

Hand lever valves VHER, NPT

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Hand lever valves VHER, NPT

Key features

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Powerful

-  - Flow rate
600 ... 3800 l/min

Versatile

- 4/3-way valve
Mid-position closed
Mid-position exhausted
- Connection NPT $\frac{1}{8}$, NPT $\frac{1}{4}$, NPT $\frac{1}{2}$
- 3/3-way valve
The hand lever valve VHER can be used as a 3/3-way valve by sealing port 2

Practical

These valves can be used to stop single-acting cylinders (3/3-way valve) or double-acting cylinders (4/3-way valve) within the stroke range.

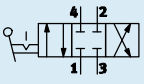
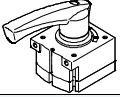
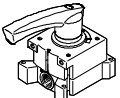
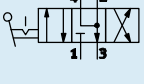
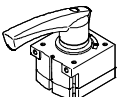
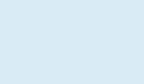
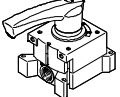
With the mid-position closed, the drive piston moves until the forces are balanced.

With the mid-position exhausted, the piston can be moved manually (only the frictional forces have to be overcome).

Hand lever valves VHER-B43, NPT

Product range overview

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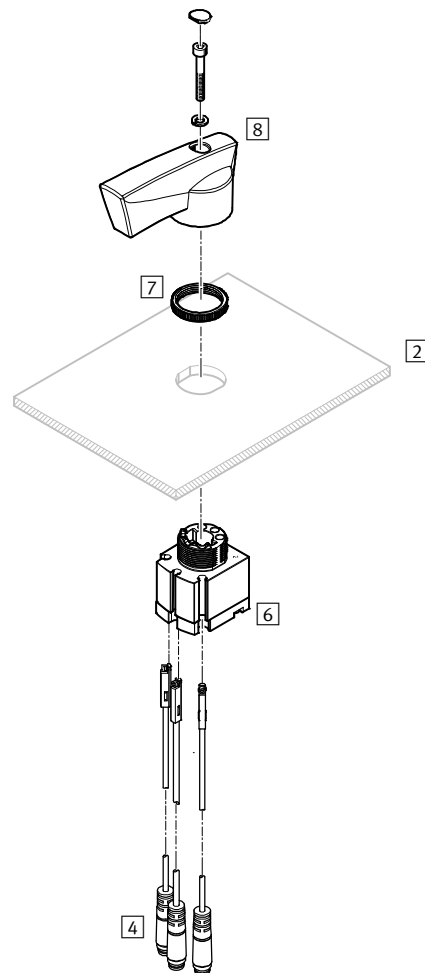
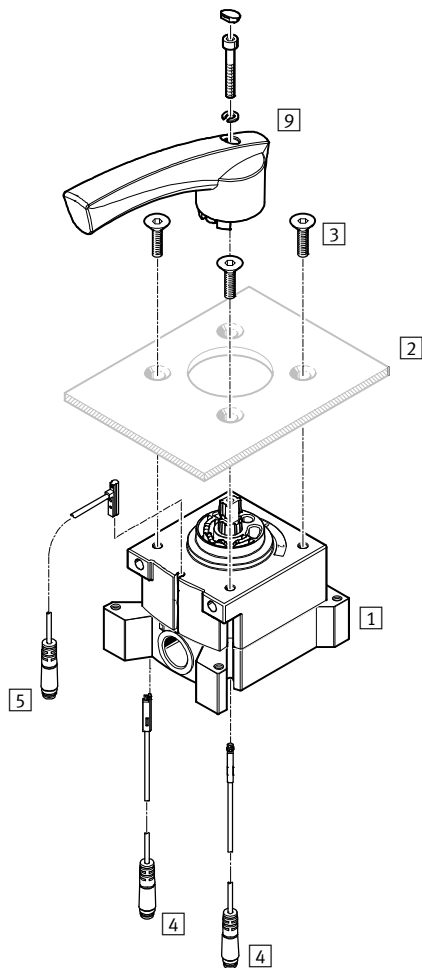
Function	Version	Type	Nominal flow rate [l/min]	Hand lever	→ Page/ Internet
	Port underneath, mid-position closed				
		VHER-H-B43C-B-N18	800	Metal	7
		VHER-H-B43C-B-N14	1500	Metal	7
		VHER-H-B43C-B-N12	3800	Metal	7
	Port at the side, mid-position closed				
		VHER-H-B43C-N18	600	Metal	7
		VHER-H-B43C-N14	1150	Metal	7
		VHER-H-B43C-N12	3200	Metal	7
	Port underneath, mid-position exhausted				
		VHER-H-B43E-B-N12	3800	Metal	7
	Port at the side, mid-position exhausted				
		VHER-H-B43E-N12	3200	Metal	7

Hand lever valves VHER, NPT

Overview of peripherals

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Control panel installation



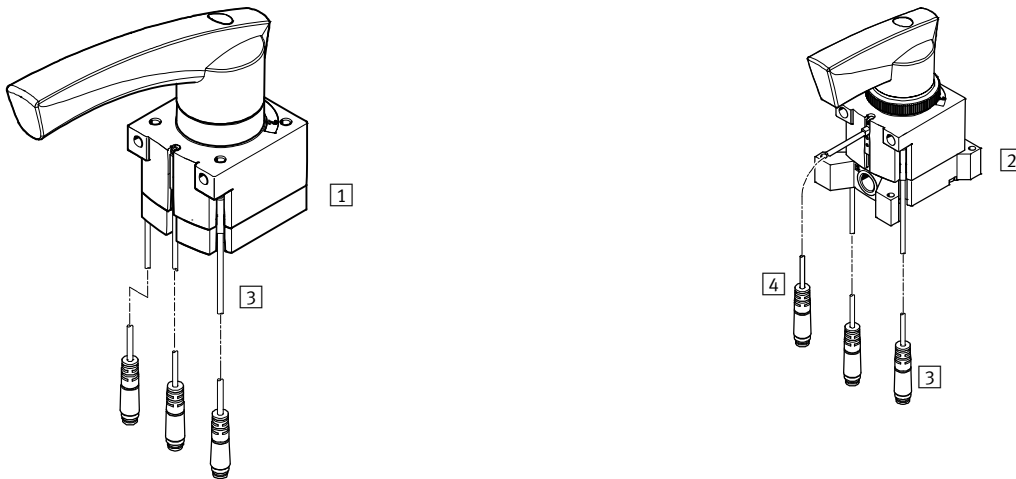
Component parts and accessories	Brief description	→ Page/Internet
[1] Hand lever valve VHER	Connection size 1/8 NPT, 1/4 NPT, 1/2 NPT (lateral pneumatic connections)	7
[2] Control panel	Not included in the scope of delivery	–
[3] Mounting screws	Not included in the scope of delivery	–
[4] Proximity sensors SM...-10-... -L-...	Not included in the scope of delivery (electrical connection, in-line outlet)	17
[5] Proximity sensors SM...-10-... -Q-...	Not included in the scope of delivery (electrical connection, lateral outlet)	17
[6] Hand lever valve VHER	Connection size 1/8 NPT, 1/4 NPT, 1/2 NPT (pneumatic connections underneath)	7
[7] Knurled nut	Control panel mounting	–
[8] Actuating lever	Small, metal	–
[9] Actuating lever	Large, metal	–

Hand lever valves VHER, NPT

Overview of peripherals

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Assembled valves with accessories



Component parts and accessories	Brief description	→ Page/Internet
1 Hand lever valve VHER	Connection size 1/8 NPT, 1/4 NPT, 1/2 NPT with metal lever (pneumatic connections underneath)	7
2 Hand lever valve VHER	Connection size 1/8 NPT, 1/4 NPT, 1/2 NPT with metal lever (lateral pneumatic connections)	7
3 Proximity sensors SM...-10-...-L-...	Not included in the scope of delivery (electrical connection, in-line outlet)	17
4 Proximity sensors SM...-10-...-Q-...	Not included in the scope of delivery (electrical connection, lateral outlet)	17

Hand lever valves, VHER-H-B43, NPT, non-reversible, metal lever

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Type codes


		VHER	-		-	H	-		-		-		-		
Type															
VHER	Hand lever valve with detent														
Design															
-	Hand lever, metal version														
Type of actuation															
H	Hand lever, top														
Valve function															
B43C	4/3-way valve, detenting, mid-position closed														
B43E	4/3-way valve, detenting, mid-position open														
Direction of flow															
-	Non-reversible														
Connection direction, pneumatic connection															
-	At the side														
B	Underneath														
Connection size, pneumatic connection															
N18	1/8NPT														
N14	1/4NPT														
N12	1/2NPT														


Hand lever valves, VHER-H-B43, NPT, non-reversible, metal lever

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Technical data VHER-H-B43, NPT

-  Flow rate
600 ... 3800 l/min

-  Pressure
-0.95 ... +10 bar

-  Temperature range
-20 ... +80 °C



General technical data						
Connection size			1/8 NPT	1/4 NPT	1/2 NPT	
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 pilot control			Direct			
Type of actuation			Manual			
Actuating lever (can be removed)			Metal (die-cast aluminium)			
Actuator lock			None			
Switching position indication			Via accessories			
Mounting position			Any			
Direction of flow			Non-reversible			
Non-overlapping			Yes			
Exhaust air function			With flow control			
Nominal flow rate	Port at side	[l/min.]	600	1150	3200	
	Port underneath	[l/min.]	800	1500	3800	
Nominal width		[mm]	6	8	12	
Pneumatic connection 1, 2, 3, 4			1/8 NPT	1/4 NPT	1/2 NPT	
Actuating torque at 6 bar			[Nm]	0.9	2	5

Operating and environmental conditions		
Operating medium		Compressed air to ISO 8573-1:2010 [7:4:4]
Note on 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 according 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 sensors for switching position indication					
Connection size	Connection direction	Type	SME-10-... -L-...	SMT-10-... -L-...	SME-10-... -Q-...
1/8 NPT	Underneath		■	■	■
	At the side		-	-	■
1/4 NPT	Underneath		■	■	■
	At the side		-	-	■
1/2 NPT	Underneath		■	■	■
	At the side		-	-	■

Hand lever valves, VHER-H-B43, NPT, non-reversible, metal lever

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Technical data VHER-H-B43, NPT

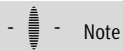
Operation with different pressures

Vacuum operation

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

The vacuum may only be connected to port 3 to maintain the direction of flow.

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



Note

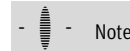
A filter must be installed upstream of valves operated in vacuum mode. This prevents any foreign matter in

the intake air getting into the valve (e.g. when operating a suction cup).



Note

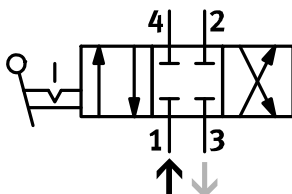
During vacuum operation, the valve function changes from exhausted (VHER-...-B43E-...) to pressurised (VHER-...-B43U-...) and vice versa.



Note

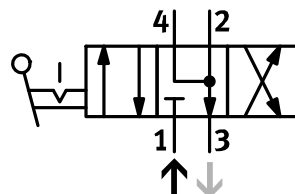
Vacuum must not be connected to port 1.

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



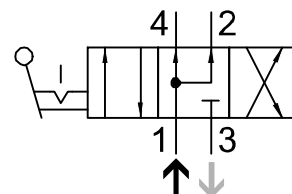
(During normal operation: mid-position closed VHER-...-B43C-...)

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



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

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



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

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)

Dual-pressure operation

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

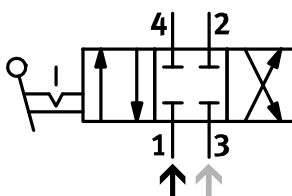
Please note that for design reasons compressed air may only be applied to port 1 and 3.



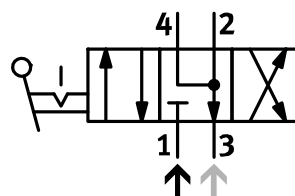
Note

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

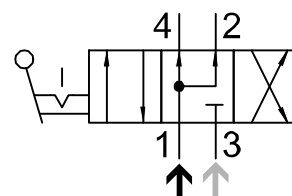
mid-position closed
VHER-...-B43C-...



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)

Hand lever valves, VHER-H-B43, NPT, non-reversible, metal lever

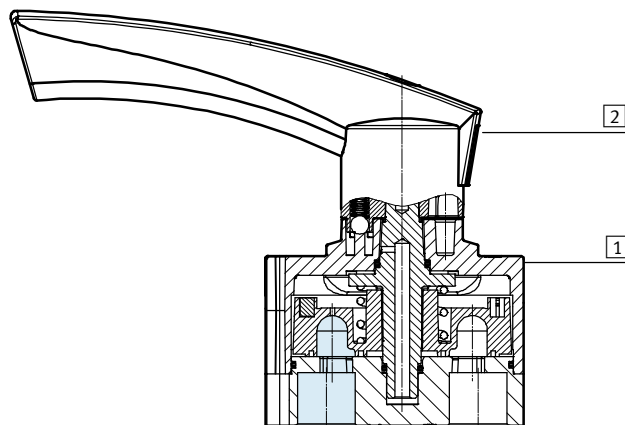
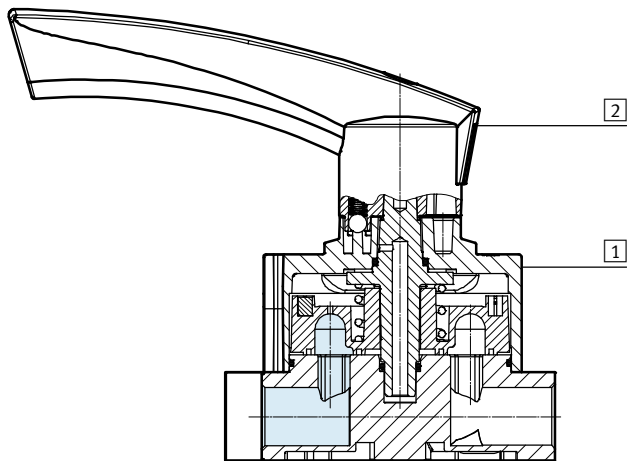


Technical data VHER-H-B43, NPT

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

Hand lever valves, VHER-H-B43, NPT, non-reversible, metal lever

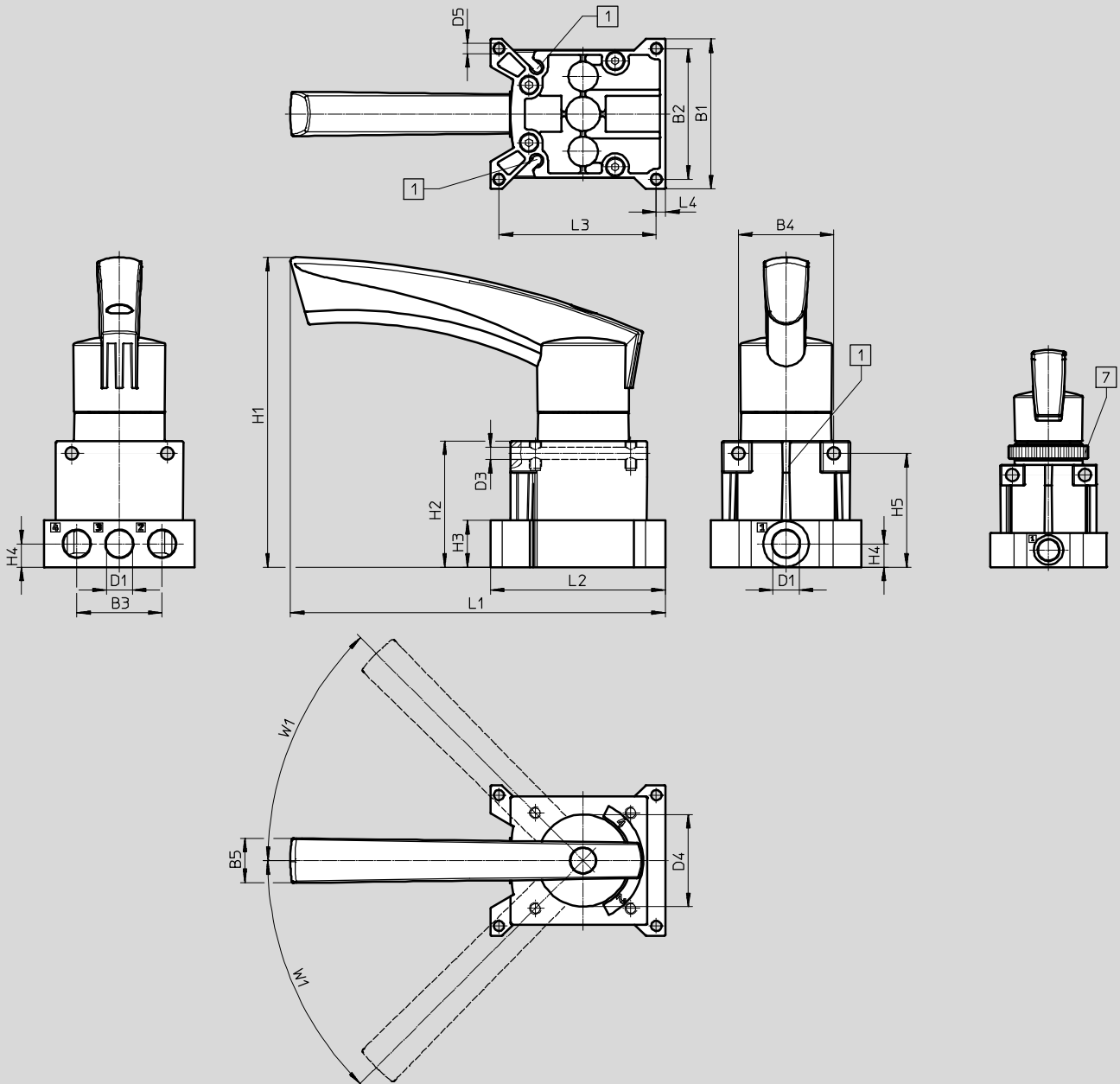
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Technical data VHER-H-B43, NPT

Dimensions

Download CAD data → www.festo.com

Pneumatic connection 1/8 NPT, at the side



1 Slot for proximity sensor
SM...-10...

7 Knurled nut M30

Type	B1	B2	B3	B4	B5	D1	D3 Ø	D4 Ø	D5 Ø
VHER-H-B43...-N18	51	45	28.5	32	14.6	1/8 NPT	5.5	30.2	3.3

Type	H1	H2	H3	H4	H5	L1	L2	L3	L4	W1
VHER-H-B43...-N18	95.6	45	15	7.5	40.5	84.9	60.5	54.5	3	45°

Hand lever valves, VHER-H-B43, NPT, non-reversible, metal lever

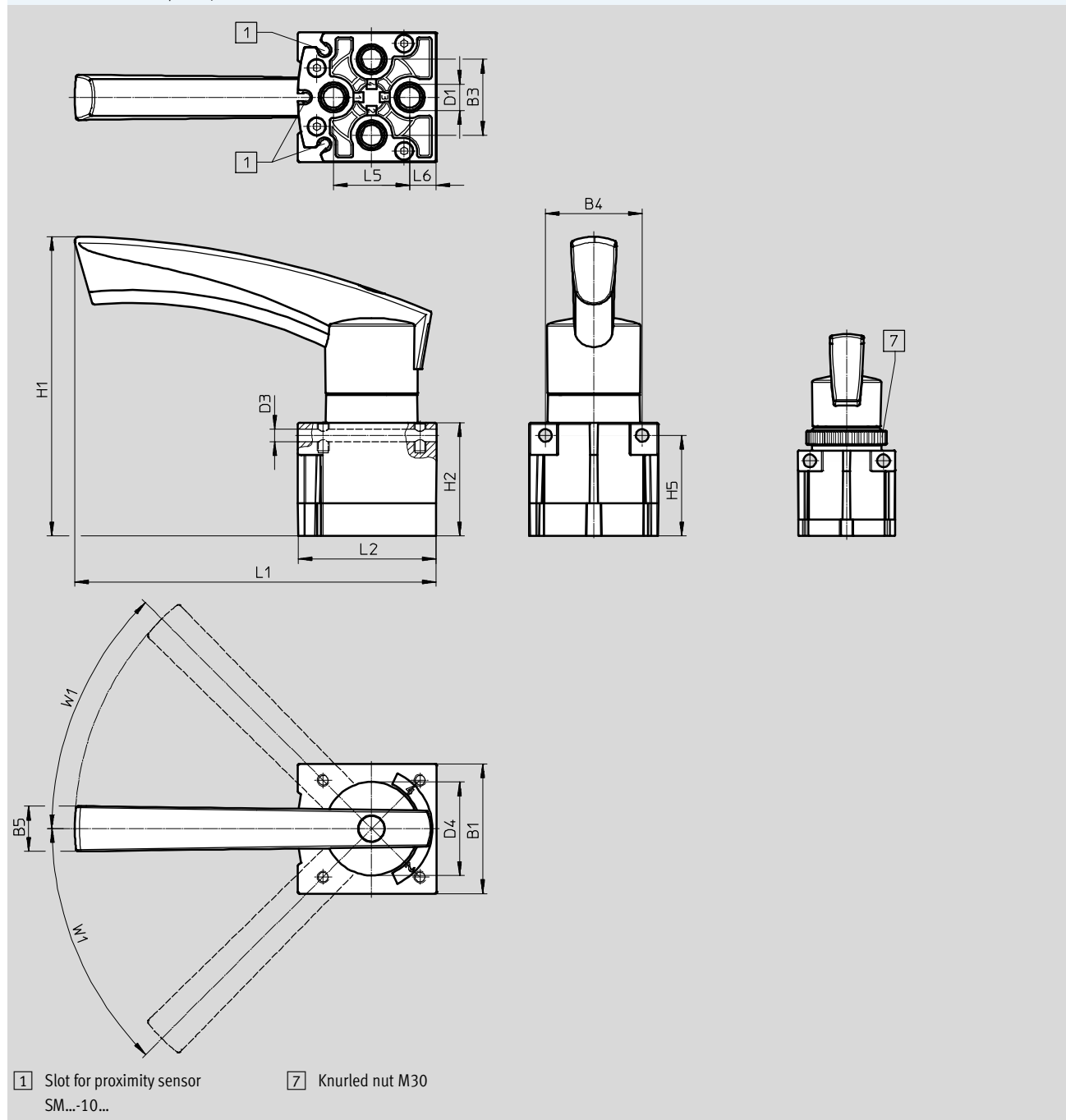
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Technical data VHER-H-B43, NPT

Dimensions

Download CAD data → www.festo.com

Pneumatic connection 1/8 NPT, underneath



Type	B1	B3	B4	B5	D1	D3 Ø	D4 Ø
VHER-H-B43...-B-N18	42.2	24	32	14.6	1/8 NPT	5.5	30.2

Type	H1	H2	H5	L1	L2	L5	L6	W1
VHER-H-B43...-B-N18	87.6	37	32.5	78.6	44.9	24	9	45°

Hand lever valves, VHER-H-B43, NPT, non-reversible, metal lever

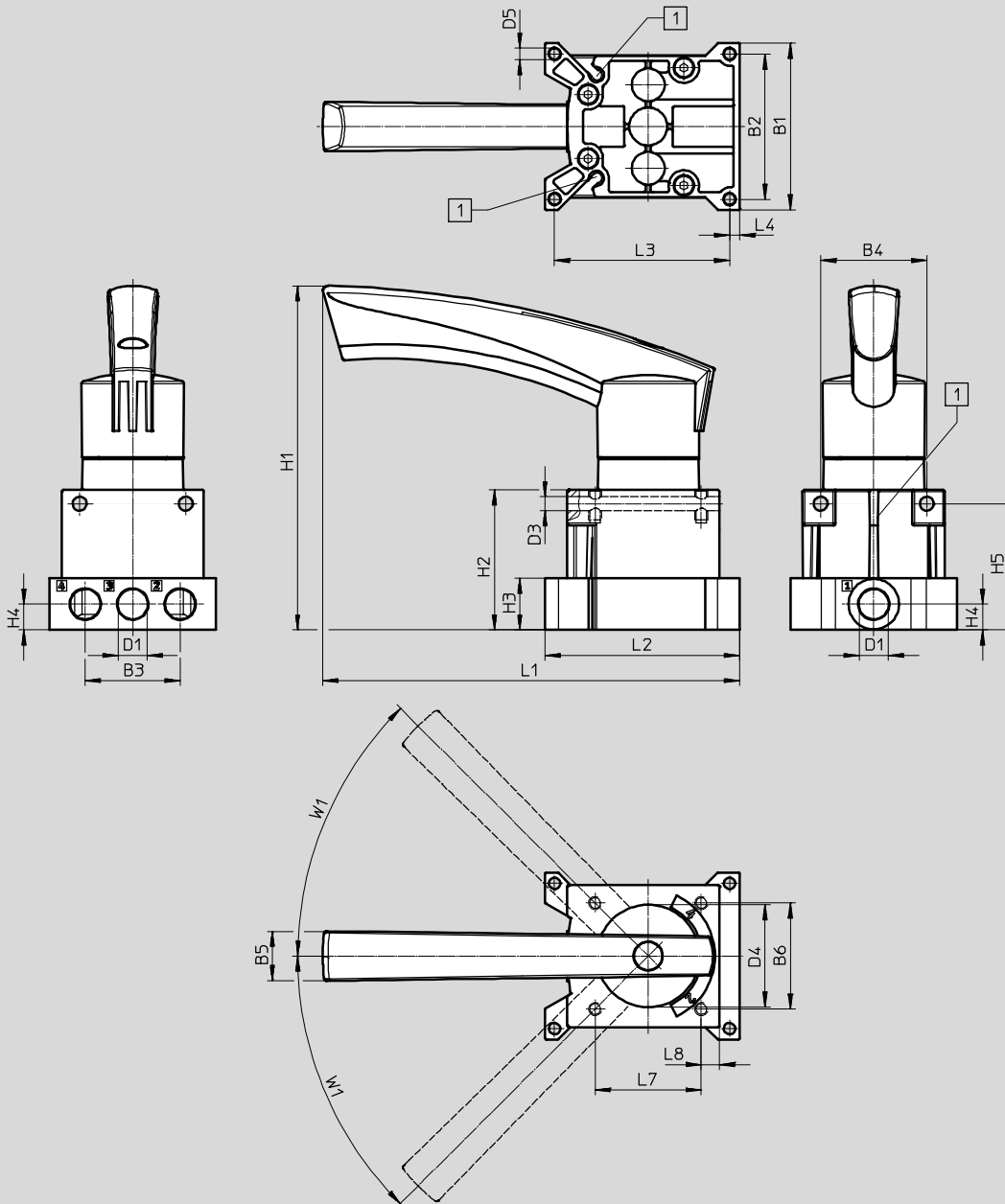
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Technical data VHER-H-B43, NPT

Dimensions

Download CAD data → www.festo.com

Pneumatic connection 1/4 NPT, at side



1 Slot for proximity sensor
SM...-10...

Type	B1	B2	B3	B4	B5	B6	D1	D3 Ø	D4 Ø	D5 Ø
VHER-H-B43...-N14	66	57.5	37.5	42	19.5	42	1/4 NPT	5.5	40.5	4.5

Type	H1	H2	H3	H4	H5	L1	L2	L3	L4	L7	L8	W1
VHER-H-B43...-N14	136.3	55.5	20.5	10.3	50	164.8	77	69.2	4	42	7.2	45°

Hand lever valves, VHER-H-B43, NPT, non-reversible, metal lever

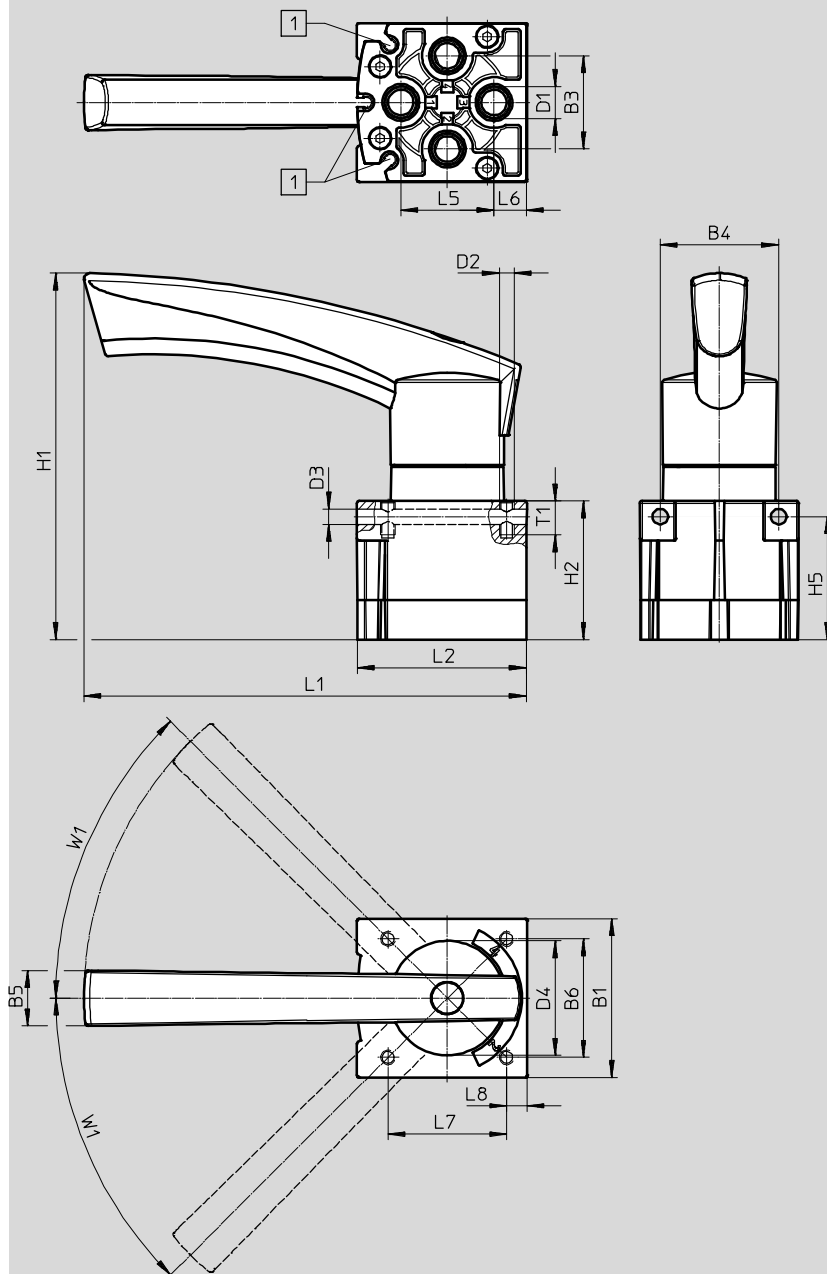
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Technical data VHER-H-B43, NPT

Dimensions

Download CAD data → www.festo.com

Pneumatic connection 1/4 NPT, underneath



1 Slot for proximity sensor
SM...-10...

Type	B1	B3	B4	B5	B6	D1	D2	D3 Ø	D4 Ø
VHER-H-B43...-B-N14	56.3	33	42	19.5	42	1/4 NPT	M5	5.5	40.5

Type	H1	H2	H5	L1	L2	L5	L6	L7	L8	T1	W1
VHER-H-B43...-B-N14	129.8	49	43.5	156.6	59.8	33	11.4	42	7.2	12	45°

Hand lever valves, VHER-H-B43, NPT, non-reversible, metal lever

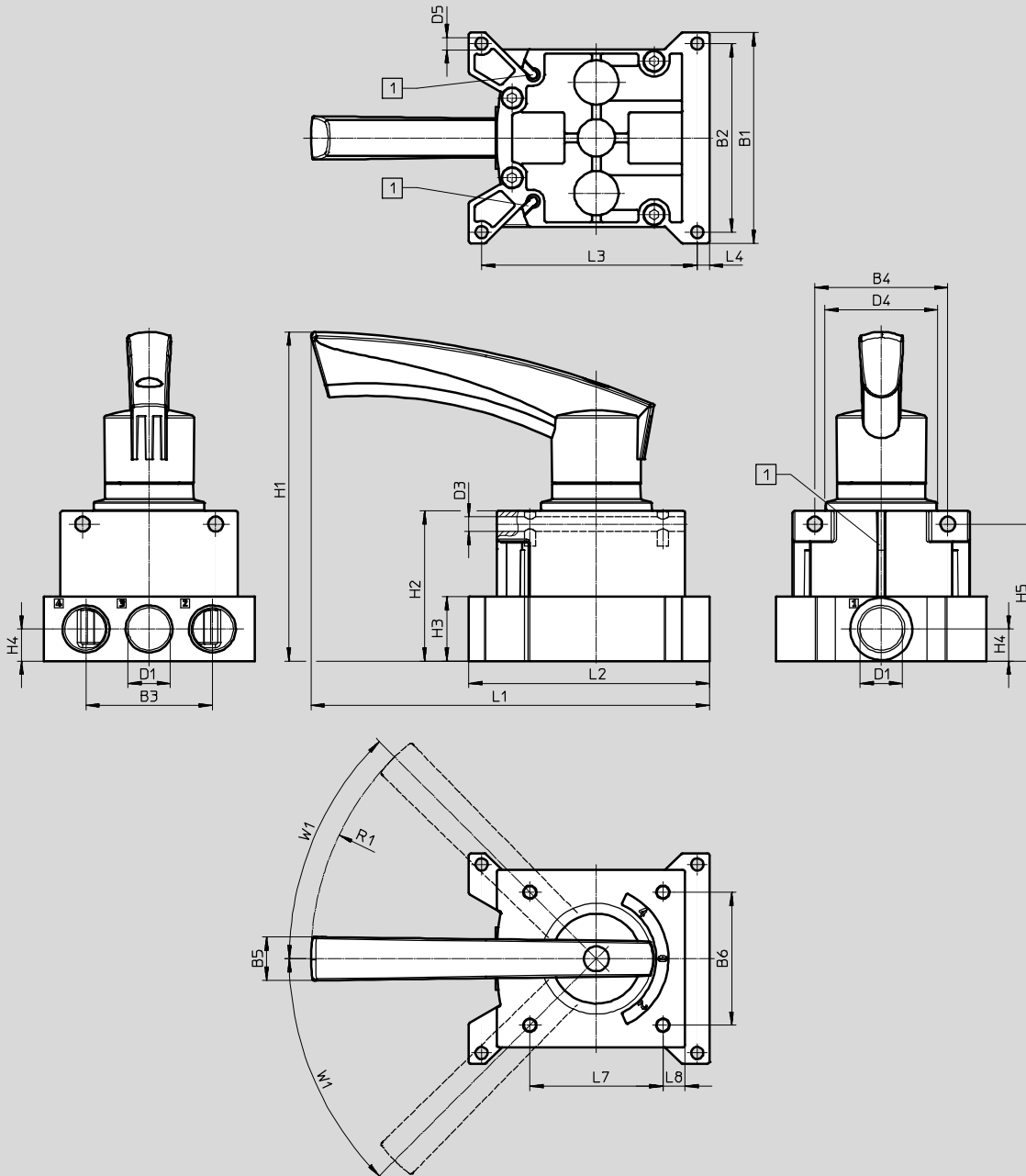
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Technical data VHER-H-B43, NPT

Dimensions

Download CAD data → www.festo.com

Pneumatic connection 1/2 NPT, at the side



1 Slot for proximity sensor
SM...-10...

Type	B1	B2	B3	B4	B5	D1	D3 Ø	D4 Ø	D5 Ø
VHER-H-B43-...-N12	95	85	57	60	19.5	1/2 NPT	6.6	51	5.5

Type	H1	H2	H3	H4	H5	L1	L2	L3	L4	L7	L8	R1	W1
VHER-H-B43-...-N12	149	68	29	14.5	61.8	180	108.5	97.3	5.5	60	10	128	45°

Hand lever valves, VHER-H-B43, NPT, non-reversible, metal lever

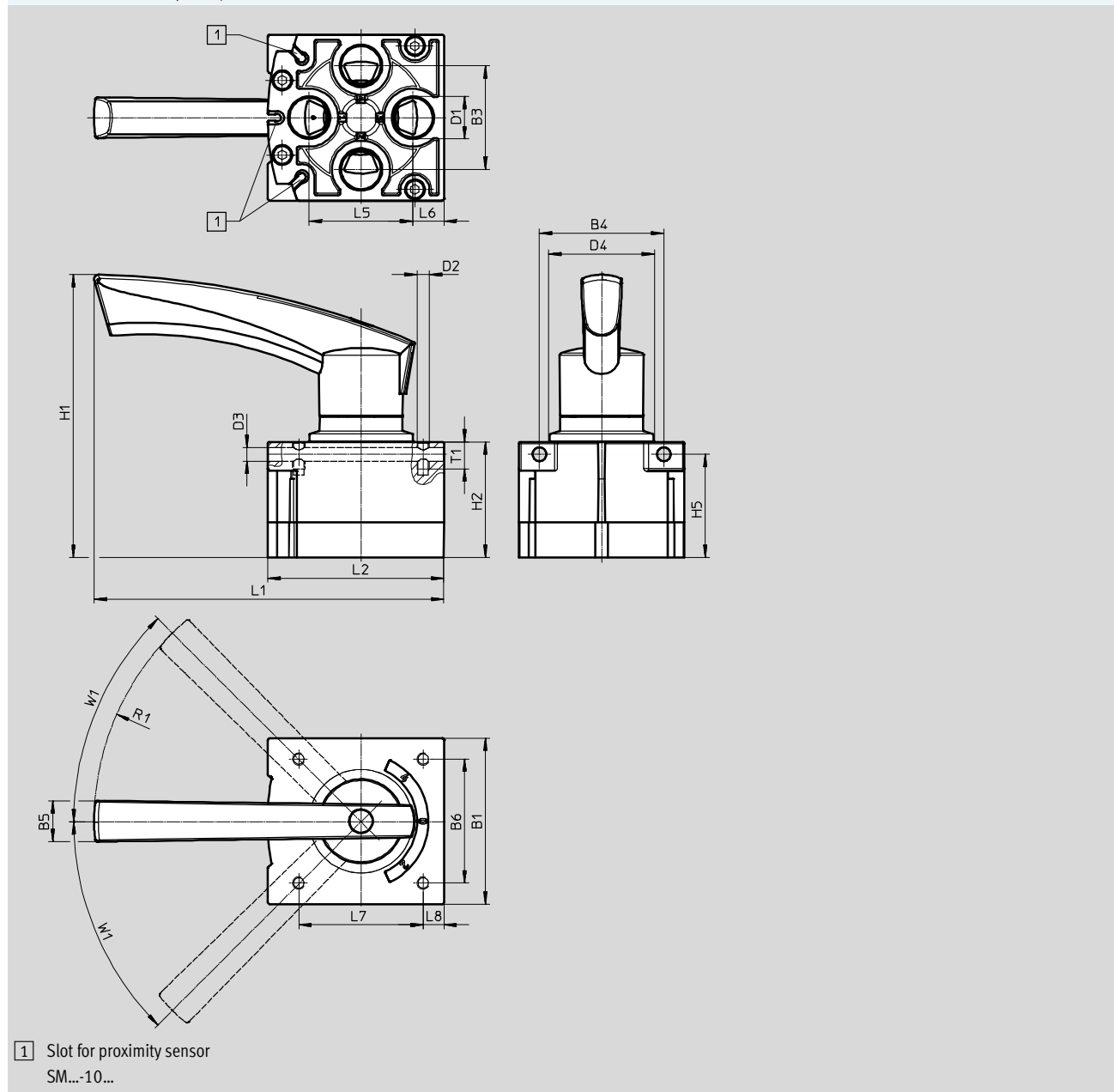
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Technical data VHER-H-B43, NPT

Dimensions

Download CAD data → www.festo.com

Pneumatic connection 1/2 NPT, underneath



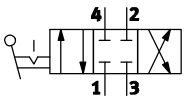
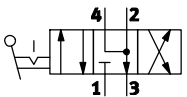
Type	B1	B3	B4	B5	B6	D1	D2	D3	D4
VHER-H-B43-...-B-N12	80	50	60	19.5	60	1/2 NPT	M5	6.6	51

Type	H1	H2	H5	L1	L2	L5	L6	L7	L8	R1	T1	W1
VHER-H-B43-...-B-N12	136.5	55.8	49.8	168.6	84.8	50	15	60	10	128	13	45°












Hand lever valves, VHER-H-B43, NPT, non-reversible, metal lever

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Ordering data

Ordering data – Hand lever valves							
Circuit symbol	Description	Actuating lever	Pneumatic connection	Weight [g]	Width [mm]	Part No.	Type
4/3-way valve ¹⁾							
	mid-position closed	Metal	Underneath	220	42	3488213	VHER-H-B43C-B-N18
			At the side	260	51	3488212	VHER-H-B43C-N18
			Underneath	510	56	3520389	VHER-H-B43C-B-N14
			At the side	560	66	3520365	VHER-H-B43C-N14
			Underneath	860	80	3192086	VHER-H-B43C-B-N12
			At the side	1010	95	3192085	VHER-H-B43C-N12
	mid-position exhausted	Metal	Underneath	860	80	3192088	VHER-H-B43E-B-N12
			At the side	1010	95	3192087	VHER-H-B43E-N12

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


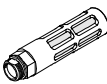

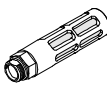
Ordering data – Push-in fittings						
Description		Connection		Part No.	Type	PU ¹⁾
Pneumatic connection: underneath, external hexagon						
	1/8 NPT	NPT thread with sealing ring for (short design)	Tubing O.D. 1/8 “	533270	QBM-1/8-1/8-U	10
			Tubing O.D. 5/32 “	572305	QBM-1/8-5/32-U	10
	1/8 NPT	NPT thread with sealing ring for	Tubing O.D. 5/32 “	533271	QB-1/8-5/32-U	10
	1/4 NPT	NPT thread with sealing ring for	Tubing O.D. 1/4 “	533276	QB-1/4-1/4-U	10
			Tubing O.D. 5/32 “	567772	QB-1/4-5/32-U	10
			Tubing O.D. 3/16 “	533275	QB-1/4-3/16-U	10
			Tubing O.D. 5/16 “	533277	QB-1/4-5/16-U	10
	1/2 NPT	NPT thread with sealing ring for	Tubing O.D. 3/8 ”	533283	QB-½-¾-U	5
			Tubing O.D. 1/2 ”	533284	QB-½-½-U	5
Pneumatic connection: underneath, internal hexagon						
	1/8 NPT	NPT thread with sealing ring for	Tubing O.D. 5/16 “	572319	QB-1/8-5/16-I-U	10
			Tubing O.D. 1/4 “	572318	QB-1/8-1/4-I-U	10
			Tubing O.D. 5/32 “	572317	QB-1/8-5/32-I-U	10
			Tubing O.D. 3/16 “	572315	QB-1/8-3/16-I-U	10
	1/4 NPT	NPT thread with sealing ring for (short design)	Tubing O.D. 1/8 “	572306	QBM-1/4-1/8-U	10
	1/4 NPT	NPT thread with sealing ring for	Tubing O.D. 1/4 “	572320	QB-1/4-1/4-I-U	10
			Tubing O.D. 5/16 “	572321	QB-1/4-5/16-I-U	10
			Tubing O.D. 3/8 “	572322	QB-1/4-3/8-I-U	10
	1/2 NPT	NPT thread with sealing ring for	Tubing O.D. 1/2 ”	572326	QB-½-½-I-U	5
Pneumatic connection: at the side, internal hexagon						
	1/8 NPT	NPT thread with sealing ring for	Tubing O.D. 1/4 “	572318	QB-1/8-1/4-I-U	10
			Tubing O.D. 5/32 “	572317	QB-1/8-5/32-I-U	10
	1/4 NPT	NPT thread with sealing ring for	Tubing O.D. 1/4 “	572320	QB-1/4-1/4-I-U	10
			Tubing O.D. 5/16 “	572321	QB-1/4-5/16-I-U	10
			Tubing O.D. 3/8 “	572322	QB-1/4-3/8-I-U	10
	1/2 NPT	NPT thread with sealing ring for	Tubing O.D. 1/2 ”	572326	QB-½-½-I-U	5

1) Packaging unit

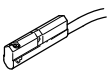
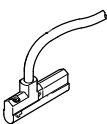
Hand lever valves, VHER-H-B43, NPT, non-reversible, metal lever

FESTO

Accessories

Ordering data – Silencers							
Description	Connection	Materials	Silencer insert		Housing	Part No. Type	PU ¹⁾
		Threaded plug					
Pneumatic connection: underneath							
	1/8 NPT	Die-cast aluminium	PE		Die-cast aluminium	12638 U-1/8-B-NPT	1
	1/4 NPT	Die-cast aluminium	PE		Die-cast aluminium	12639 U-1/4-B-NPT	1
	1/2 NPT	Die-cast aluminium	PE		Die-cast aluminium	12741 U-1/2-B-NPT	1
Pneumatic connection: at the side							
	1/8 NPT	Die-cast aluminium	PE		Die-cast aluminium	12638 U-1/8-B-NPT	1
	1/4 NPT	Die-cast aluminium	PE		Die-cast aluminium	12639 U-1/4-B-NPT	1
	1/2 NPT	Die-cast aluminium	PE		Die-cast aluminium	12741 U-1/2-B-NPT	1

1) Packaging unit

Ordering data – Proximity sensors								
	Connection outlet direction	Measuring principle	Electrical connection		[m]	Part No.	Type	PU ¹⁾
N/O contact								
	In-line	Magnetic reed	Contacting, bipolar	Cable, 3-wire	2.5	173210	SME-10-KL-LED-24	1
						551365	SME-10M-DS-24V-E-2,5-L-OE²⁾	1
				Plug M8x1, 3-pin	0.3	173212	SME-10-SL-LED-24	1
						551367	SME-10M-DS-24V-E-0,3-L-M8D²⁾	1
				Cable, 2-wire	2.5	551369	SME-10M-ZS-24V-E-2,5-L-OE²⁾	1
		Magneto-resistive	PNP	Cable, 3-wire	2.5	551373	SMT-10M-PS-24V-E-2,5-L-OE²⁾	1
				Plug M8x1, 3-pin	0.3	551375	SMT-10M-PS-24V-E-0,3-L-M8D²⁾	1
			NPN	Cable, 3-wire	2.5	551377	SMT-10M-NS-24V-E-2,5-L-OE²⁾	1
				Plug M8x1, 3-pin	0.3	551379	SMT-10M-NS-24V-E-0,3-L-M8D²⁾	1
			Non-contacting, 2-wire	Cable, 2-wire	2.5	551382	SMT-10M-ZS-24V-E-2,5-L-OE²⁾	1
	Lateral	Magnetic reed	Contacting, bipolar	Cable, 3-wire	2.5	173211	SME-10-KQ-LED-24	1
						551366	SME-10M-DS-24V-E-2,5-Q-OE²⁾	1
				Plug M8x1, 3-pin	0.3	173213	SME-10-SQ-LED-24	1
						551368	SME-10M-DS-24V-E-0,3-Q-M8D²⁾	1
				Cable, 2-wire	2.5	551370	SME-10M-ZS-24V-E-2,5-Q-OE²⁾	1
		Magneto-resistive	PNP	Cable, 3-wire	2.5	551374	SMT-10M-PS-24V-E-2,5-Q-OE²⁾	1
				Plug M8x1, 3-pin	0.3	551376	SMT-10M-PS-24V-E-0,3-Q-M8D²⁾	1
			NPN	Cable, 3-wire	2.5	551378	SMT-10M-NS-24V-E-2,5-Q-OE²⁾	1
				Plug M8x1, 3-pin	0.3	551380	SMT-10M-NS-24V-E-0,3-Q-M8D²⁾	1
			Non-contacting, 2-wire	Cable, 2-wire	2.5	551383	SMT-10M-ZS-24V-E-2,5-Q-OE²⁾	1


1) Packaging unit

2) Oil-resistant, halogen-free, ROHS compliant

Hand lever valves, VHER-H-B43, NPT, non-reversible, metal lever

Accessories

FESTO

Ordering data					
	Description	Connection	Part No.	Type	PU ¹⁾
Blanking plug					
	With sealing ring, internal hexagon, for sealing ports	1/8 NPT	173985	B-1/8-NPT	1
		1/4 NPT	174165	B-1/4-NPT	1
		1/2 NPT	31785	B-1/2-NPT	1

1) Packaging unit