

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 1/8 NPT, 1/4 NPT, 1/2 NPT
- 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.

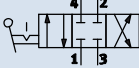
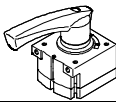
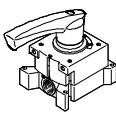
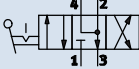
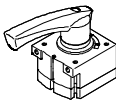
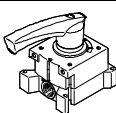
With the mid-position closed, the drive piston moves until the forces are balanced.

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

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Product range overview

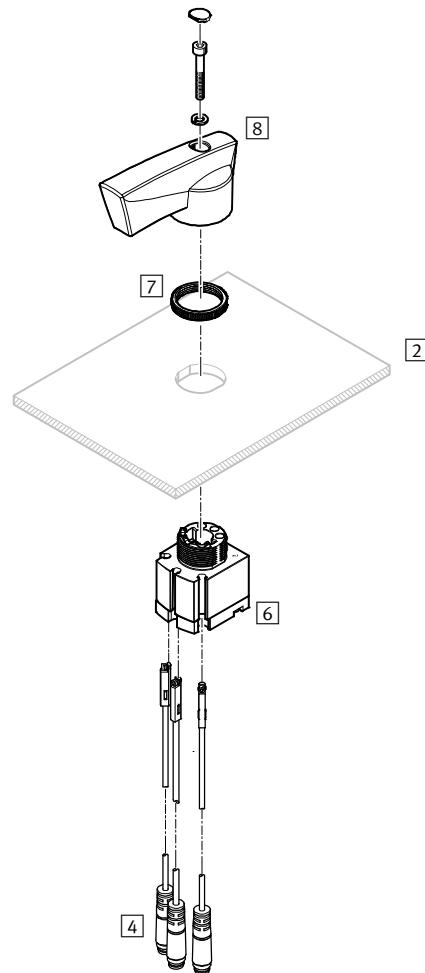
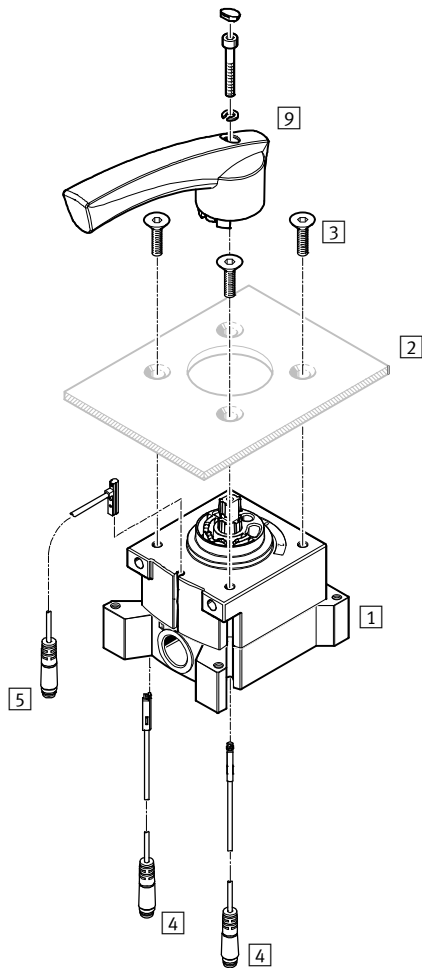
Function	Version	Type	Nominal flow rate [l/min]	Hand lever	→ Page/ Internet
	Port underneath, mid-position closed				
		VHER-H-B43C-B-N18	800	Metal	7
		VHER-H-B43C-B-N14	1500	Metal	7
		VHER-H-B43C-B-N12	3800	Metal	7
	Port at the side, mid-position closed				
		VHER-H-B43C-N18	600	Metal	7
		VHER-H-B43C-N14	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 ¹⁾	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	-

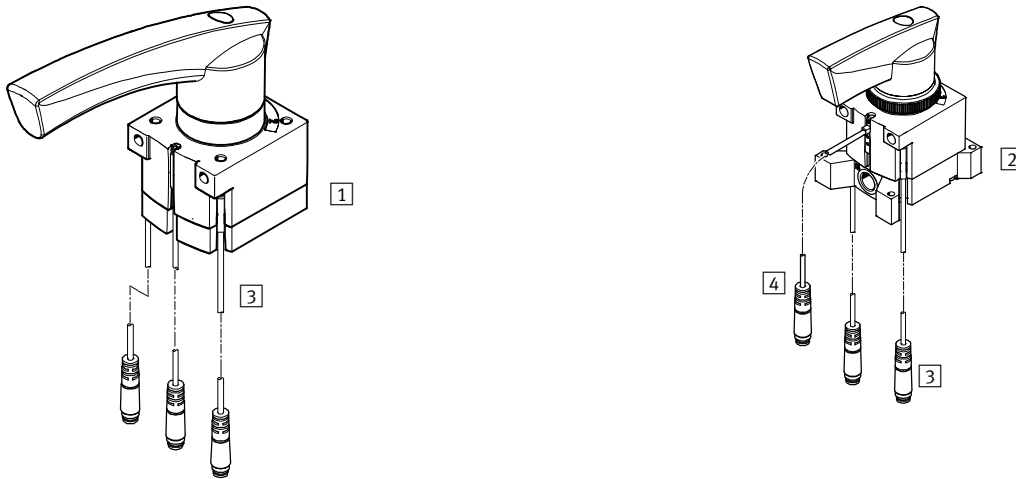
1) For design reasons, it is not possible for every valve spool VHER to be screwed to a control panel on the lever side using mounting screws.

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

-  - Note

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

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-...	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

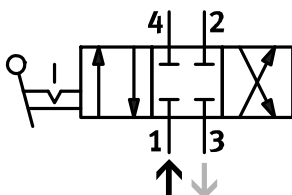
During vacuum operation, the valve function changes from exhausted (VHER-...-B43E-...) to pressurised (VHER-...-B43U-...) and vice versa.



Note

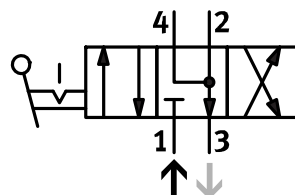
Vacuum must not be connected to port 1.

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



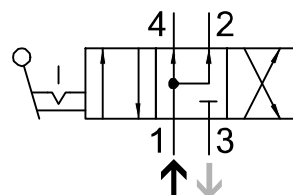
(During normal operation: mid-position closed VHER-...-B43C-...)

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.

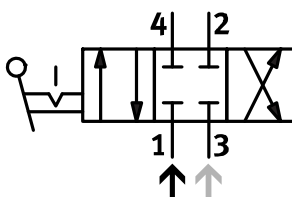
Please note that for design reasons compressed air may only be applied to port 1 and 3.



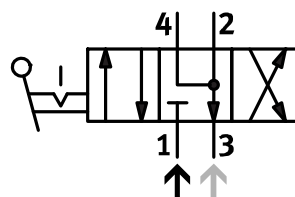
Note

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

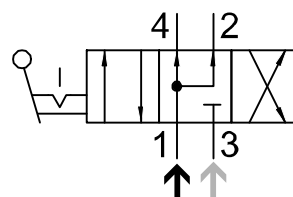
mid-position closed
VHER-...-B43C-...



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

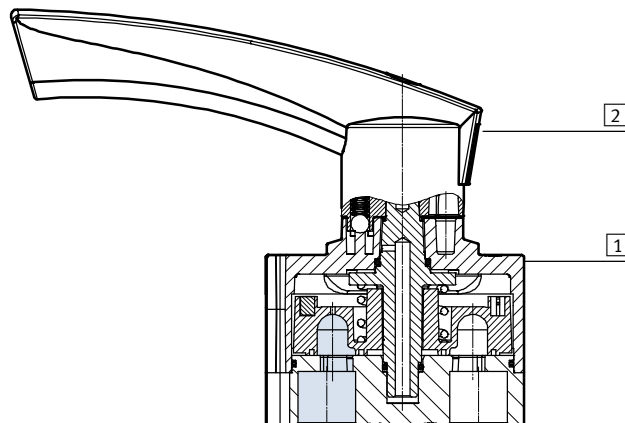
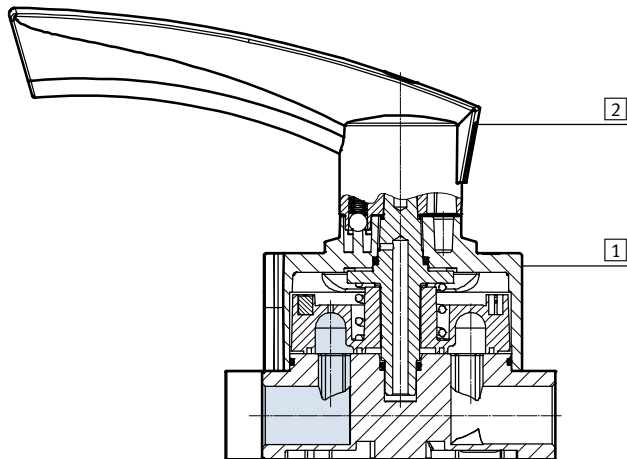
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Technical data VHER-H-B43, NPT

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

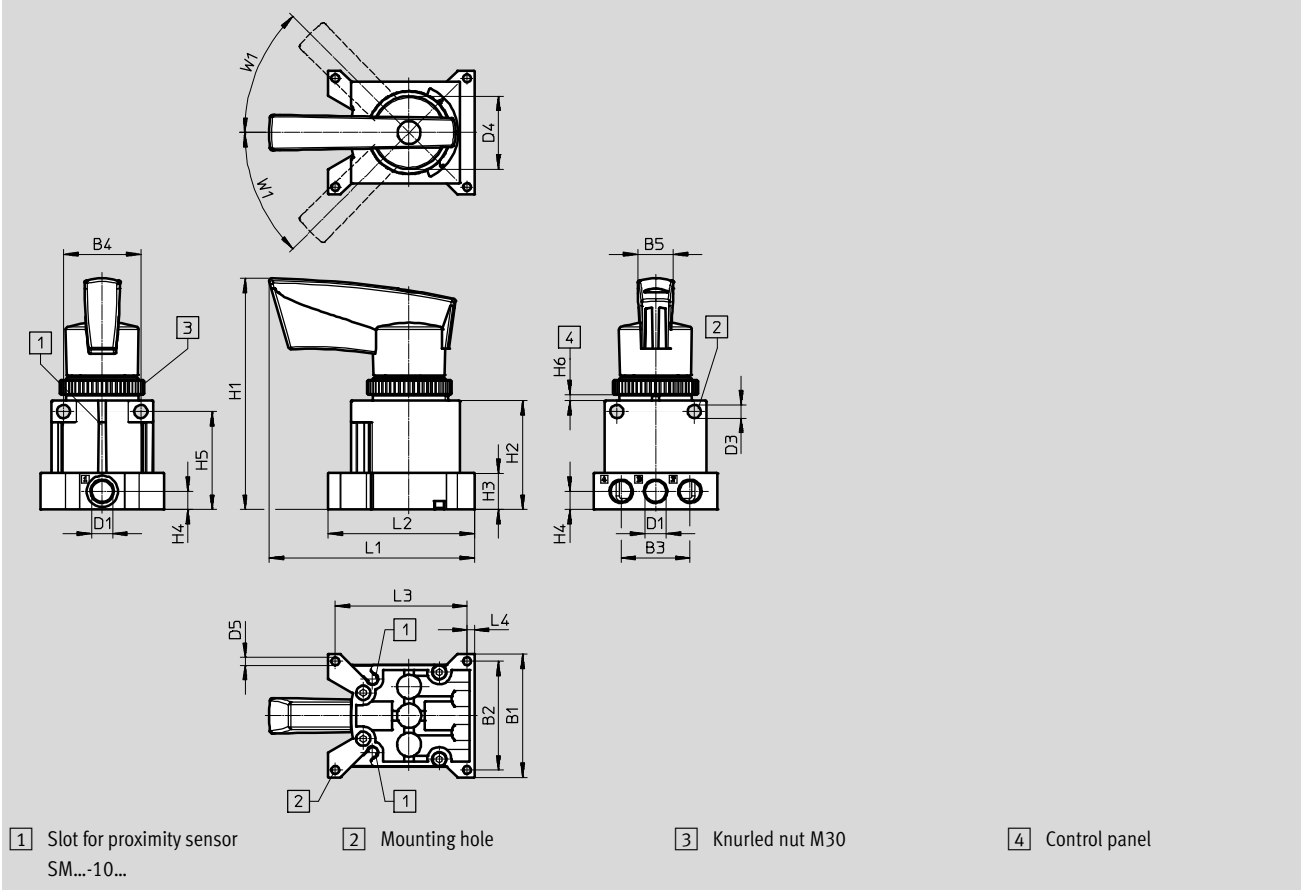
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Technical data VHER-H-B43, NPT

Dimensions

Download CAD data → www.festo.com

Pneumatic connection 1/8 NPT, at the side



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	H6		L1	L2	L3	L4	W1
						min.	max.					
VHER-H-B43...-N18	95.6	45	15	7.5	40.5	2	4	84.9	60.5	54.5	3	45°

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

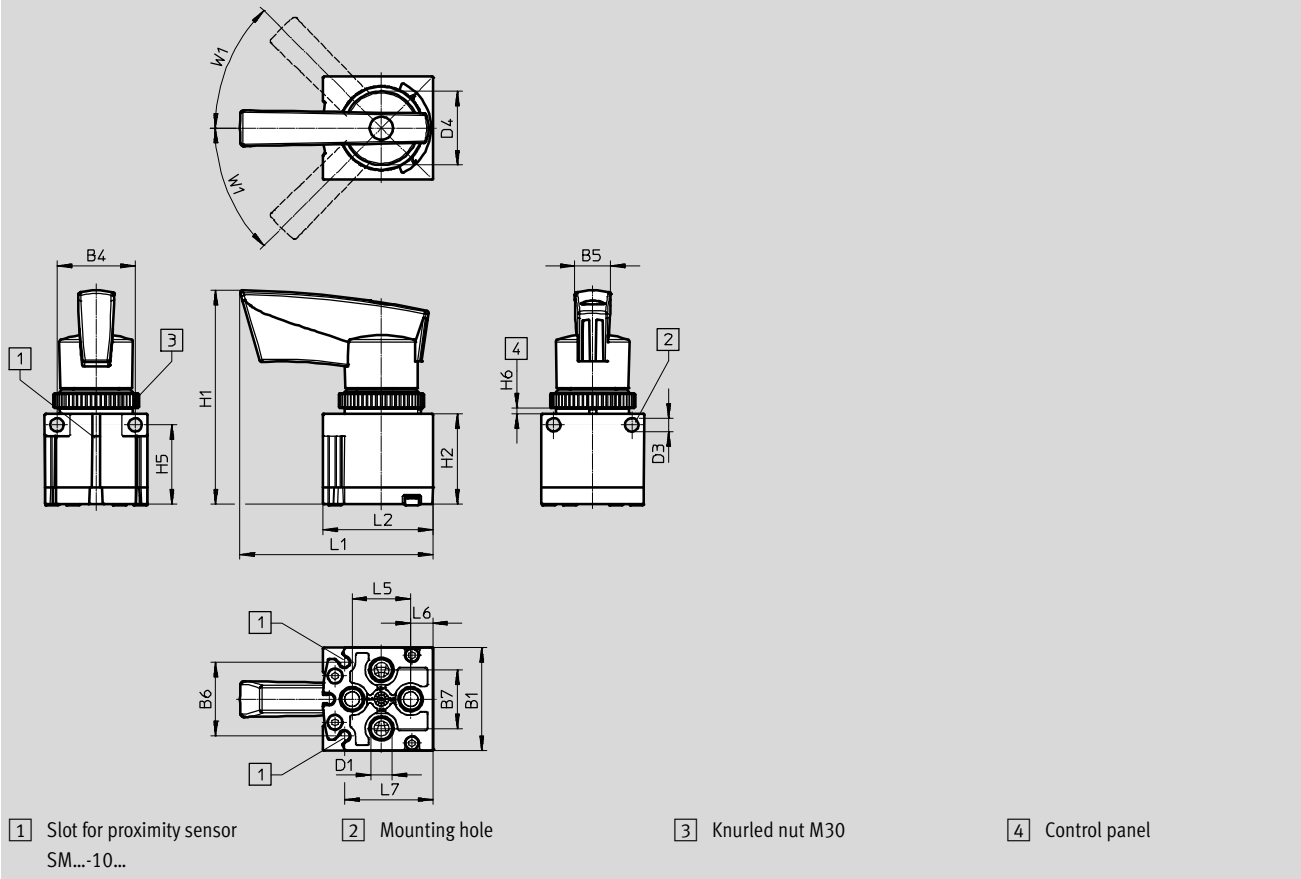
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Technical data VHER-H-B43, NPT

Dimensions

Download CAD data → www.festo.com

Pneumatic connection 1/8 NPT, underneath



Type	B1	B4	B5	B6	B7	D1	D3	D4
VHER-H-B43...-B-N18	42.2	32	14.6	30.4	24	1/8 NPT	5.5	30.2

Type	H1	H2	H5	H6		L1	L2	L5	L6	L7	W1
				min.	max.						
VHER-H-B43...-B-N18	87.6	37	32.5	2	4	78.6	44.9	24	9	36.2	45°

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

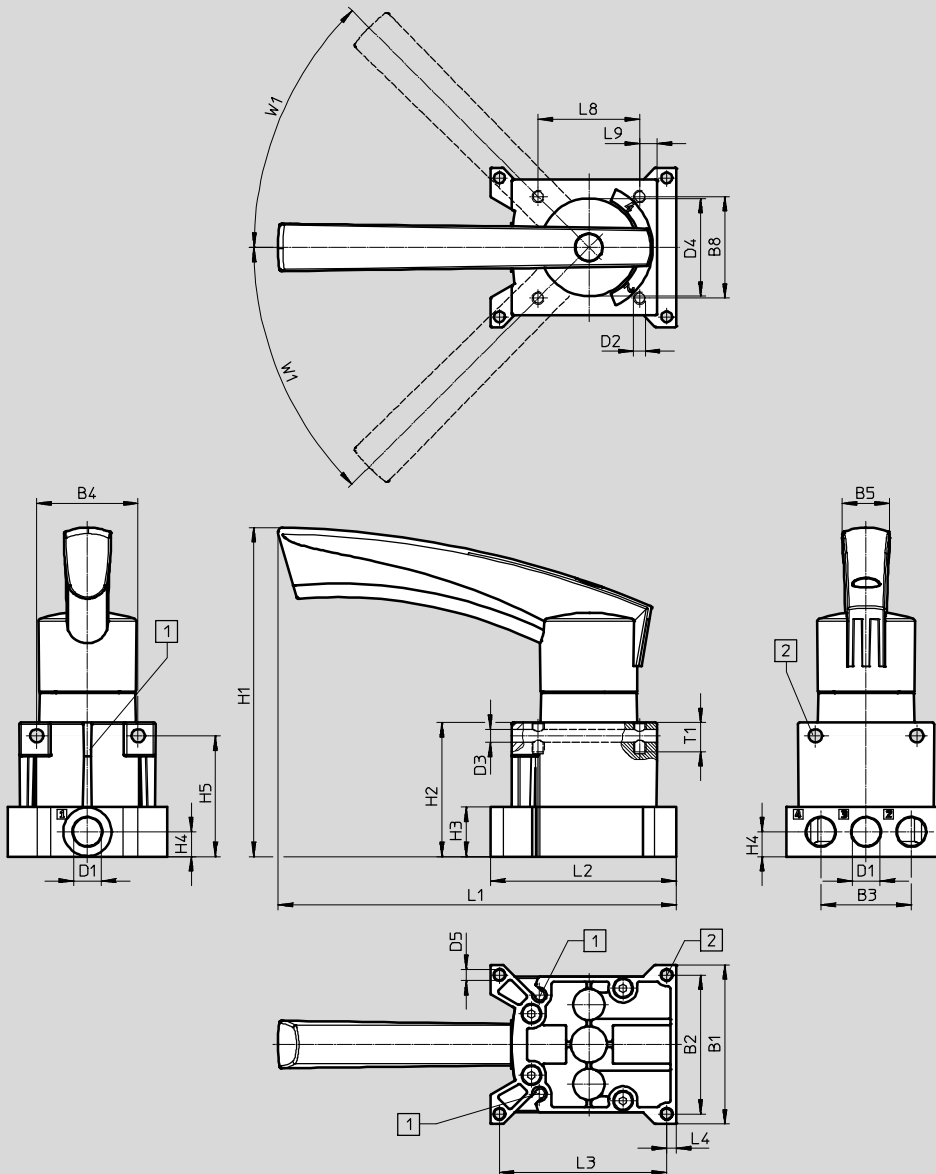
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Technical data VHER-H-B43, NPT

Dimensions

Download CAD data → www.festo.com

Pneumatic connection 1/4 NPT, at side



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

2 Mounting hole

Type	B1	B2	B3	B4	B5	B8	D1	D2	D3 Ø	D4 Ø	D5 Ø
VHER-H-B43...-N14	66	57.5	37.5	42	19.5	42	1/4 NPT	M5	5.5	40.5	4.5

Type	H1	H2	H3	H4	H5	L1	L2	L3	L4	L8	L9	T1	W1
VHER-H-B43...-N14	136.3	55.5	20.5	10.3	50	164.8	77	69.2	4	42	7.2	12	45°

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

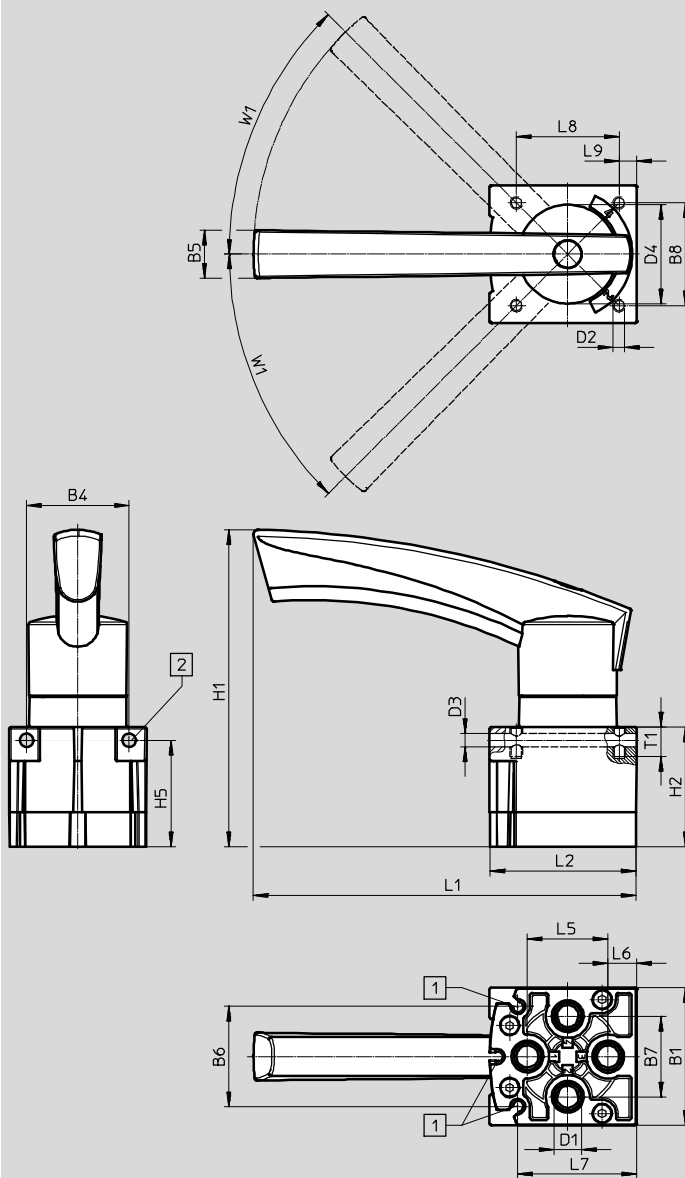
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Technical data VHER-H-B43, NPT

Dimensions

Download CAD data → www.festo.com

Pneumatic connection 1/4 NPT, underneath



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

2 Mounting hole

Type	B1	B4	B5	B6	B7	B8	D1	D2	D3 Ø	D4 Ø
VHER-H-B43...-B-N14	56.3	42	19.5	40.4	33	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	48.2	42	12	45°

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

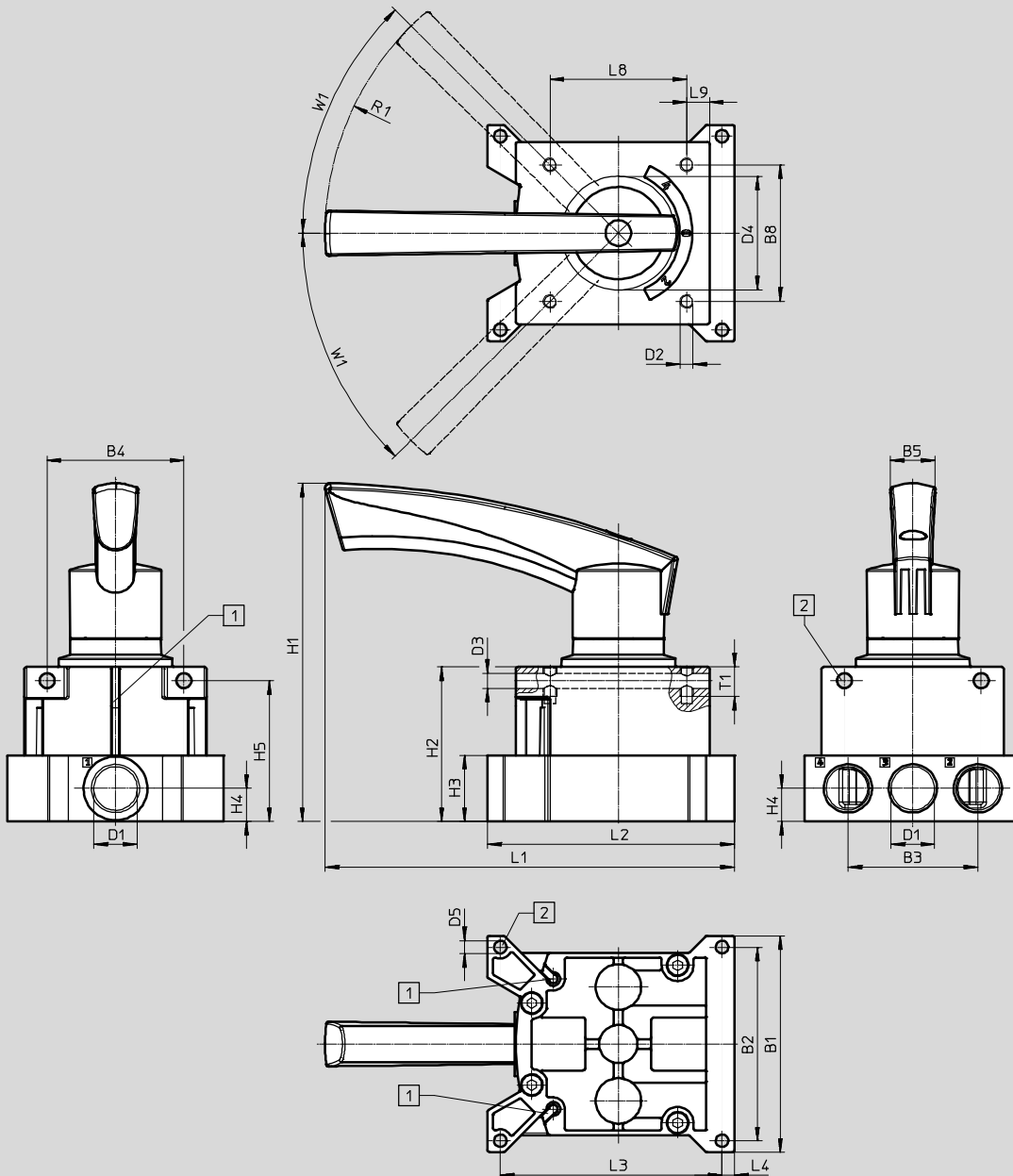
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Technical data VHER-H-B43, NPT

Dimensions

Download CAD data → www.festo.com

Pneumatic connection 1/2 NPT, at the side



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

2 Mounting hole

Type	B1	B2	B3	B4	B5	B8	D1	D2	D3	D4	D5
VHER-H-B43-...-N12	95	85	57	60	19.5	60	1/2 NPT	M5	6.6	51	5.5

Type	H1	H2	H3	H4	H5	L1	L2	L3	L4	L8	L9	R1	T1	W1
VHER-H-B43-...-N12	149	68	29	14.5	61.8	180	108.8	97.3	5.5	60	10	128	13	45°

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

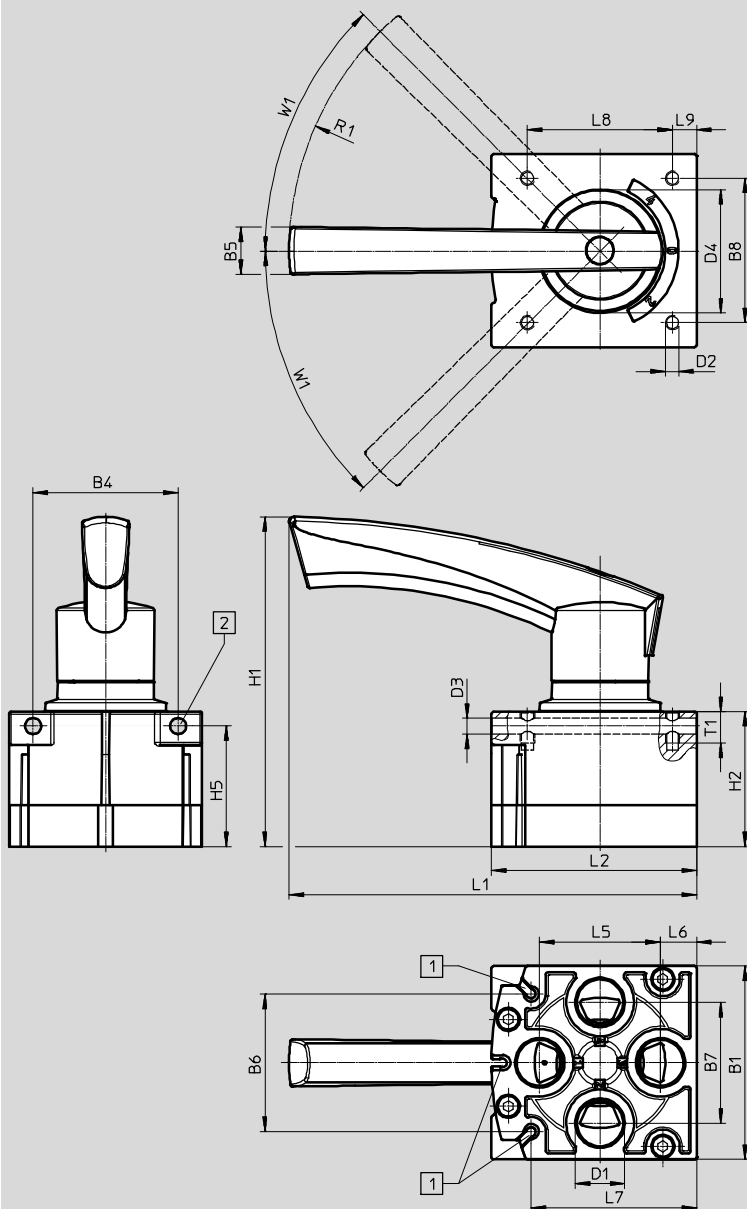
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Technical data VHER-H-B43, NPT

Dimensions

Download CAD data → www.festo.com

Pneumatic connection 1/2 NPT, underneath



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

2 Mounting hole

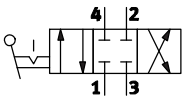
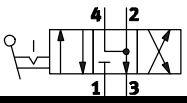
Type	B1	B4	B5	B6	B7	B8	D1	D2	D3 Ø	D4 Ø
VHER-H-B43-...-B-N12	80	60	19.5	56.9	50	60	1/2 NPT	M5	6.6	51

Type	H1	H2	H5	L1	L2	L5	L6	L7	L8	L9	R1	T1	W1
VHER-H-B43-...-B-N12	136.5	55.8	49.8	168.8	84.8	50	15	68.5	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.

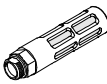
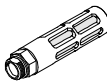
Ordering data – Push-in fittings						
Description		Connection		Part No.	Type	PU ¹⁾
Pneumatic connection: underneath, external hexagon						
	1/8 NPT	NPT thread with sealing ring for (short design)	Tubing O.D. 1/8 “	533270	QBM-1/8-1/8-U	10
			Tubing O.D. 5/32 “	572305	QBM-1/8-5/32-U	10
	1/8 NPT	NPT thread 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-1/2-3/8-U	5
			Tubing O.D. 1/2“	533284	QB-1/2-1/2-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-1/2-1/2-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-1/2-1/2-I-U	5

1) Packaging unit

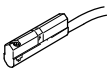
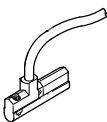
Hand lever valves, VHER-H-B43, NPT, non-reversible, metal lever

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Accessories

Ordering data – Silencers							
Description	Connection	Materials			Part No.	Type	PU ¹⁾
		Threaded plug	Silencer insert	Housing			
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	Switching output	Electrical connection	Cable length [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
				Plug M8x1, 3-pin	0.3	173212	SME-10-SL-LED-24	1
	Lateral	Magnetic reed	Contacting, bipolar	Cable, 3-wire	2.5	173211	SME-10-KQ-LED-24	1
				Plug M8x1, 3-pin	0.3	173213	SME-10-SQ-LED-24	1

1) Packaging unit

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

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