

# Filter LF

**FESTO**



## Characteristics

### At a glance

- Good particle and condensate separation
- High flow rate with minimal pressure drop

### Diagrams

[Link](#) [if-d](#)

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

### Version

[D] D series, metal

Sturdy in full metal design for the specific requirements of the process automation industry

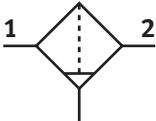
### Grade of filtration

Choice of filter inserts 5 µm or 40 µm

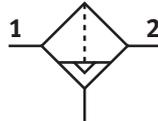
### Condensate drain

Optionally with manual or fully automatic condensate drain

[ ] Manually rotating



[A] Fully automatic



## Type code

001	Series
LF	Filter

002	Pneumatic connection
	None
1/8	Female thread G1/8
1/4	Female thread G1/4
3/8	Female thread G3/8
1/2	Female thread G1/2
3/4	Female thread G3/4
1	Female thread G1

003	Version
D	D series, metal

004	Grade of filtration
	40 µm
5M	5 µm

005	Size
MINI	Grid dimension 40 mm (without connecting plates)
MIDI	Grid dimension 55 mm (without connecting plates)
MAXI	Grid dimension 66 mm (without connecting plates)

006	Condensate drain
	Manually rotating
A	Fully automatic

## Datasheet

General technical data			
Size	Maxi	Midi	Mini
Pneumatic connection, port 1	Sub-base, G1/2, G3/4, G1	Sub-base, G1/4, G3/8, G1/2, G3/4	Sub-base, G1/8, G1/4, G3/8
Pneumatic connection, port 2	Sub-base, G1/2, G3/4, G1	Sub-base, G1/4, G3/8, G1/2, G3/4	Sub-base, G1/8, G1/4, G3/8
Design	Sintered filter with centrifugal separator		
Type of mounting	In-line installation With accessories		
Mounting position	Vertical +/-5°		
Grade of filtration	5 µm 40 µm		
Air purity class at output	Compressed air to ISO 8573-1:2010 [6:8:4] Compressed air to ISO 8573-1:2010 [7:8:4] Inert gases		
Bowl guard	Metal bowl guard		
Condensate drain	Fully automatic Manually rotating		
Max. condensate volume	80 cm <sup>3</sup>	43 cm <sup>3</sup>	22 cm <sup>3</sup>

General technical data (NPT - not available in all markets)			
Size	Maxi	Midi	Mini
Pneumatic connection, port 1	3/4 NPT, 1 NPT	3/8 NPT, 1/2 NPT, 3/4 NPT	1/8 NPT, 1/4 NPT, 3/8 NPT
Pneumatic connection, port 2	3/4 NPT, 1 NPT	3/8 NPT, 1/2 NPT, 3/4 NPT	1/8 NPT, 1/4 NPT, 3/8 NPT
Design	Sintered filter with centrifugal separator		
Type of mounting	Either: In-line installation Via mounting bracket With accessories		
Mounting position	Vertical, Vertical +/-5°		
Grade of filtration	5 µm 40 µm		
Pore size	40 µm	5 ... 40 µm	
Air purity class at output	Compressed air to ISO 8573-1:2010 [6:8:4] Compressed air to ISO 8573-1:2010 [7:8:4] Inert gases		
Bowl guard	Metal bowl guard		
Condensate drain	Fully automatic Manual, non-detenting Manually rotating		
Degree of condensate separation	75%		
Max. condensate volume	80 cm <sup>3</sup> , 2.72 fl oz (US)	43 cm <sup>3</sup> , 1.462 fl oz (US)	22 cm <sup>3</sup> , 0.748 fl oz (US)

Standard nominal flow rate q <sub>N</sub> (grade of filtration 5 µm; measured at p <sub>1</sub> = 6 bar and Δp = 1 bar)										
Size	Maxi			Midi				Mini		
Pneumatic connection, port 1	G1/2	G3/4	G1	G1/4	G3/8	G1/2	G3/4	G1/8	G1/4	G3/8
Standard nominal flow rate (standardised to DIN 1343)	3,700 l/min	3,600 l/min	3,800 l/min	1,600 l/min	1,800 l/min	2,000 l/min		800 l/min	950 l/min	1,100 l/min

Standard nominal flow rate q <sub>N</sub> (grade of filtration 5 µm; measured at p <sub>1</sub> = 6 bar and Δp = 1 bar)								
Size	Maxi		Midi			Mini		
Pneumatic connection, port 1	3/4 NPT	1 NPT	3/8 NPT	1/2 NPT	3/4 NPT	1/8 NPT	1/4 NPT	3/8 NPT
Standard nominal flow rate (standardised to DIN 1343)	3,600 l/min	3,800 l/min	1,800 l/min	2,000 l/min		800 l/min	950 l/min	1,100 l/min

Standard nominal flow rate q <sub>N</sub> (grade of filtration 40 µm; measured at p <sub>1</sub> = 6 bar and Δp = 1 bar)										
Size	Maxi			Midi				Mini		
Pneumatic connection, port 1	G1/2	G3/4	G1	G1/4	G3/8	G1/2	G3/4	G1/8	G1/4	G3/8
Standard nominal flow rate (standardised to DIN 1343)	4,400 l/min	5,000 l/min	5,300 l/min	1,900 l/min	2,700 l/min	3,000 l/min		1,000 l/min	1,200 l/min	1,400 l/min

## Datasheet

### Standard nominal flow rate q<sub>N</sub> (grade of filtration 40 µm; measured at p<sub>1</sub> = 6 bar and Δp = 1 bar)

Size	Maxi		Midi			Mini	
Pneumatic connection, port 1	3/4 NPT	1 NPT	3/8 NPT	1/2 NPT	3/4 NPT	1/4 NPT	3/8 NPT
Standard nominal flow rate (standardised to DIN 1343)	5,000 l/min	5,300 l/min	2,700 l/min	3,000 l/min		1,200 l/min	1,400 l/min

### Operating and environmental conditions

Condensate drain	Fully automatic	Manually rotating
Operating pressure	2 ... 12 bar	0 ... 16 bar
Operating medium <sup>1)</sup>	Compressed air to ISO 8573-1:2010 [7:9-] Inert gases	Compressed air to ISO 8573-1:2010 [-:9-] Inert gases
Ambient temperature	-10 ... 60°C	
Media temperature	-10 ... 60°C	
Storage temperature	-10 ... 60°C	
Corrosion resistance class CRC <sup>2)</sup>	2 - Moderate corrosion stress	

1) Compressed air according to ISO 8573-1:2010 [7:9-] applies to fully automatic condensate drain

2) More information [www.festo.com/x/topic/crc](http://www.festo.com/x/topic/crc)

### Operating and environmental conditions (NPT - not available in all markets)

Condensate drain	Fully automatic	Manual, non-detenting	Manually rotating
Operating pressure	0.2 ... 1.2 MPa	–	0 ... 1.6 MPa
Operating pressure	2 ... 12 bar	0 ... 16 bar	
Operating pressure	29 ... 174 psi	–	0 ... 232 psi
Operating medium <sup>1)</sup>	Compressed air to ISO 8573-1:2010 [7:9-] Inert gases	Compressed air to ISO 8573-1:2010 [-:9-] Inert gases	
Ambient temperature	-10 ... 60°C, 14 ... 140°F	-10 ... 60°C	14 ... 140°F
Media temperature	-10 ... 60°C, 14 ... 140°F	-10 ... 60°C	14 ... 140°F
Storage temperature	-10 ... 60°C, 14 ... 140°F	-10 ... 60°C	14 ... 140°F
Corrosion resistance class CRC <sup>2)</sup>	2 - Moderate corrosion stress		

1) Compressed air according to ISO 8573-1:2010 [7:9-] applies to fully automatic condensate drain

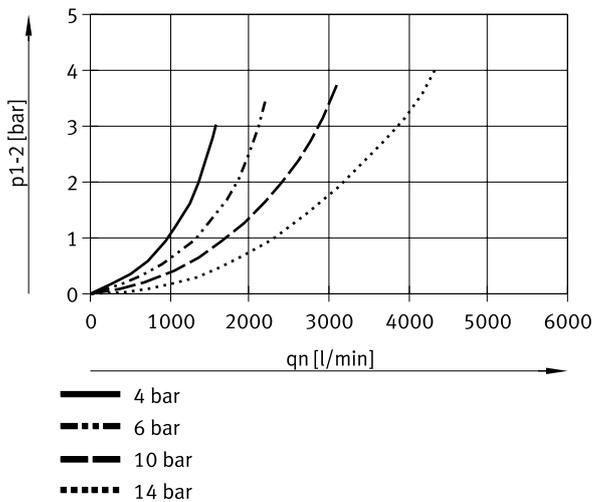
2) More information [www.festo.com/x/topic/crc](http://www.festo.com/x/topic/crc)

### Materials

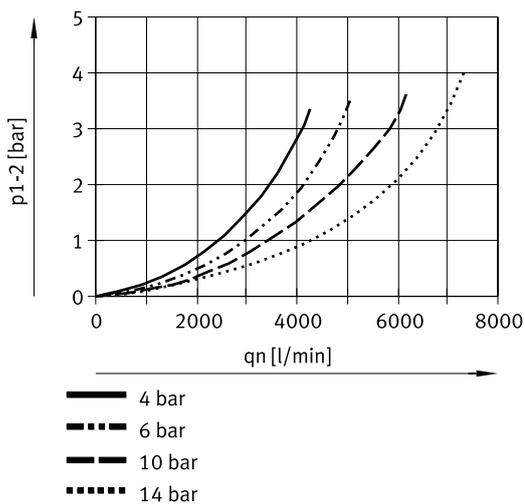
Material housing	Die-cast zinc
Material bowl	PC
Material filter	PE
Note on materials	RoHS-compliant
LABS (PWIS) conformity	VDMA24364-B1/B2-L

## Datasheet

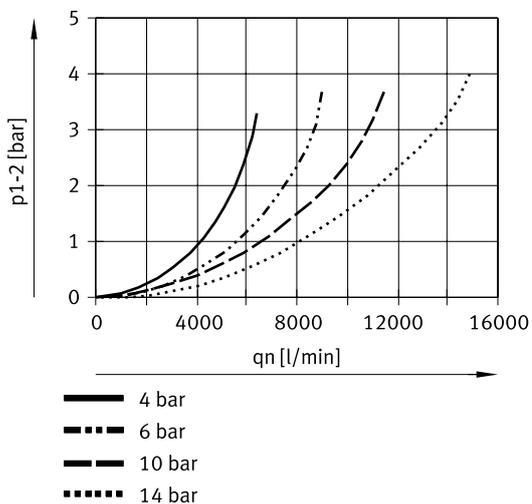
### Standard flow rate $q_n$ as a function of differential pressure $\Delta p_{1-2}$ (LF-1/4-D-MINI)



### Standard flow rate $q_n$ as a function of differential pressure $\Delta p_{1-2}$ (LF-1/2-D-MIDI)



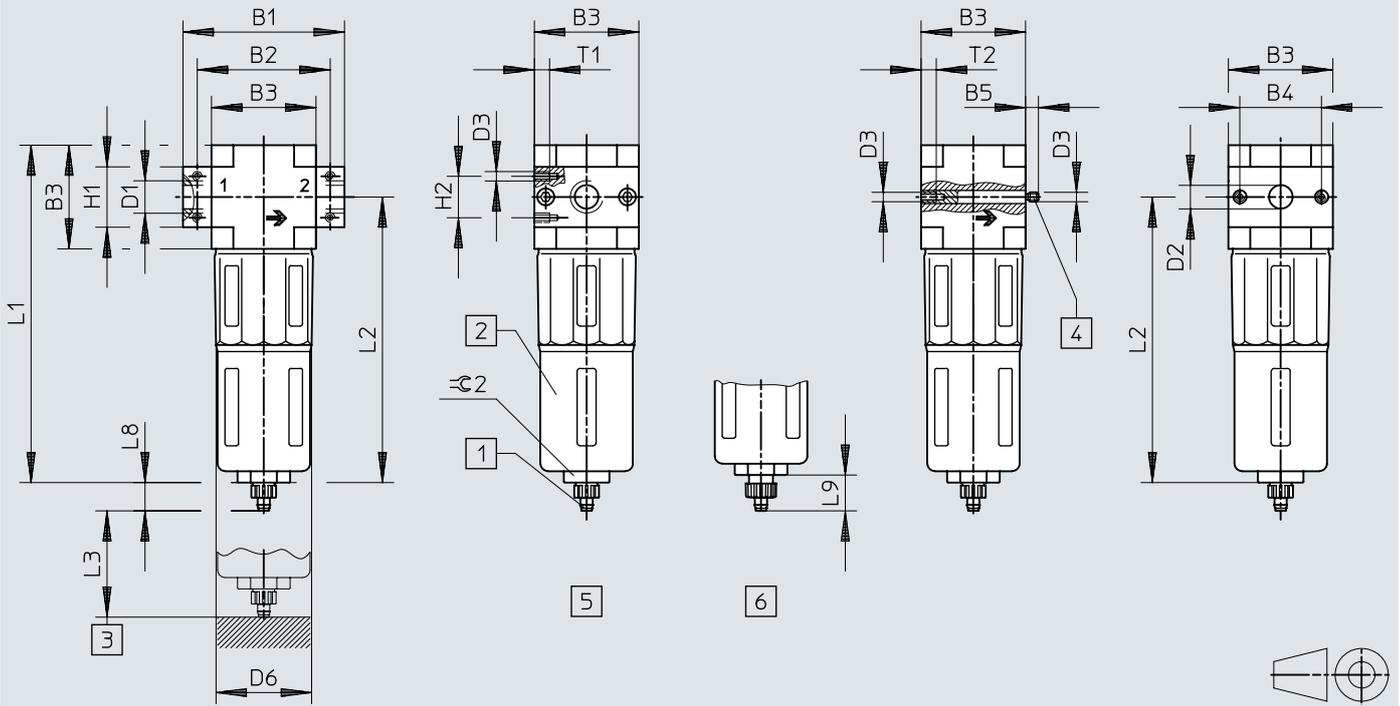
### Standard flow rate $q_n$ as a function of differential pressure $\Delta p_{1-2}$ (LF-1-D-MAXI)



# Dimensions

Dimensions – Connecting plates with threaded connection/without connecting plates

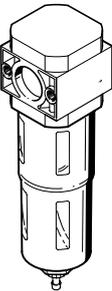
Download CAD data [www.festo.com](http://www.festo.com)

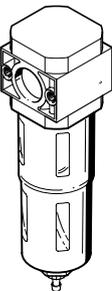


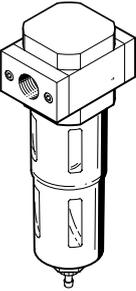
- [1] Barbed connector for plastic tubing PUN(-H)-8x1.25
- [2] Metal bowl guard
- [3] Installation dimension
- [4] Threaded bolt (exchangeable)
- [5] Manual condensate drain
- [6] Semi-automatic condensate drain

	B1	B2	B3	B4	B5	D1	D2 Ø	D3	D6 Ø	H1	H2	L1	L2	L3	L8	L9	T1	T2	Ø2
<b>Mini</b>																			
LF-1/8-D-MINI	64	52	40	30	-	G1/8	-	M4	38	20	11	144	124	60	15	19	7	-	22
LF-1/4-D-MINI	70					G3/8											-	-	
LF-3/8-D-MINI	70																-	10	
LF-D-MINI	-	-			5,8	-	11												
<b>Midi</b>																			
LF-1/4-D-MIDI	85	70	55	43	-	G1/4	-	M5	52	32	22	179	151	80	15	19	8	-	24
LF-3/8-D-MIDI						G3/8											-	-	
LF-1/2-D-MIDI						G1/2											-	-	
LF-3/4-D-MIDI						G3/4											-	-	
LF-D-MIDI	-	-			6,8	-	24										-	11	
<b>Maxi</b>																			
LF-1/2-D-MAXI	96	80	66	46	-	G1/2	-	M5	65	32	22	203	170	90	15	19	8	-	24
LF3/4-D-MAXI	116	91				G3/4											-	-	
LF-1-D-MAXI	116	91				G1											-	-	
LF-D-MAXI	-	-				6,8											-	30	

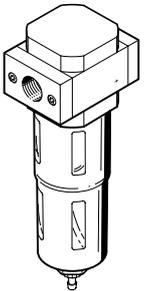
## Ordering data

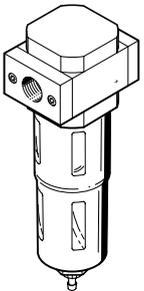
Without connecting plates						
	Pneumatic connection, port 1	Grade of filtration	Condensate drain	Product weight	Part no.	Type
	Sub-base	5 µm	Fully automatic		192562	LF-D-5M-MAXI-A
				250 g	192560	LF-D-5M-MINI-A
				700 g	192561	LF-D-5M-MIDI-A
			Manually rotating		192559	LF-D-5M-MAXI
				250 g	192557	LF-D-5M-MINI
				700 g	192558	LF-D-5M-MIDI
	40 µm	Fully automatic		192556	LF-D-MAXI-A	
			250 g	192554	LF-D-MINI-A	
			700 g	192555	LF-D-MIDI-A	
		Manually rotating		192553	LF-D-MAXI	
			250 g	192551	LF-D-MINI	
			700 g	192552	LF-D-MIDI	

Without sub-bases (NPT - not available in all markets)						
	Pneumatic connection, port 1	Grade of filtration	Condensate drain	Product weight	Part no.	Type
	Sub-base	5 µm	Fully automatic	248.062 oz	546453	LF-D-5M-MINI-A-U
				694.575 oz	546460	LF-D-5M-MIDI-A-U
				1,329.615 oz	546467	LF-D-5M-MAXI-A-U
			Manually rotating	248.062 oz	546451	LF-D-5M-MINI-U
				694.575 oz	546459	LF-D-5M-MIDI-U
				1,329.615 oz	546466	LF-D-5M-MAXI-U
	40 µm	Fully automatic	694.575 oz	546423	LF-D-MIDI-A-U	
			Manually rotating	248.062 oz	546428	LF-D-MINI-U
				694.575 oz	546422	LF-D-MIDI-U
		1,329.615 oz		546434	LF-D-MAXI-U	

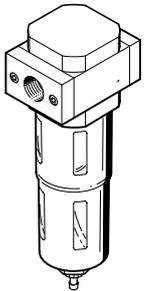
Connecting plates with threaded connection								
	Pneumatic connection, port 1	Grade of filtration	Condensate drain	Product weight	Part no.	Type		
	G1/8	5 µm	Fully automatic	250 g	162618	LF-1/8-D-5M-MINI-A		
					Manually rotating	162610	LF-1/8-D-5M-MINI	
			40 µm		Fully automatic	159616	LF-1/8-D-MINI-A	
		Manually rotating				159612	LF-1/8-D-MINI	
		G1/4			5 µm	Fully automatic	250 g	162619
			700 g					186462
	Manually rotating		250 g	162611		LF-1/4-D-5M-MINI		
			700 g	186460	LF-1/4-D-5M-MIDI			
			40 µm	Fully automatic	250 g	159617		LF-1/4-D-MINI-A
	700 g				186461	LF-1/4-D-MIDI-A		
	Manually rotating	250 g		159613	LF-1/4-D-MINI			
		700 g	186459	LF-1/4-D-MIDI				
		G3/8	5 µm	Fully automatic	250 g	162620	LF-3/8-D-5M-MINI-A	
	700 g					162621	LF-3/8-D-5M-MIDI-A	
	Manually rotating			250 g		162612	LF-3/8-D-5M-MINI	
			700 g	162613		LF-3/8-D-5M-MIDI		
			40 µm	Fully automatic		250 g	162608	LF-3/8-D-MINI-A

## Ordering data

Connecting plates with threaded connection							
	Pneumatic connection, port 1	Grade of filtration	Condensate drain	Product weight	Part no.	Type	
	G3/8	40 µm	Fully automatic	700 g	159577	LF-3/8-D-MIDI-A	
			Manually rotating	250 g	162606	LF-3/8-D-MINI	
				700 g	159576	LF-3/8-D-MIDI	
	G1/2	5 µm	Fully automatic	1,340 g	162622	LF-1/2-D-5M-MIDI-A	
				700 g	186466	LF-1/2-D-5M-MAXI-A	
			Manually rotating	700 g	162614	LF-1/2-D-5M-MIDI	
		1,340 g		186464	LF-1/2-D-5M-MAXI		
		40 µm		Fully automatic	700 g	159579	LF-1/2-D-MIDI-A
			1,340 g		186465	LF-1/2-D-MAXI-A	
	Manually rotating		700 g	159578	LF-1/2-D-MIDI		
	G3/4	5 µm	Fully automatic	700 g	162623	LF-3/4-D-5M-MIDI-A	
				1,340 g	162624	LF-3/4-D-5M-MAXI-A	
			Manually rotating	700 g	162615	LF-3/4-D-5M-MIDI	
		1,340 g		162616	LF-3/4-D-5M-MAXI		
		40 µm		Fully automatic	700 g	162609	LF-3/4-D-MIDI-A
			1,340 g		159618	LF-3/4-D-MAXI-A	
			Manually rotating	700 g	162607	LF-3/4-D-MIDI	
		G1	5 µm	Fully automatic	1,440 g	162625	LF-1-D-5M-MAXI-A
					1,440 g	162617	LF-1-D-5M-MAXI
	Manually rotating			1,440 g	159619	LF-1-D-MAXI-A	
1,440 g			159615	LF-1-D-MAXI			
40 µm			Fully automatic	1,440 g	159619	LF-1-D-MAXI-A	
	1,440 g			159615	LF-1-D-MAXI		

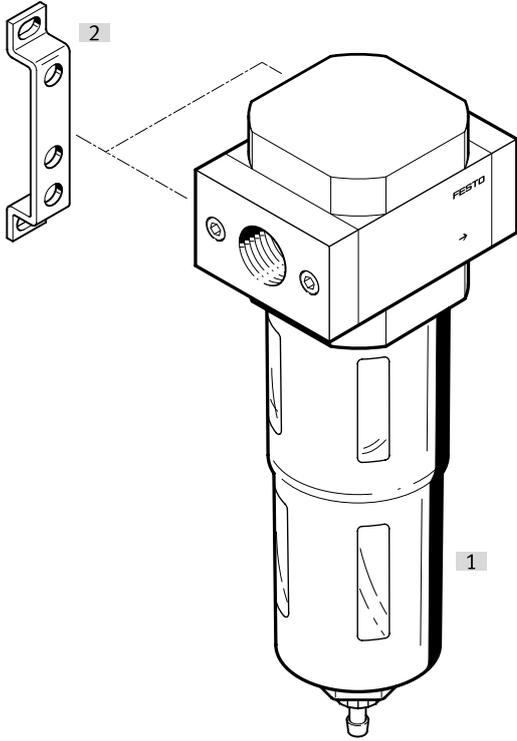
Sub-bases with threaded connection (NPT - not available in all markets)						
	Pneumatic connection, port 1	Grade of filtration	Condensate drain	Part no.	Type	
	1/8 NPT	5 µm	Fully automatic	173679	LF-1/8-D-5M-MINI-A-NPT	
			Manual, non-detenting	173683	LF-1/4-D-5M-MINI-A-NPT	
	1/4 NPT	40 µm		Fully automatic	173681	LF-1/4-D-MINI-A-NPT
			Manual, non-detenting	173680	LF-1/4-D-MINI-NPT	
	3/8 NPT	5 µm	Fully automatic	173687	LF-3/8-D-5M-MINI-A-NPT	
			Manual, non-detenting	173690	LF-3/8-D-5M-MIDI-NPT	
		40 µm	Fully automatic	173685	LF-3/8-D-MINI-A-NPT	
	Manual, non-detenting		173688	LF-3/8-D-MIDI-NPT		
			1/2 NPT	5 µm	Fully automatic	173695
	Manual, non-detenting	173694			LF-1/2-D-5M-MIDI-NPT	
	40 µm	Fully automatic		173693	LF-1/2-D-MIDI-A-NPT	
		Manual, non-detenting		173692	LF-1/2-D-MIDI-NPT	
	3/4 NPT	5 µm	Fully automatic	173699	LF-3/4-D-5M-MIDI-A-NPT	
				173703	LF-3/4-D-5M-MAXI-A-NPT	
			Manual, non-detenting	173698	LF-3/4-D-5M-MIDI-NPT	
		173702		LF-3/4-D-5M-MAXI-NPT		
		40 µm		Fully automatic	173697	LF-3/4-D-MIDI-A-NPT
			173701		LF-3/4-D-MAXI-A-NPT	
	Manual, non-detenting		173700	LF-3/4-D-MAXI-NPT		
	1 NPT	5 µm	Fully automatic	173696	LF-3/4-D-MIDI-NPT	
173707				LF-1-D-5M-MAXI-A-NPT		

## Ordering data

Sub-bases with threaded connection (NPT - not available in all markets)					
	Pneumatic connection, port 1	Grade of filtration	Condensate drain	Part no.	Type
	1 NPT	5 µm	Manual, non-detenting	<b>173706</b>	<b>LF-1-D-5M-MAXI-NPT</b>
		40 µm	Fully automatic	<b>173705</b>	<b>LF-1-D-MAXI-A-NPT</b>
			Manual, non-detenting	<b>173704</b>	<b>LF-1-D-MAXI-NPT</b>

## Peripherals

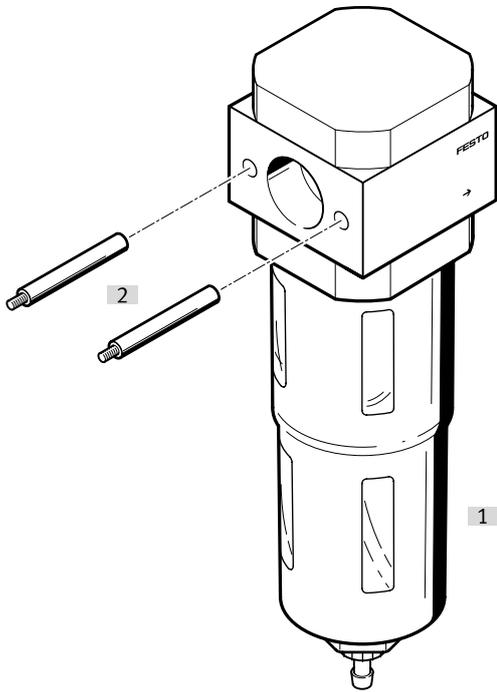
### Peripherals overview – single unit with connecting plates



Accessories		→ Link
Type/order code	Description	
[1] Filter LF-D		<a href="#">lf-d</a>
[2] Mounting bracket HFOE-D		13

## Peripherals

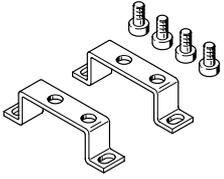
Peripherals overview – individual unit without connecting plates, for service unit component combination



Accessories			→ Link
Type/order code	Description		
[1] Filter LF-D			<a href="#">lf-d</a>
[2] Threaded bolt FRB-D	Included in the scope of delivery		13

## Accessories

## Mounting bracket MS4-WP...

	Short type code	Corrosion resistance class CRC <sup>1)</sup>	Part no.	Type
	HFOE	2 - Moderate corrosion stress	159638	HFOE-D-MINI
			159593	HFOE-D-MIDI/MAXI

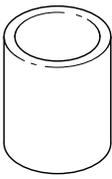
1) More information [www.festo.com/x/topic/crc](http://www.festo.com/x/topic/crc)

## Mounting bracket MS4-WB

	Short type code	Corrosion resistance class CRC <sup>1)</sup>	Part no.	Type
	FRB	2 - Moderate corrosion stress	159595	FRB-D-MIDI
			159643	FRB-D-MAXI
			159642	FRB-D-MINI

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

## Filter cartridges

	Size	Grade of filtration	Part no.	Type
	Maxi	5 µm	159641	LFP-D-MAXI-5M
	Midi		159594	LFP-D-MIDI-5M
	Mini		159640	LFP-D-MINI-5M