

## Piloted check valve VBNF

**FESTO**



## Characteristics

### At a glance

The check valve VBNF-LBA is a valve with piloted non-return function and manual exhaust function.

- Minimal height
- High flow rate
- Can be rotated horizontally through 360° when mounted
- Actuation direction can be changed by converting the housing

### Diagrams

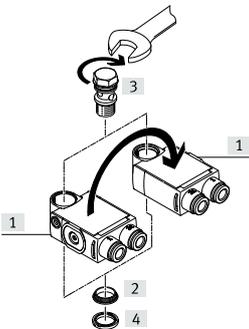
Link [vbnf](#)



The diagrams shown in this document are also available online. These can be used to display precise values.

### Design

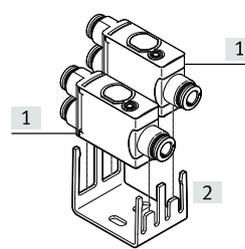
#### [L] L-shape



Universal actuation direction possible by converting the housing [1]:

- Press thrust ring [2] into the housing for a positive fit
- Insert hollow bolt [3] into the opening
- Slide sealing ring OK [4] over the thread of the hollow bolt

#### [C] Inline



Two housings [1] are compact to mount with retainer VAME [2].

### Non-return function

#### [B] Piloted non-return function

The piloted non-return function can be used for a brief intermediate stop. If there is a control signal, the exhaust air can escape. If there is no control signal, the valve blocks the exhaust air of the drive and the drive stops briefly.

### Additional function 2

#### [A] Exhaust function, manual

A pneumatic drive can be manually exhausted by actuating the integrated manual exhaust function.

## Type code

001	Series	
<b>VBNF</b>	Check valve	
002	Design	
<b>C</b>	Inline	
<b>L</b>	L-shape	
003	Non-return function	
<b>B</b>	Piloted non-return function	
004	Additional function 2	
<b>A</b>	Exhaust function, manual	

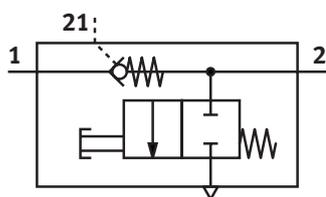
005	Pneumatic connection 1	
<b>G14</b>	G1/4	
<b>G18</b>	G1/8	
<b>Q4</b>	Push-in connector 4 mm	
<b>Q6</b>	Push-in connector 6 mm	
006	Pneumatic connection 2	
<b>Q4</b>	Push-in connector 4 mm	
<b>Q6</b>	Push-in connector 6 mm	
<b>Q8</b>	Push-in connector 8 mm	

## Datasheet

### General technical data

Design	Inline		L-shape		
Pneumatic connection, port 1	QS-4	QS-6	QS-4	QS-6	QS-8
Pneumatic connection, port 2	QS-4	QS-6	G1/8		G1/4
Pilot air port 21	QS-4	QS-6	QS-4	QS-6	QS-8
Valve function	Non-return function		Piloted non-return function		
Type of actuation	Manual		–		
Type act., cont. n.-r. func.	Pneumatic				
Manual exhaust function	Non-detenting				
Type of mounting	–		Screw-in		
Mounting position	optional				
Switching time off	9 ms				11 ms
Switching time on	6 ms				8 ms
Nominal torque	–		3 ... 6 Nm	6 Nm	10 Nm
Tolerance for nominal tightening torque	–		± 20%		
Rotatability	–		360°/no continuous swivelling permissible		

### Function



### Operating and environmental conditions

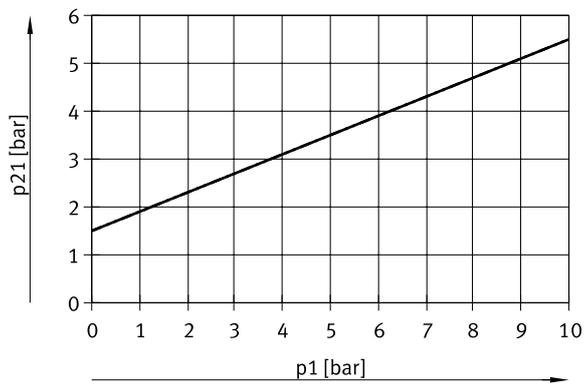
Design	Inline		L-shape		
Pneumatic connection, port 1	QS-4	QS-6	QS-4	QS-6	QS-8
Pneumatic connection, port 2	QS-4	QS-6	G1/8		G1/4
Operating pressure	≤10 bar		0.2 ... 10 bar		
Operating pressure complete temperature range	0.2 ... 10 bar				
Pilot pressure	2 ... 10 bar				
Operating medium	Compressed air to ISO 8573-1:2010 [7:4:4]				
Pilot medium	Compressed air to ISO 8573-1:2010 [7:4:4]				
Note on operating and pilot medium	Lubricated operation possible		Lubricated operation possible (in which case lubricated operation will always be required)		
Ambient temperature	-10 ... 60°C				
Media temperature	-10 ... 60°C				
Storage temperature	-20 ... 70°C		–		
Standard flow rate 1->2 (6-0)	210 l/min	500 l/min			1,100 l/min
Standard nominal flow rate 1->2 (6-5)	130 l/min	260 l/min			620 l/min
Corrosion resistance class CRC <sup>1)</sup>	2 - Moderate corrosion stress				

1) More information [www.festo.com/x/topic/kbk](http://www.festo.com/x/topic/kbk)

### Materials

Material covering	ES-BE
Material cover	PBT
Material seals	NBR
Material hollow bolt	Wrought aluminium alloy
Material release ring	POM
Note on materials	RoHS-compliant
LABS (PWS) conformity	VDMA24364-B1/B2-L

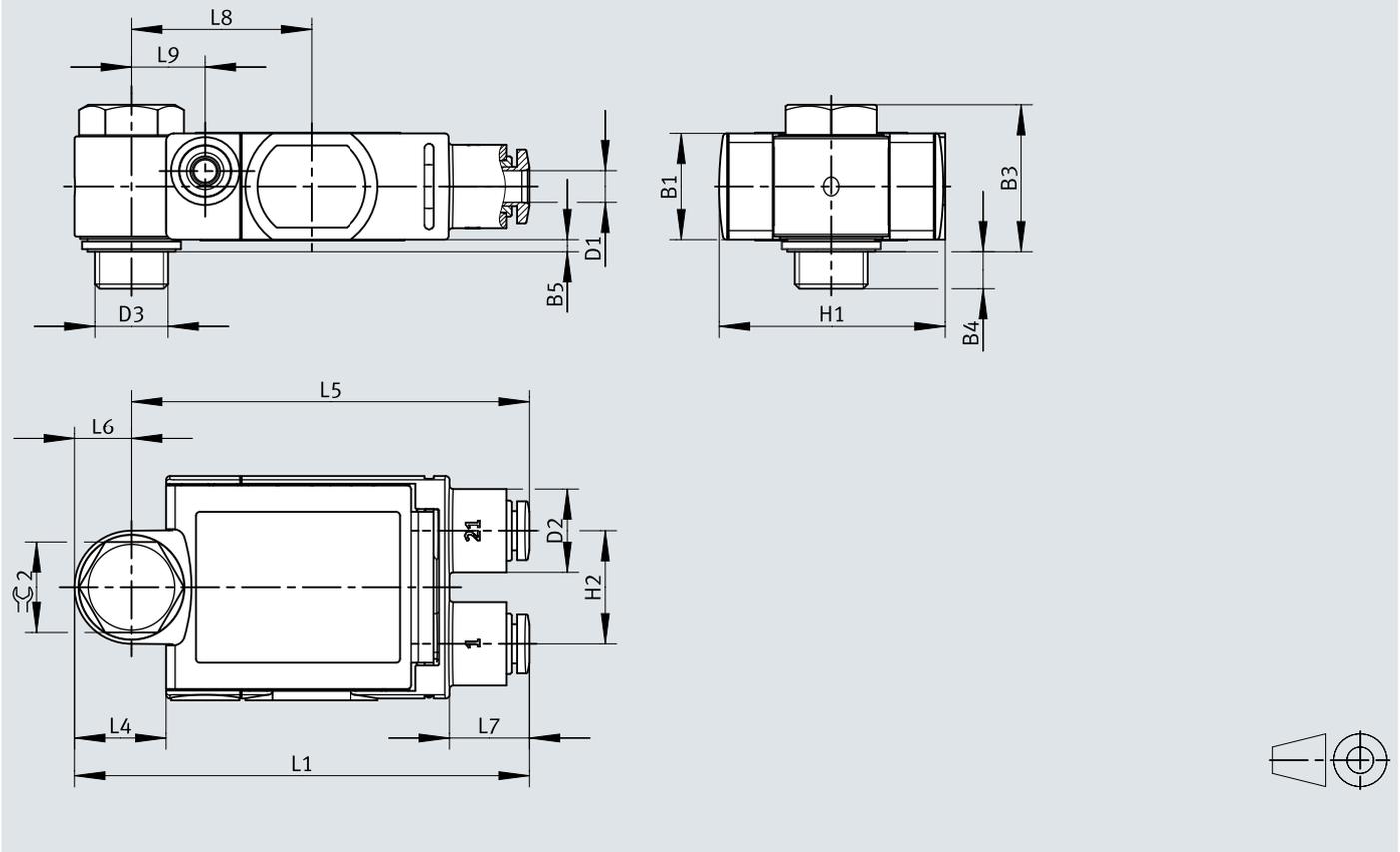
## Datasheet

Minimum pilot pressure  $p_{21}$  as a function of operating pressure  $p_1$ 

## Dimensions

### Dimensions – VBNF (L-shape)

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

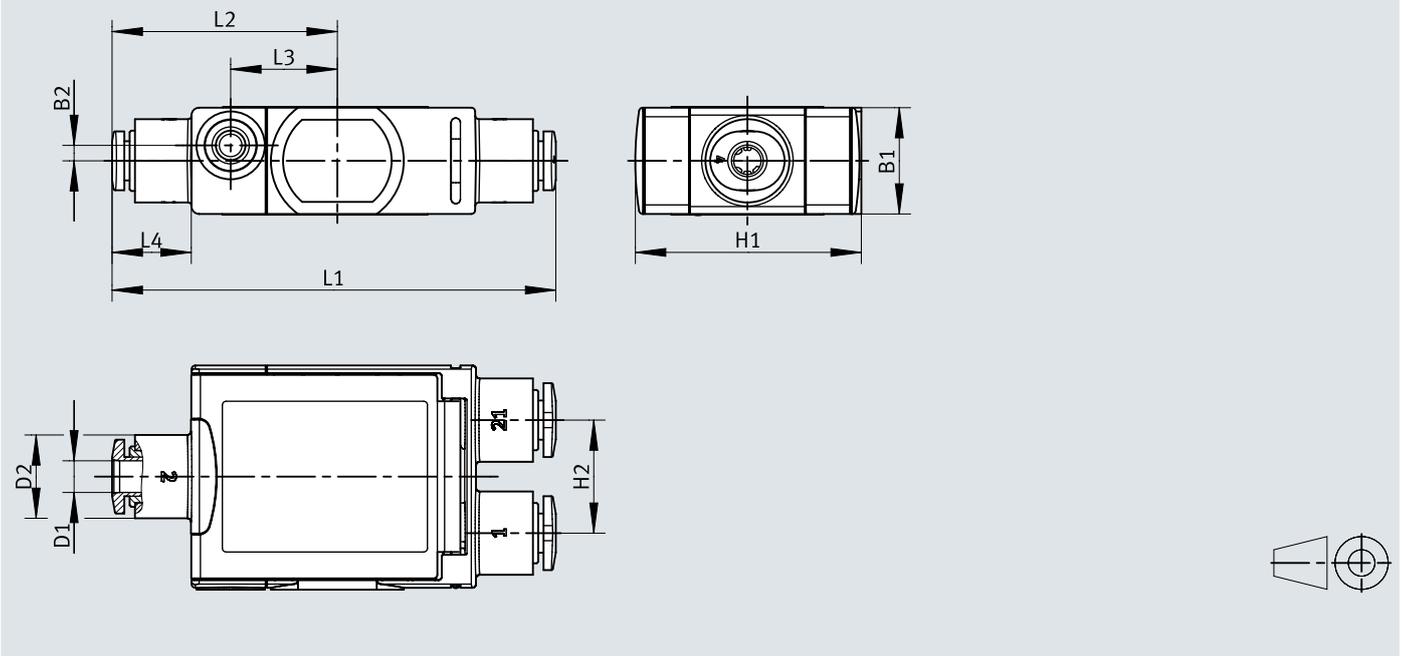


Typ	B1	B2	B4	B5	D1 ∅	D2 ∅	D3	H1	H2	L1	L4	L5	L6	L7	L8	L9	≈ 2
VBNF-LBA-G18-Q4	14,1	19,5	4,9	1,6	4,2	11	G1/8	29,8	15	60	12	52,4	7,5	11	23,8	9,7	12
VBNF-LBA-G18-Q6	14,1	19,4	5	1,5	6,2	11	G1/8	29,8	15	60,1	12,1	52,5	7,5	10,5	23,8	9,7	12
VBNF-LBA-G14-Q8	21	28,2	5,6	2	8,2	15,5	G1/4	39,5	20,5	74,3	15,4	64,3	10	11,3	30	11,1	15

## Dimensions

### Dimensions – VBNF (inline)

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

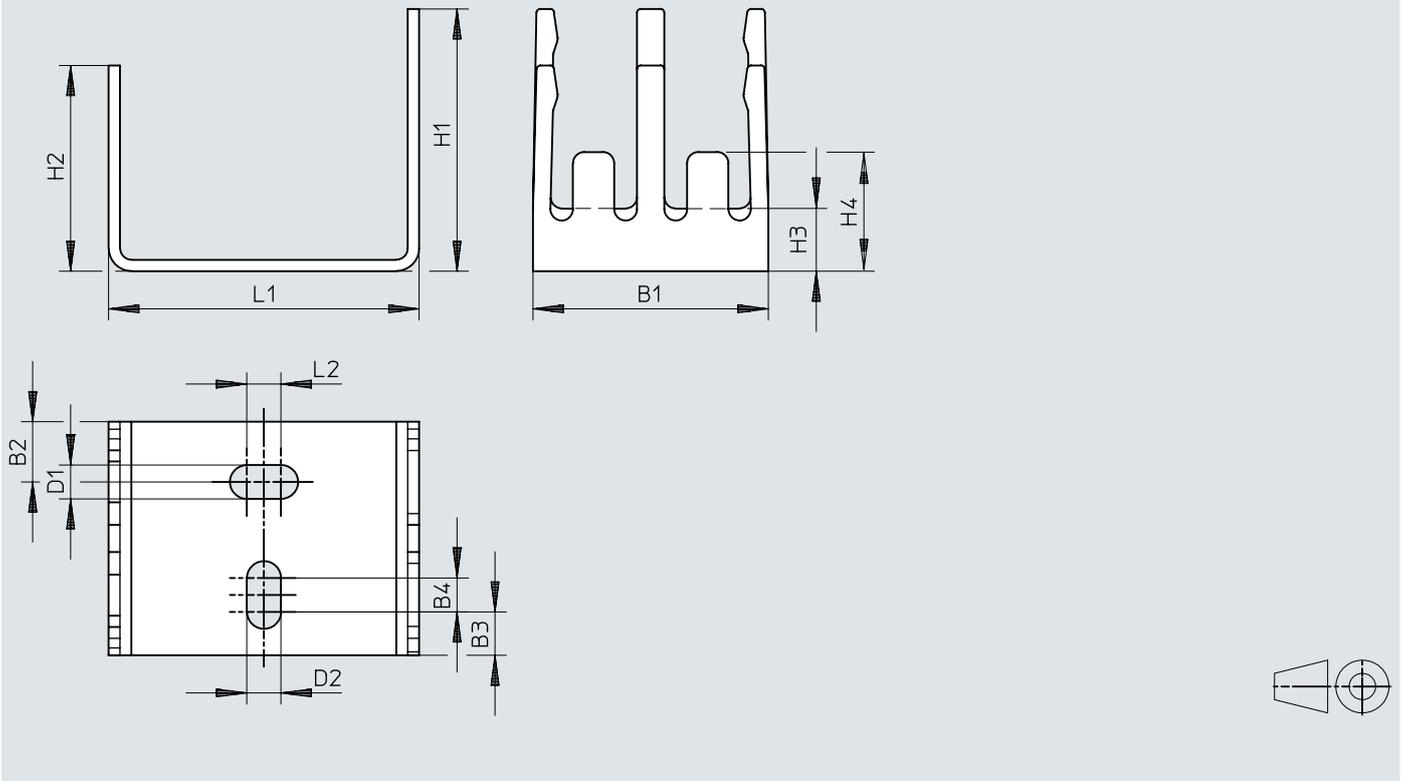


Typ	B1	B2	D1 ∅	D2 ∅	H1	H2	L1	L2	L3	L4
VBNF-CBA-Q4-Q4	14,1	2	4	11	29,8	15	59,4	31,3	~14	12,1
VBNF-CBA-Q6-Q6	14,1	2	6	11	29,8	15	60,2	31,5	~14	12,3

## Dimensions

Dimensions – Retainer VAME (for VBNF inline)

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



Typ	B1	B2	B3	B4	D1	D2	H1	H2	H3	H4	L1	L2
VAME-F13-Q-2	31	8	5,8	4,5	4,5	4,5	35	27,3	8,3	15,8	41	4,5

## Ordering data

Ordering data (L-shape)					
	Pneumatic connection, port 1	Pneumatic connection, port 2	Product weight	Part no.	Type
	QS-4	G1/8	27.9 g	<b>8193272</b>	<b>VBNF-LBA-G18-Q4</b>
	QS-6		27.3 g	<b>8001460</b>	<b>VBNF-LBA-G18-Q6</b>
	QS-8	G1/4	65.6 g	<b>1927027</b>	<b>VBNF-LBA-G14-Q8</b>

Ordering data (inline)					
	Pneumatic connection, port 1	Pneumatic connection, port 2	Product weight	Part no.	Type
	QS-4	QS-4	23.8 g	<b>8193271</b>	<b>VBNF-CBA-Q4-Q4</b>
	QS-6	QS-6	23.3 g	<b>8193270</b>	<b>VBNF-CBA-Q6-Q6</b>

## Accessories

Retainer VAME (for Inline)				
	Short type code	Product weight	Part no.	Type
	VAME	23.55 g	<b>8193273</b>	<b>VAME-F13-Q-2</b>