ring for (short design)	Tubing O.D. 4 mm	186264	QSM-G1/8-4	10
			Tubing O.D. 6 mm	186265	QSM-G1/8-6	10
	G1/8	G thread with sealing ring for	Tubing O.D. 4 mm	186095	QS-G1/8-4	10
			Tubing O.D. 6 mm	186096	QS-G1/8-6	10
			Tubing O.D. 8 mm	186098	QS-G1/8-8	10
	G1/4	G thread with sealing ring for	Tubing O.D. 6 mm	186097	QS-G1/4-6	10
			Tubing O.D. 8 mm	186098	QS-G1/4-8	10
			Tubing O.D. 10 mm	186101	QS-G1/4-10	10
	G1/2	G thread with sealing ring for	Tubing O.D. 12 mm	186104	QS-G1/2-12	1
			Tubing O.D. 16 mm	186105	QS-G1/2-16	1
Pneumatic connection: underneath, internal hexagon						
	M5	Metric thread with sealing ring for (short design)	Tubing O.D. 3 mm	153313	QSM-M5-3-I	10
			Tubing O.D. 4 mm	153315	QSM-M5-4-I	10
			Tubing O.D. 6 mm	153317	QSM-M5-6-I	10
	G1/8	G thread with sealing ring for (short design)	Tubing O.D. 4 mm	186266	QSM-G1/8-4-I	10
			Tubing O.D. 6 mm	186267	QSM-G1/8-6-I	10
	G1/8	G thread with sealing ring for	Tubing O.D. 4 mm	186106	QS-G1/8-4-I	10
			Tubing O.D. 6 mm	186107	QS-G1/8-6-I	10
			Tubing O.D. 8 mm	186109	QS-G1/8-8-I	10
	G1/4	G thread with sealing ring for	Tubing O.D. 6 mm	186108	QS-G1/4-6-I	10
			Tubing O.D. 8 mm	186110	QS-G1/4-8-I	10
			Tubing O.D. 10 mm	186112	QS-G1/4-10-I	10
	G1/2	G thread with sealing ring for	Tubing O.D. 12 mm	186115	QS-G1/2-12-I	1
Pneumatic connection: at the side, internal hexagon						
	M5	Metric thread with sealing ring for (short design)	Tubing O.D. 3 mm	153313	QSM-M5-3-I	10
			Tubing O.D. 4 mm	153315	QSM-M5-4-I	10
	G1/8	G thread with sealing ring for (short design)	Tubing O.D. 4 mm	186266	QSM-G1/8-4-I	10
			Tubing O.D. 6 mm	186267	QSM-G1/8-6-I	10
	G1/8	G thread with sealing ring for	Tubing O.D. 4 mm	186106	QS-G1/8-4-I	10
			Tubing O.D. 6 mm	186107	QS-G1/8-6-I	10
			Tubing O.D. 8 mm	186109	QS-G1/8-8-I	10
	G1/4	G thread with sealing ring for	Tubing O.D. 6 mm	186108	QS-G1/4-6-I	10
			Tubing O.D. 8 mm	186110	QS-G1/4-8-I	10
			Tubing O.D. 10 mm	186112	QS-G1/4-10-I	10
	G1/2	G thread with sealing ring for	Tubing O.D. 12 mm	186115	QS-G1/2-12-I	1

1) Packaging unit



Accessories

Ordering data – Silencers							
Description	Connection	Materials			Part no.	Type	PU ¹⁾
		Screwed trunnion	Cushioning insert	Housing			
Pneumatic connection: underneath							
	M5	PE	PE	–	165003	UC-M5	1
	G1/8	PE	PE	–	161419	UC-1/8	1
	G1/4	PE	PE	–	165004	UC-1/4	1
	G1/8	Die-cast aluminium	PE	Die-cast aluminium	6841	U-1/8-B	1
		PA	PE	PA	2307	U-1/8	1
	G1/4	Die-cast aluminium	PE	Die-cast aluminium	6842	U-1/4-B	1
		PA	PE	PA	2316	U-1/4	1
	G1/2	Die-cast aluminium	PE	Die-cast aluminium	6844	U-1/2-B	1
Pneumatic connection: at the side							
	M5	PE	PE	–	165003	UC-M5	1
	G1/8	PE	PE	–	161419	UC-1/8	1
	G1/4	PE	PE	–	165004	UC-1/4	1
	G1/2	Die-cast aluminium	PE	Die-cast aluminium	6844	U-1/2-B	1

1) Packaging unit

Ordering data – Proximity switches							
Description	Outlet direction of connection	Use	Electrical connection	Cable length [m]	Part no.	Type	PU ¹⁾
Plug M8x1, 3-pin	0.3	173212	SME-10-SL-LED-24	1			

1) Packaging unit

Ordering data – Blanking plugs					
Description	Connection	Part no.	Type	PU ¹⁾	
	M5	3843	B-M5	10	
		534212	B-M5-100	100	
	G1/8	3568	B-1/8	10	
		534213	B-1/8-100	100	
	G1/4	3569	B-1/4	10	
		534214	B-1/4-50	50	
	G1/2	3571	B-1/2	10	
		534216	B-1/2-20	20	

1) Packaging unit

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