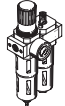
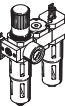

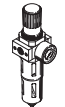
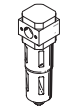
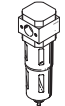
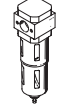
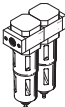
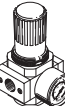


## Filter regulators LFR/LFRS, D series

**FESTO**



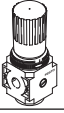
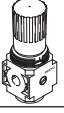
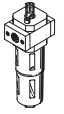
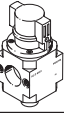
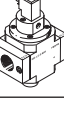
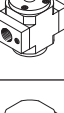
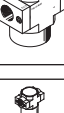
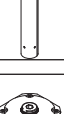


Product range overview – Service unit components, D series, metal

Type	Size	Pneumatic connection										Pressure regulation range [bar]			Grade of filtration [µm]				
		M5	M7	G1/8	G1/4	G3/8	G1/2	G3/4	G1	QS4	QS6	0.5 ...	0.5 ...	2.5 ...	0.01	1	5	40	
<b>Service units</b>																			
<b>FRC/FRCS</b> 	Micro	■	■	■	-	-	-	-	-	■	■	■	-	-	-	-	■	-	
	Mini	-	-	■	■	■	-	-	-	-	■	■	■	-	-	-	■	■	
	Midi	-	-	-	■	■	■	■	-	-	■	■	■	-	-	-	■	■	
	Maxi	-	-	-	-	-	■	■	■	-	-	■	■	-	-	-	■	■	
<b>FRC-K</b> 	Micro	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Mini	-	-	■	■	-	-	-	-	-	-	■	■	-	-	-	-	■	
	Midi	-	-	-	■	■	■	-	-	-	-	■	■	-	-	-	-	■	
	Maxi	-	-	-	-	-	■	■	-	-	-	■	■	-	-	-	-	■	
<b>LFR-K</b> 	Micro	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Mini	-	-	■	■	-	-	-	-	-	-	■	■	-	-	-	-	■	
	Midi	-	-	-	■	■	■	-	-	-	-	■	■	-	-	-	-	■	
	Maxi	-	-	-	-	-	■	■	-	-	-	■	■	-	-	-	-	■	
<b>Individual devices</b>																			
<b>Filter regulators LFR/LFRS</b> 	Micro	■	■	■	-	-	-	-	-	■	■	■	-	-	-	-	■	-	
	Mini	-	-	■	■	■	-	-	-	-	■	■	■	-	-	-	■	■	
	Midi	-	-	-	■	■	■	■	-	-	■	■	■	-	-	-	■	■	
	Maxi	-	-	-	-	-	■	■	■	-	-	■	■	-	-	-	■	■	
<b>Filters LF</b> 	Micro	■	■	■	-	-	-	-	-	■	■	-	-	-	-	-	■	-	
	Mini	-	-	■	■	■	-	-	-	-	-	-	-	-	-	-	■	■	
	Midi	-	-	-	■	■	■	■	-	-	-	-	-	-	-	-	■	■	
	Maxi	-	-	-	-	-	■	■	■	-	-	-	-	-	-	-	■	■	
<b>Fine and micro filters LFMA/LFMB</b> 	Micro	-	-	-	-	-	-	-	-	-	-	-	-	-	-	■	■	-	-
	Mini	-	-	■	■	■	-	-	-	-	-	-	-	-	-	■	■	-	-
	Midi	-	-	-	■	■	■	■	-	-	-	-	-	-	-	■	■	-	-
	Maxi	-	-	-	-	-	■	■	■	-	-	-	-	-	-	■	■	-	-
<b>Activated carbon filters LFX</b> 	Micro	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Mini	-	-	■	■	■	-	-	-	-	-	-	-	-	-	-	-	-	-
	Midi	-	-	-	■	■	■	■	-	-	-	-	-	-	-	-	-	-	-
	Maxi	-	-	-	-	-	■	■	■	-	-	-	-	-	-	-	-	-	-
<b>Filter combinations LFMB</b> 	Micro	-	-	-	-	-	-	-	-	-	-	-	-	-	-	■	■	-	-
	Mini	-	-	■	■	■	-	-	-	-	-	-	-	-	-	■	■	-	-
	Midi	-	-	-	■	■	■	■	-	-	-	-	-	-	-	■	■	-	-
	Maxi	-	-	-	-	-	■	■	■	-	-	-	-	-	-	■	■	-	-
<b>Pressure regulators LR/LRS</b> 	Micro	■	■	■	-	-	-	-	-	■	■	■	-	-	-	-	-	-	-
	Mini	-	-	■	■	■	-	-	-	-	-	■	■	-	-	-	-	-	-
	Midi	-	-	-	■	■	■	■	-	-	-	■	■	-	-	-	-	-	-
	Maxi	-	-	-	-	-	■	■	■	-	-	■	■	-	-	-	-	-	-

## Product range overview – Service unit components, D series, metal

Type	Size	Bowl guard		Condensate drain			Pressure indicator		Actuator lock		Supply voltage			Options			→ Page/ Internet
		Metal bowl guard	Plastic bowl	Manual	Semi-automatic	Fully automatic	With pressure gauge	Without pressure gauge	Rotary knob with latch	Rotary knob with integrated lock	24 V DC	110 V AC	230 V AC	Directly actuated pressure regulator with integrated return flow function	Pilot actuated pressure regulator with integrated return flow function	Differential pressure display	
<b>Service units</b>																	
<b>FRC/FRCS</b>	Micro	-	■	■	■	-	■	■	■	-	-	-	-	-	-	-	frc
	Mini	■	-	■	-	■	■	■	■	■	-	-	-	-	-	-	
	Midi	■	-	■	-	■	■	■	■	■	-	-	-	-	-	-	
	Maxi	■	-	■	-	■	■	■	■	■	-	-	-	■	■	-	
<b>FRC-K</b>	Micro	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	frc
	Mini	■	-	■	-	■	■	-	■	-	■	-	-	-	-	-	
	Midi	■	-	■	-	■	■	-	■	-	■	-	-	-	-	-	
	Maxi	■	-	■	-	■	■	-	■	-	■	-	-	■	■	-	
<b>LFR-K</b>	Micro	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	frc
	Mini	■	-	■	-	■	■	-	■	■	■	-	-	-	-	-	
	Midi	■	-	■	-	■	■	-	■	■	■	-	-	-	-	-	
	Maxi	■	-	■	-	■	■	-	■	■	■	-	-	■	■	-	
<b>Individual devices</b>																	
Filter regulators <b>LFR/LFRS</b>	Micro	-	■	■	■	-	■	■	■	-	-	-	-	-	-	-	lfr
	Mini	■	-	■	-	■	■	■	■	■	-	-	-	-	-	-	
	Midi	■	-	■	-	■	■	■	■	■	-	-	-	-	-	-	
	Maxi	■	-	■	-	■	■	■	■	■	-	-	-	■	■	-	
Filters <b>LF</b>	Micro	-	■	■	■	-	-	-	-	-	-	-	-	-	-	-	lf
	Mini	■	-	■	-	■	-	-	-	-	-	-	-	-	-	-	
	Midi	■	-	■	-	■	-	-	-	-	-	-	-	-	-	-	
	Maxi	■	-	■	-	■	-	-	-	-	-	-	-	-	-	-	
Fine and micro filters <b>LFMA/LFMB</b>	Micro	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	lfma, lfmb
	Mini	■	-	■	-	■	-	-	-	-	-	-	-	-	-	■	
	Midi	■	-	■	-	■	-	-	-	-	-	-	-	-	-	■	
	Maxi	■	-	■	-	■	-	-	-	-	-	-	-	-	-	■	
Activated carbon filters <b>LFX</b>	Micro	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	lfx
	Mini	■	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Midi	■	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Maxi	■	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Filter combinations <b>LFMBA</b>	Micro	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	lfmba
	Mini	■	-	■	-	■	-	-	-	-	-	-	-	-	-	■	
	Midi	■	-	■	-	■	-	-	-	-	-	-	-	-	-	■	
	Maxi	■	-	■	-	■	-	-	-	-	-	-	-	-	-	■	
Pressure regulators <b>LR/LRS</b>	Micro	-	-	-	-	-	■	■	■	-	-	-	-	-	-	-	lr
	Mini	-	-	-	-	-	■	■	■	■	-	-	-	■	-	-	
	Midi	-	-	-	-	-	■	■	■	■	-	-	-	■	-	-	
	Maxi	-	-	-	-	-	■	■	■	■	-	-	-	■	■	-	

Product range overview – Service unit components, D series, metal

Type	Size	Pneumatic connection										Pressure regulation range [bar]		
		M5	M7	G1/8	G1/4	G3/8	G1/2	G3/4	G1	QS4	QS6	0.5 ... 7	0.5 ... 12	
<b>Individual devices</b>														
Pressure regulators <b>LRB/LRBS</b>		Micro	–	–	–	■	–	–	–	–	–	–	■	■
		Mini	–	–	–	–	–	–	–	–	–	–	■	■
		Midi	–	–	–	–	■	–	–	–	–	–	■	■
		Maxi	–	–	–	–	–	–	–	–	–	–	–	–
Pressure regulator manifolds <b>LRB-K</b>		Micro	–	–	–	■	■	–	–	–	–	–	■	■
		Mini	–	–	–	–	■	■	–	–	–	–	■	■
		Midi	–	–	–	–	■	■	–	–	–	–	■	■
		Maxi	–	–	–	–	–	–	–	–	–	–	–	–
Lubricators <b>LOE</b>		Micro	■	■	■	–	–	–	–	–	■	■	–	–
		Mini	–	–	■	■	■	–	–	–	–	–	–	–
		Midi	–	–	–	■	■	■	■	–	–	–	–	–
		Maxi	–	–	–	–	–	■	■	■	–	–	–	–
On/off valves <b>HE</b>		Micro	–	–	–	–	–	–	–	–	–	–	–	–
		Mini	–	–	■	■	■	–	–	–	–	–	–	–
		Midi	–	–	–	■	■	■	■	–	–	–	–	–
		Maxi	–	–	–	–	–	■	■	■	–	–	–	–
On/off valves <b>HEE</b>		Micro	–	–	–	–	–	–	–	–	–	–	–	–
		Mini	–	–	■	■	■	–	–	–	–	–	–	–
		Midi	–	–	–	■	■	■	■	–	–	–	–	–
		Maxi	–	–	–	–	–	■	■	■	–	–	–	–
On/off valves <b>HEP</b>		Micro	–	–	–	–	–	–	–	–	–	–	–	–
		Mini	–	–	■	■	■	–	–	–	–	–	–	–
		Midi	–	–	–	■	■	■	■	–	–	–	–	–
		Maxi	–	–	–	–	–	■	■	■	–	–	–	–
Soft-start valves <b>HEL</b>		Micro	–	–	–	–	–	–	–	–	–	–	–	–
		Mini	–	–	■	■	■	–	–	–	–	–	–	–
		Midi	–	–	–	■	■	■	■	–	–	–	–	–
		Maxi	–	–	–	–	–	■	■	■	–	–	–	–
Membrane air dryers <b>LDM1</b>		Micro	–	–	–	–	–	–	–	–	–	–	–	–
		Mini	–	–	–	–	–	–	–	–	–	–	–	–
		Midi	–	–	–	–	–	–	–	–	–	–	–	–
		Maxi	–	–	–	–	–	■	■	■	–	–	–	–
Branching modules <b>FRM</b>		Micro	–	–	–	–	–	–	–	–	–	–	–	–
		Mini	–	–	■	■	■	–	–	–	–	–	–	–
		Midi	–	–	–	■	■	■	■	–	–	–	–	–
		Maxi	–	–	–	–	–	■	■	■	–	–	–	–
Distributor block <b>FRZ</b>		Micro	–	–	–	–	–	–	–	–	–	–	–	–
		Mini	–	–	–	–	–	–	–	–	–	–	–	–
		Midi	–	–	–	–	–	–	–	–	–	–	–	–
		Maxi	–	–	–	–	–	–	–	–	–	–	–	–

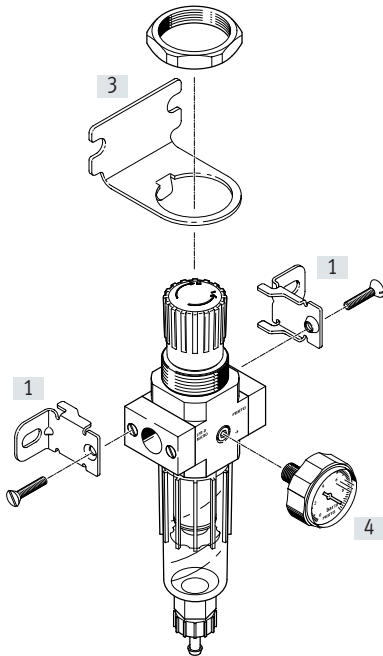
## Product range overview – Service unit components, D series, metal

Type	Size	Bowl guard		Pressure indicator		Actuator lock		Supply voltage			Options		→ Page/ Internet
		Metal bowl guard	Plastic bowl	With pressure gauge	Without pressure gauge	Rotary knob with latch	Rotary knob with integrated lock	24 V DC	110 V AC	230 V AC	With non-return function	Pressure switch	
<b>Individual devices</b>													
Pressure regulators <b>LRB/LRBS</b>	Micro	-	-	-	■	■	■	-	-	-	-	-	lrb
	Mini	-	-	-	■	■	■	-	-	-	-	-	
	Midi	-	-	-	■	■	■	-	-	-	-	-	
	Maxi	-	-	-	■	■	■	-	-	-	-	-	
Pressure regulator manifolds <b>LRB-K</b>	Micro	-	-	-	■	■	-	-	-	-	-	-	lrb
	Mini	-	-	-	■	■	-	-	-	-	-	-	
	Midi	-	-	-	■	■	-	-	-	-	-	-	
	Maxi	-	-	-	■	■	-	-	-	-	-	-	
Lubricators <b>LOE</b>	Micro	-	■	-	■	-	-	-	-	-	-	-	loe
	Mini	■	-	-	■	-	-	-	-	-	-	-	
	Midi	■	-	-	■	-	-	-	-	-	-	-	
	Maxi	■	-	-	■	-	-	-	-	-	-	-	
On/off valves <b>HE</b>	Micro	-	-	-	■	■	-	-	-	-	-	-	he
	Mini	-	-	-	■	■	-	-	-	-	-	-	
	Midi	-	-	-	■	■	-	-	-	-	-	-	
	Maxi	-	-	-	■	■	-	-	-	-	-	-	
On/off valves <b>HEE</b>	Micro	-	-	-	■	-	-	■	■	■	-	-	hee
	Mini	-	-	-	■	-	-	■	■	■	-	-	
	Midi	-	-	-	■	-	-	■	■	■	-	-	
	Maxi	-	-	-	■	-	-	■	■	■	-	-	
On/off valves <b>HEP</b>	Micro	-	-	-	■	-	-	-	-	-	-	-	hep
	Mini	-	-	-	■	-	-	-	-	-	-	-	
	Midi	-	-	-	■	-	-	-	-	-	-	-	
	Maxi	-	-	-	■	-	-	-	-	-	-	-	
Soft-start valves <b>HEL</b>	Micro	-	-	-	■	-	-	-	-	-	-	-	hel
	Mini	-	-	-	■	-	-	-	-	-	-	-	
	Midi	-	-	-	■	-	-	-	-	-	-	-	
	Maxi	-	-	-	■	-	-	-	-	-	-	-	
Membrane air dryers <b>LDM1</b>	Micro	-	-	-	-	-	-	-	-	-	-	-	ldm1
	Mini	-	-	-	-	-	-	-	-	-	-	-	
	Midi	-	-	-	-	-	-	-	-	-	-	-	
	Maxi	■	-	-	■	-	-	-	-	-	-	-	
Branching modules <b>FRM</b>	Micro	-	-	-	■	-	-	-	-	-	■	■	frm
	Mini	-	-	-	■	-	-	-	-	-	■	■	
	Midi	-	-	-	■	-	-	-	-	-	■	■	
	Maxi	-	-	-	■	-	-	-	-	-	■	■	
Distributor block <b>FRZ</b>	Micro	-	-	-	■	-	-	-	-	-	-	-	frz
	Mini	-	-	-	■	-	-	-	-	-	-	-	
	Midi	-	-	-	■	-	-	-	-	-	-	-	
	Maxi	-	-	-	■	-	-	-	-	-	-	-	

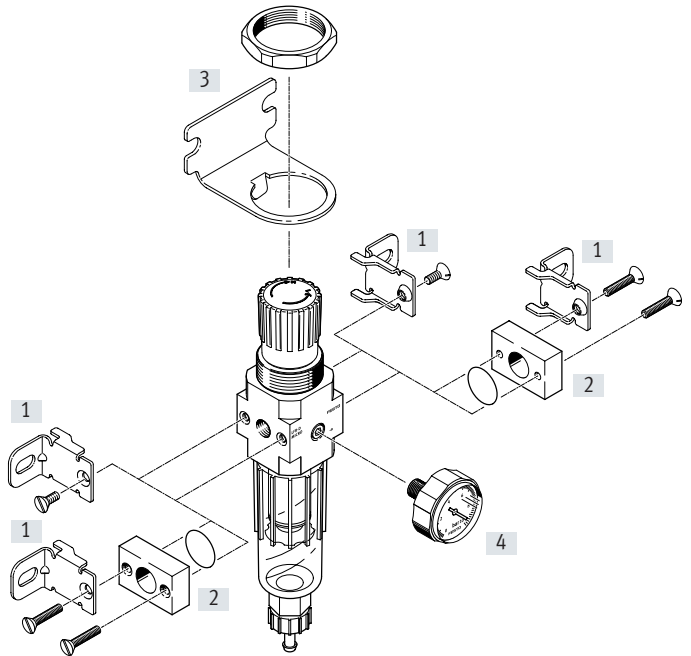
## Peripherals overview

### Micro

Individual unit with connecting plates, connection size G1/8, QS-4 or QS-6



Individual unit without connecting plates, for service unit combination  
Connecting thread M5 or M7 in the housing



### Mounting attachments and accessories

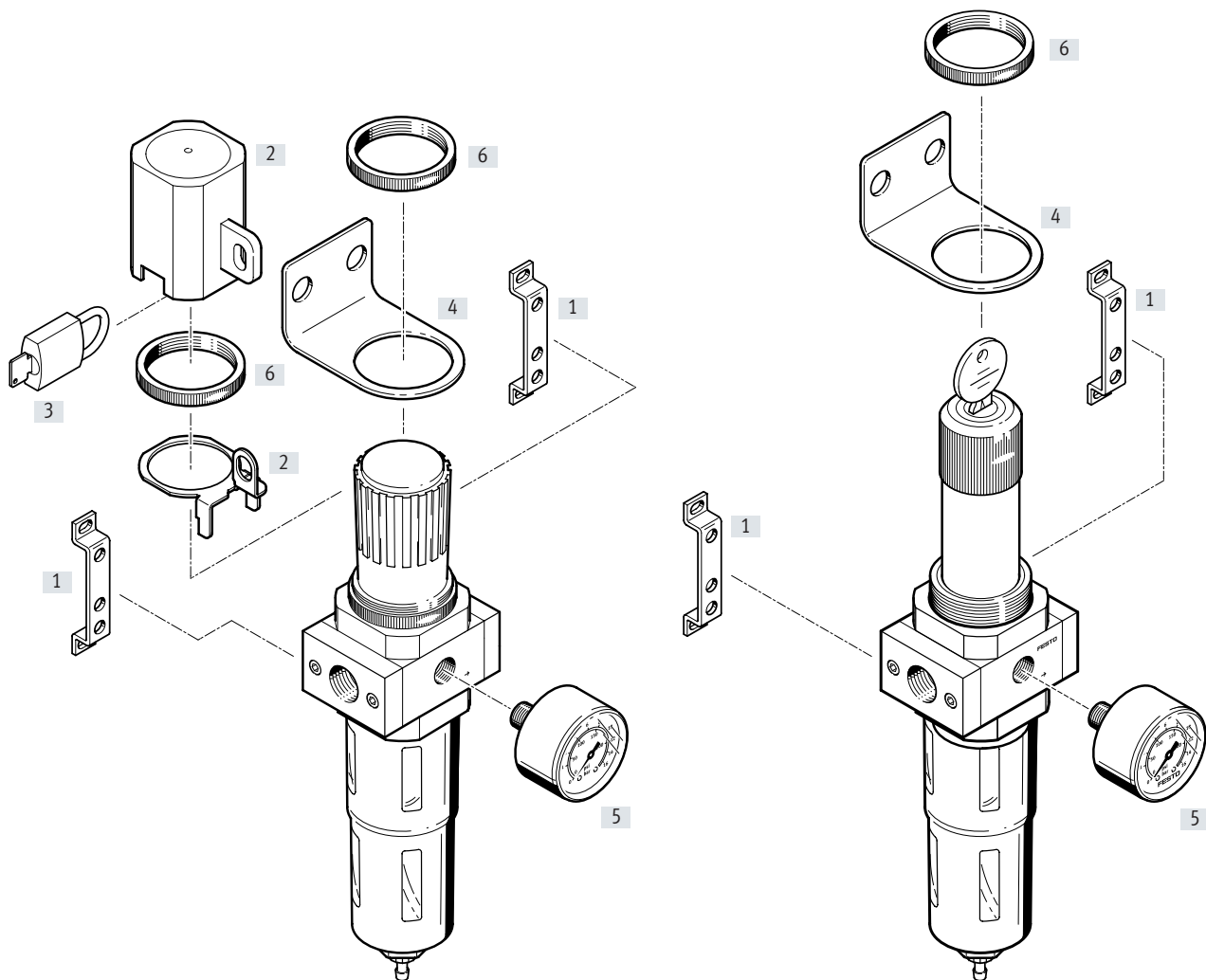
	Single device		Combination		→ Page/Internet
	With connecting plates	Without connecting plates	With connecting plates	Without connecting plates	
[1] Mounting bracket HFOE	■	■	■	■	hfoe-d
[2] Connection set PBL	-	■	-	■	pbl
[3] Mounting bracket HRS	■	■	■	■	hrs-d
[4] Pressure gauge MA-27	■	■	■	■	28

Peripherals overview

Mini/Midi/Maxi

Filter regulator LFR

Filter regulator LFRS, lockable



Mounting attachments and accessories

	Rotary knob with latch	Rotary knob, lockable	→ Page/Internet
[1] Mounting bracket HFOE	■	■	hfoe-d
[2] Regulator lock LRVS	■	-	lrvs-d
[3] Padlock LRVS-D	■	-	lrvs-d
[4] Mounting bracket HR-D	■	■	hr-d
[5] Pressure gauge MA	■	■	28
[6] Knurled nut (included in the scope of delivery) HMR	■	■	-

## Type codes

001	Series
<b>LFR</b>	Filter regulator
<b>LFRS</b>	Filter regulator, lockable

002	Pneumatic connection
<b>M5</b>	Female thread M5
<b>M7</b>	Female thread M7
<b>QS4</b>	Push-in connector 4 mm
<b>QS6</b>	Push-in connector 6 mm
<b>1/8</b>	Female thread G1/8
<b>1/4</b>	Female thread G1/4
<b>3/8</b>	Female thread G3/8
<b>1/2</b>	Female thread G1/2
<b>3/4</b>	Female thread G3/4
<b>1</b>	Female thread G1

003	Version
<b>D</b>	D series, metal

004	Pressure regulation range
<b>7</b>	0.5 ... 7 bar (0.05 ... 0.7 MPa)
	0.5 ... 12 bar (0.05 ... 1.2 MPa)

005	Grade of filtration
	40 µm
<b>5M</b>	5 µm

006	Pressure gauge
	With pressure gauge
<b>O</b>	Without pressure gauge

007	Function
	Directly actuated pressure regulator (MICRO, MINI, MIDI), pilot actuated pressure regulator (only MAXI)
<b>DI</b>	Directly actuated pressure regulator with integrated return flow function (only MAXI)

008	Size
<b>MICRO</b>	Grid dimension 25 mm (without connecting plates)
<b>MINI</b>	Grid dimension 40 mm (without connecting plates)
<b>MIDI</b>	Grid dimension 55 mm (without connecting plates)
<b>MAXI</b>	Grid dimension 66 mm (without connecting plates)

009	Condensate drain
	Manually rotating
<b>H</b>	Semi-automatic
<b>A</b>	Fully automatic

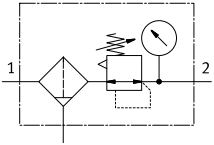
010	Display unit
	Bar/psi/without
<b>MPA</b>	MPa



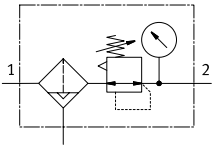
## Datasheet

### LFR/LFRS

Condensate drain, manual, with pressure gauge

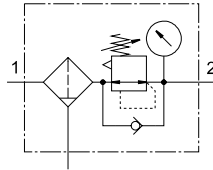


Condensate drain, semi- or fully automatic, with pressure gauge

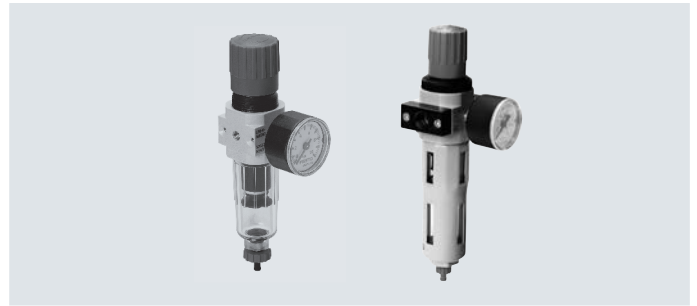
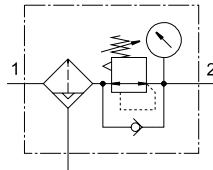





### LFR/LFRS-...-DI-MAXI

Condensate drain, manual, with pressure gauge



Condensate drain, fully automatic, with pressure gauge



-  Flow rate  
110 ... 11000 l/min
-  Temperature range  
-10 ... +60°C
-  Operating pressure  
1 ... 16 bar

- Space-saving design with filter and regulator in a single unit
- Good particle separation and high flow rate
- Good regulation characteristics with minimal hysteresis
- Two pressure regulation ranges: 0.5... 7 bar and 0.5 ... 12 bar
- Two pressure gauge connections for flexible installation
- Setting values are secured by locking the rotary knob
- Choice of manual, semi-automatic or fully automatic condensate drain
- Choice of 5 µm or 40 µm filter inserts
- New filter cartridges → page 27
- Pressure sensor (optional) → page 28

General technical data				
Size	Micro	Mini	Midi	Maxi
Pneumatic connection 1, 2 <sup>1)</sup>	M5 <sup>2)</sup> , M7 <sup>2)</sup> , G1/8, QS-4 <sup>3)</sup> , QS-6 <sup>3)</sup>	G1/8, G1/4, G3/8	G1/4, G3/8, G1/2, G3/4	G1/2, G3/4, G1
Design	Filter regulator with/without pressure gauge			
Type of mounting	With accessories In-line installation			
Mounting position	Vertical ±5°			
Grade of filtration [µm]	5	5 40		
Air quality class at the output	Compressed air to ISO 8573-1:2010 [6:8:4] (grade of filtration 5 µm)			
	Compressed air to ISO 8573-1:2010 [7:8:4] (grade of filtration 40 µm)			
	Inert gases			
Bowl guard	-		Metal bowl guard	
Condensate drain	Manual		Semi-automatic Fully automatic	
Actuator lock	Rotary knob with latch			
	-		Rotary knob with integrated lock	
Pressure regulation range [bar]	0.5 ... 7	0.5 ... 7 0.5 ... 12		
Max. pressure hysteresis [bar]	0.3	0.2	0.4	
Pressure indicator	With pressure gauge			
	Prepared for M5	Prepared for G1/8	Prepared for G1/4	Prepared for G1/4
Max. condensate volume [cm <sup>3</sup> ]	3	22	43	80 <sup>4)</sup>

- 1) Connecting plates with threaded connection
  - 2) Without connecting plates, connection thread in the housing.
  - 3) Connecting plates with push-in connector
  - 4) The max. condensate volume for the LFR/LFRS-...-DI-MAXI is 43 cm<sup>3</sup>.
- † Note: This product conforms to ISO 1179-1 and ISO 228-1.

## Datasheet

Standard nominal flow rate $q_{nN}^{1)}$ [l/min]						
Size		Micro				
Pneumatic connection 1, 2		M5	M7	G1/8	QS-4	QS-6
Pressure regulation range	0.5 ... 7 bar	110	280	410	150	410

1) Measured at  $p_1 = 10$  bar,  $p_2 = 6$  bar and  $\Delta p = 1$  bar.

† 125 l/min must be available for the semi-automatic condensate drain to close fully.

Standard nominal flow rate $q_{nN}^{1)}$ [l/min]											
Size		Mini			Midi				Maxi		
Pneumatic connection 1, 2		G1/8	G1/4	G3/8	G1/4	G3/8	G1/2	G3/4	G1/2	G3/4	G1
Pressure regulation range, grade of filtration	0.5 ... 7 bar, 40 $\mu$ m	900	1500	1700	2100	3200	3900	4000	9500 (7600) <sup>2)</sup>	10000 (7700) <sup>2)</sup>	11000 (7800) <sup>2)</sup>
	0.5 ... 12 bar, 5 $\mu$ m	650	1200	1350	1600	2400	2600	2600	7500 (4000) <sup>2)</sup>	7600 (5800) <sup>2)</sup>	8000 (6000) <sup>2)</sup>
	0.5 ... 12 bar, 40 $\mu$ m	750	1400	1600	2000	3100	3400	3400	9400 (4500) <sup>2)</sup>	9700 (6800) <sup>2)</sup>	10000 (7000) <sup>2)</sup>

1) Measured at  $p_1 = 10$  bar,  $p_2 = 6$  bar and  $\Delta p = 1$  bar.

2) With the LFR/LFRS-...-DI.

† 125 l/min must be available for the fully automatic condensate drain to close correctly.

Operating and environmental conditions					
Condensate drain		Manual		Semi-automatic	Fully automatic
Size		Micro		Micro	Mini/Midi/Maxi
Operating pressure	[bar]	1 ... 10		1 ... 10	2 ... 12
Operating medium		Compressed air to ISO 8573-1:2010 [7:9:-]		Compressed air to ISO 8573-1:2010 [-:9:-]	Compressed air to ISO 8573-1:2010 [7:9:-]
		Inert gases			
Ambient temperature	[°C]	-10 ... +60			+5 ... +60
Temperature of medium	[°C]	-10 ... +60			+5 ... +60
Storage temperature	[°C]	-10 ... +60			
Corrosion resistance class CRC <sup>1)</sup>		2			

1) Corrosion resistance class CRC 2 to Festo standard FN 940070

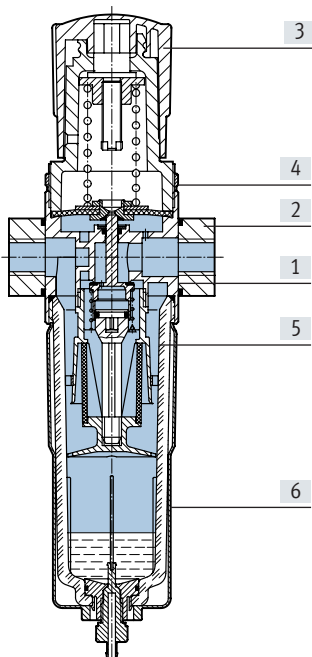
Moderate corrosion stress. Indoor applications in which condensation can occur. External visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment.

Weights [g]						
Size	Micro		Mini	Midi	Maxi	
	Connecting thread	Connecting plate			Connection G1/2, G3/4	Connection G1
<b>With pressure gauge</b>						
LFR-...	104	124	460	920	1370	1470
LFR-...-DI	-	-	-	-	1670	1670
LFRS-...	-	-	560	1160	1470	1570
LFRS-...-DI	-	-	-	-	1950	1950
<b>Without pressure gauge</b>						
LFR-...	94	114	410	830	1300	1400
LFR-...-DI	-	-	-	-	1600	1600
LFRS-...	-	-	510	1070	1400	1500
LFRS-...-DI	-	-	-	-	1880	1880

Datasheet

Materials

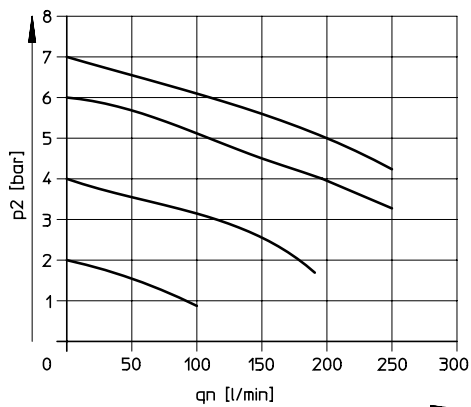
Sectional view



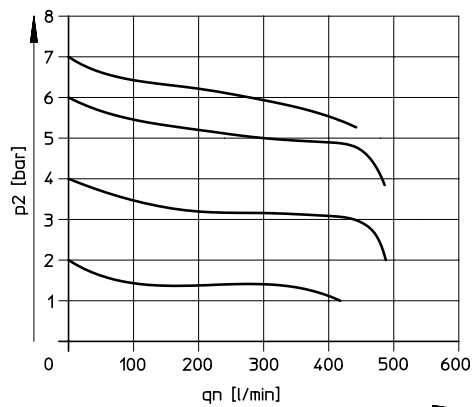
Size	Micro	Mini/Midi/Maxi	
		With pressure gauge	Without pressure gauge
[1] Housing	Wrought aluminium alloy	Die-cast zinc	
[2] Connecting plates	Wrought aluminium alloy	Die-cast zinc/aluminium	
[3] Regulating knob	POM	PA	
[4] Knurled nut	-	Aluminium	
[5] Bowl	PC	PC	
[6] Metal bowl guard	-	Aluminium	
- Seals	NBR	NBR	
Note on materials	RoHS-compliant	RoHS-compliant	
	-	-	Free of copper and PTFE (only LFR)

Standard flow rate  $q_n$  as a function of output pressure  $p_2$

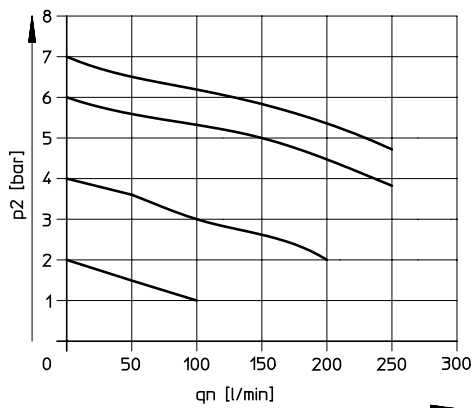
LFR-M5-...-MICRO



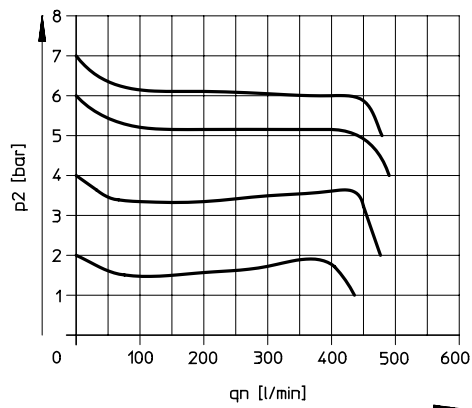
LFR-M7-...-MICRO B



LFR-QS4-...-MICRO



LFR-QS6-...-MICRO and LFR-1/8-...-MICRO

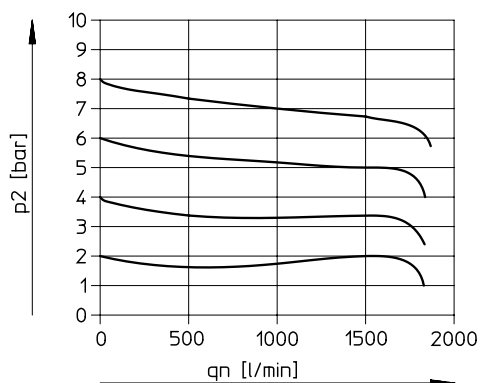


Primary pressure  $p_1 = 10 \text{ bar}$

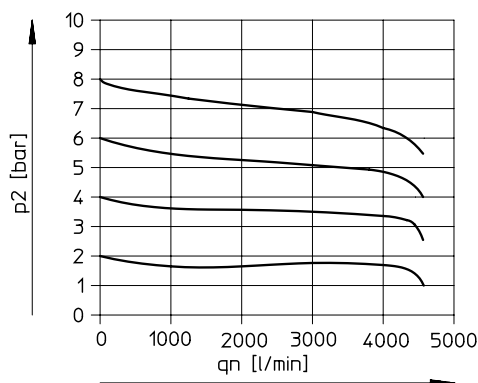
Datasheet

Standard flow rate  $q_n$  as a function of output pressure  $p_2$

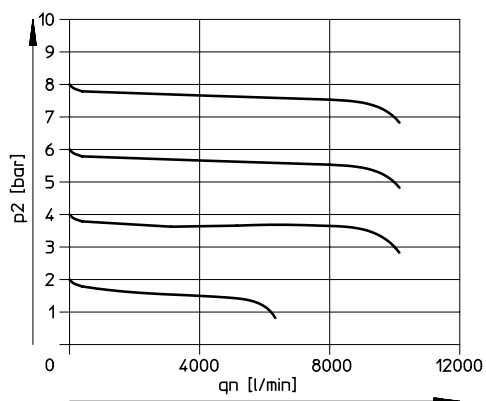
LFR/LFRS-1/4-D-MINI



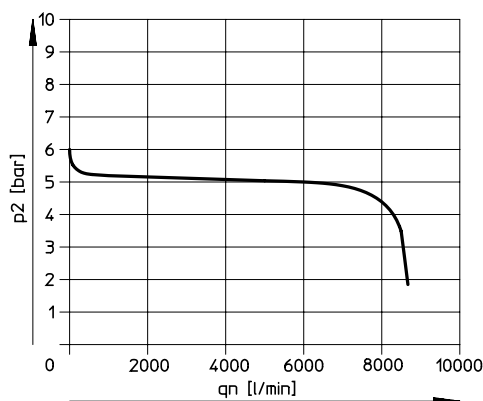
LFR/LFRS-1/2-D-MIDI



LFR/LFRS-1-D-MAXI



LFR/LFRS-1-D-DI-MAXI

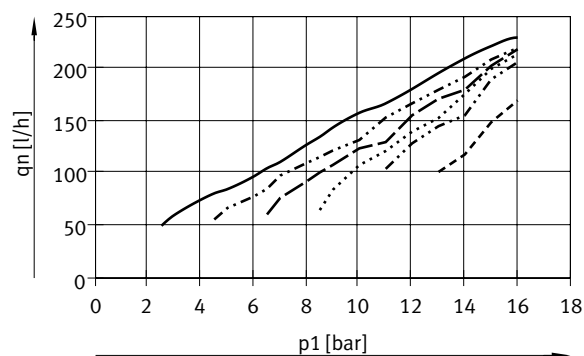


Primary pressure  $p_1 = 10$  bar

**Note**  
 In order to improve the control performance, internal air consumption depending on the primary pressure is integrated into the design with the LFR/LFRS-...-MAXI.

Internal air consumption  $q_n$  as a function of input pressure  $p_1$

LFR/LFRS-...-MAXI



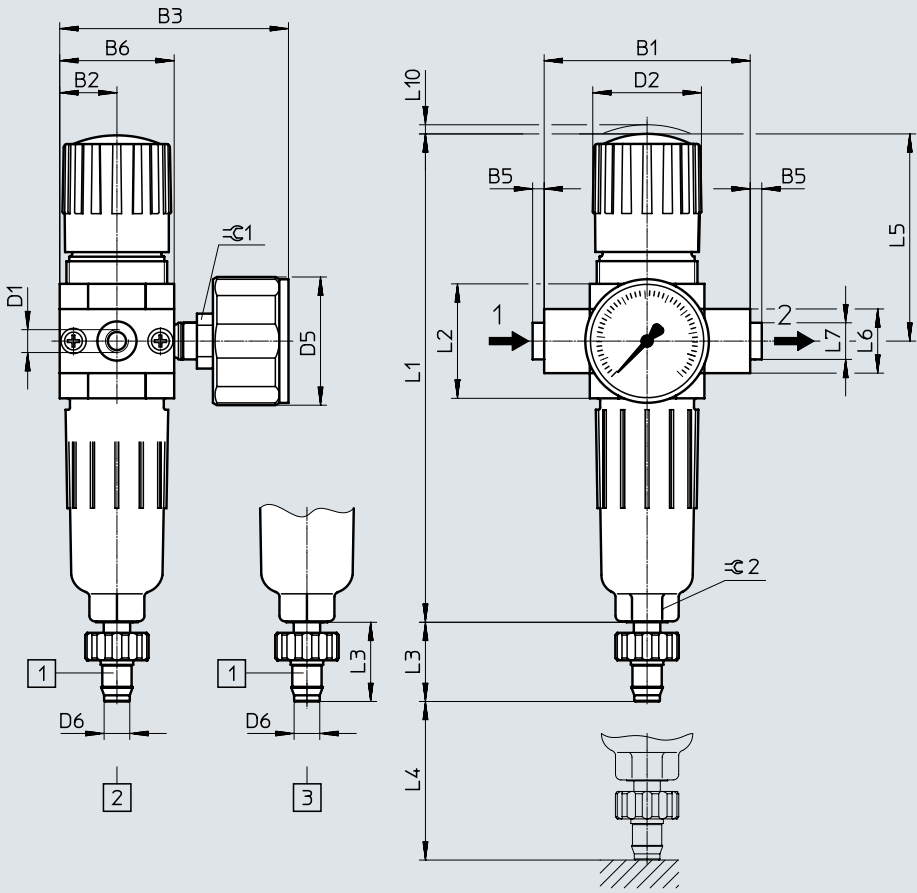
- $p_2 = 2$  bar
- · - · -  $p_2 = 4$  bar
- - -  $p_2 = 6$  bar
- · · · ·  $p_2 = 8$  bar
- · - · -  $p_2 = 10$  bar
- - -  $p_2 = 12$  bar

Datasheet

Dimensions

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

Micro



[1] Barbed connector for plastic tubing PUN(-H)-8x1.25      [2] Manual condensate drain      [3] Semi-automatic condensate drain      → Flow direction

Type	B1	B2	B3	B5	B6	D1	D2 ∅	D5 ∅	D6 ∅
LFR-M5-...-MICRO (H)	25	12.5	50	-	25	M5	~24	28	5.6
LFR-M7-...-MICRO (H) B						M7			
LFR-1/8-...-MICRO (H)	45	12.5	50	-2.5	25	G1/8	~24	28	5.6
LFR-QS4-...-MICRO (H)						QS-4			
LFR-QS6-...-MICRO (H)						QS-6			

Type	L1	L2	L3	L4 min.	L5	L6	L7	L10	≙ 1	≙ 2
LFR-M5-...-MICRO (H)	107.5	26	~17.3	60	46	14	-	2	12	12
LFR-M7-...-MICRO (H) B							-			
LFR-1/8-...-MICRO (H)							~8			
LFR-QS4-...-MICRO (H)							~10			
LFR-QS6-...-MICRO (H)							~10			

• Note: This product conforms to ISO 1179-1 and ISO 228-1.

Datasheet

Dimensions

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

Mini/Midi/Maxi

[1] Barbed connector for plastic tubing PUN(-H)-8x1.25  
 [2] Installation dimension  
 [4] Metal bowl guard  
 [5] Second pressure gauge connection  
 [6] Manual condensate drain  
 [7] Fully automatic condensate drain  
 → Flow direction

Type	B1	B2	B3	B4	B6	D1	D2 ∅	D3	D4	D5 ∅	D6 ∅	D9 ∅
<b>Mini</b>												
LFR/LFRS-1/8-D-MINI (A)	64	20	76	~52	40	G1/8	31	M36x1.5	M4	39	5.6	38
LFR/LFRS-1/4-D-MINI (A)						G1/4						
LFR/LFRS-3/8-D-MINI (A)	70	G3/8										
<b>Midi</b>												
LFR/LFRS-1/4-D-MIDI (A)	~85	27.5	~94.5	~70	55	G1/4	50	M52x1.5	M5	39	5.6	52
LFR/LFRS-3/8-D-MIDI (A)						G3/8						
LFR/LFRS-1/2-D-MIDI (A)						G1/2						
LFR/LFRS-3/4-D-MIDI (A)						G3/4						
<b>Maxi</b>												
LFR/LFRS-1/2-D-MAXI (A)	96	33	106	80	66	G1/2	31	M36x1.5	M5	39	5.6	65
LFR/LFRS-1/2-D-DI-MAXI (A)			105				49	M52x1.5				
LFR/LFRS-3/4-D-MAXI (A)			106	49		31	M36x1.5					
LFR/LFRS-3/4-D-DI-MAXI (A)			105			49	M52x1.5					
LFR/LFRS-1-D-MAXI (A)	116		106	91		G1	31	M36x1.5				
LFR/LFRS-1-D-DI-MAXI (A)			105				49	M52x1.5				

† Note: This product conforms to ISO 1179-1 and ISO 228-1.

## Datasheet

Type	L1	L2	L3	L4 min.	L5	L6	L8	L9	L10	L11 ±0.2	L15 max.	T1 min.	≅ 1	≅ 2
<b>Mini</b>														
LFR/LFRS-1/8-D-MINI (A)	192.9	40	15 (19) <sup>1)</sup>	60	~69	20	98	60	3	11	3	7	14	22
LFR/LFRS-1/4-D-MINI (A)														
LFR/LFRS-3/8-D-MINI (A)														
<b>Midi</b>														
LFR/LFRS-1/4-D-MIDI (A)	250	55 ±0.1	15 (19) <sup>1)</sup>	80	99	32 ±0.3	130	60	3	22	5	8	14	24
LFR/LFRS-3/8-D-MIDI (A)														
LFR/LFRS-1/2-D-MIDI (A)														
LFR/LFRS-3/4-D-MIDI (A)														
<b>Maxi</b>														
LFR/LFRS-1/2-D-MAXI (A)	252	66	15 (19) <sup>1)</sup>	90	82	32	111	60	3	22	4	8	14	24
LFR/LFRS-1/2-D-DI-MAXI (A)	275				~105	32	135		4					
LFR/LFRS-3/4-D-MAXI (A)	252				82	32	111		3					
LFR/LFRS-3/4-D-DI-MAXI (A)	275				~105	36	135		4					
LFR/LFRS-1-D-MAXI (A)	252				82	40	111		3					
LFR/LFRS-1-D-DI-MAXI (A)	275				~105	41	135		4					

1) Value in brackets refers to the fully automatic condensate drain.

## Datasheet

Ordering data					
Pressure regulation range 0.5 ... 7 bar					
Condensate drain	Size	Connection	Grade of filtration 5 µm		
			Part no.	Type	
<b>With pressure gauge, outer scale in bar</b>					
Manual	Micro	<b>Without connecting plates, connection thread in the housing</b>			
		M5	526273	LFR-M5-D-7-5M-MICRO	
		M7	534184	LFR-M7-D-7-5M-MICRO-B	
		<b>Connecting plates with threaded connection</b>			
		G1/8	526277	LFR-1/8-D-7-5M-MICRO	
		<b>Connecting plates with push-in connector</b>			
		QS-4	526289	LFR-QS4-D-7-5M-MICRO	
		QS-6	526293	LFR-QS6-D-7-5M-MICRO	
Semi-automatic	Micro	<b>Without connecting plates, connection thread in the housing</b>			
		M5	526274	LFR-M5-D-7-5M-MICRO-H	
		M7	534185	LFR-M7-D-7-5M-MICRO-H-B	
		<b>Connecting plates with threaded connection</b>			
		G1/8	526278	LFR-1/8-D-7-5M-MICRO-H	
		<b>Connecting plates with push-in connector</b>			
		QS-4	526290	LFR-QS4-D-7-5M-MICRO-H	
		QS-6	526294	LFR-QS6-D-7-5M-MICRO-H	
<b>Without pressure gauge</b>					
Manual	Micro	<b>Without connecting plates, connection thread in the housing</b>			
		M5	526275	LFR-M5-D-7-0-5M-MICRO	
		M7	534186	LFR-M7-D-7-0-5M-MICRO-B	
		<b>Connecting plates with threaded connection</b>			
		G1/8	526279	LFR-1/8-D-7-0-5M-MICRO	
		<b>Connecting plates with push-in connector</b>			
		QS-4	526291	LFR-QS4-D-7-0-5M-MICRO	
		QS-6	526295	LFR-QS6-D-7-0-5M-MICRO	
Semi-automatic	Micro	<b>Without connecting plates, connection thread in the housing</b>			
		M5	526276	LFR-M5-D-7-0-5M-MICRO-H	
		M7	534187	LFR-M7-D-7-0-5M-MICRO-H-B	
		<b>Connecting plates with threaded connection</b>			
		G1/8	526280	LFR-1/8-D-7-0-5M-MICRO-H	
		<b>Connecting plates with push-in connector</b>			
		QS-4	526292	LFR-QS4-D-7-0-5M-MICRO-H	
		QS-6	526296	LFR-QS6-D-7-0-5M-MICRO-H	



Datasheet

Ordering data

Pressure regulation range 0.5 ... 12 bar, rotary knob with latch, connecting plates with threaded connection

Condensate drain	Size	Connection	Grade of filtration 5 µm		Grade of filtration 40 µm	
			Part no.	Type	Part no.	Type

**With pressure gauge, outer scale in bar, inner scale in psi**

Manual	Mini	G1/8	162718	LFR-1/8-D-5M-MINI	159630	LFR-1/8-D-MINI	
		G1/4	162719	LFR-1/4-D-5M-MINI	159631	LFR-1/4-D-MINI	
		G3/8	162720	LFR-3/8-D-5M-MINI	162682	LFR-3/8-D-MINI	
	Midi	G1/4	186483	LFR-1/4-D-5M-MINI	186481	LFR-1/4-D-MIDI	
		G3/8	162721	LFR-3/8-D-5M-MINI	159582	LFR-3/8-D-MIDI	
		G1/2	162722	LFR-1/2-D-5M-MINI	159584	LFR-1/2-D-MIDI	
	Maxi	G3/4	162723	LFR-3/4-D-5M-MINI	162683	LFR-3/4-D-MIDI	
		G1/2	186491	LFR-1/2-D-5M-MAXI	186489	LFR-1/2-D-MAXI	
		G3/4	162724	LFR-3/4-D-5M-MAXI	159632	LFR-3/4-D-MAXI	
	Fully automatic	Mini	G1	162725	LFR-1-D-5M-MAXI	159633	LFR-1-D-MAXI
			G1/8	162726	LFR-1/8-D-5M-MINI-A	159634	LFR-1/8-D-MINI-A
			G1/4	162727	LFR-1/4-D-5M-MINI-A	159635	LFR-1/4-D-MINI-A
Midi		G3/8	162728	LFR-3/8-D-5M-MINI-A	162684	LFR-3/8-D-MINI-A	
		G1/4	186486	LFR-1/4-D-5M-MIDI-A	186484	LFR-1/4-D-MIDI-A	
		G3/8	162729	LFR-3/8-D-5M-MIDI-A	159583	LFR-3/8-D-MIDI-A	
Maxi		G1/2	162730	LFR-1/2-D-5M-MIDI-A	159585	LFR-1/2-D-MIDI-A	
		G3/4	162731	LFR-3/4-D-5M-MIDI-A	162685	LFR-3/4-D-MIDI-A	
		G1/2	186494	LFR-1/2-D-5M-MAXI-A	186492	LFR-1/2-D-MAXI-A	
	Maxi	G3/4	162732	LFR-3/4-D-5M-MAXI-A	159636	LFR-3/4-D-MAXI-A	
		G1	162733	LFR-1-D-5M-MAXI-A	159637	LFR-1-D-MAXI-A	

**Without pressure gauge**

Manual	Mini	G1/8	192610	LFR-1/8-D-5M-O-MINI <sup>1)</sup>	162686	LFR-1/8-D-O-MINI <sup>1)</sup>	
		G1/4	192611	LFR-1/4-D-5M-O-MINI <sup>1)</sup>	162687	LFR-1/4-D-O-MINI <sup>1)</sup>	
		G3/8	192612	LFR-3/8-D-5M-O-MINI <sup>1)</sup>	162688	LFR-3/8-D-O-MINI <sup>1)</sup>	
	Midi	G1/4	192613	LFR-1/4-D-5M-O-MIDI <sup>1)</sup>	186482	LFR-1/4-D-O-MIDI <sup>1)</sup>	
		G3/8	192614	LFR-3/8-D-5M-O-MIDI <sup>1)</sup>	162689	LFR-3/8-D-O-MIDI <sup>1)</sup>	
		G1/2	192615	LFR-1/2-D-5M-O-MIDI <sup>1)</sup>	162690	LFR-1/2-D-O-MIDI <sup>1)</sup>	
	Maxi	G3/4	192616	LFR-3/4-D-5M-O-MIDI <sup>1)</sup>	162691	LFR-3/4-D-O-MIDI <sup>1)</sup>	
		G1/2	192617	LFR-1/2-D-5M-O-MAXI <sup>1)</sup>	186490	LFR-1/2-D-O-MAXI <sup>1)</sup>	
		G3/4	192618	LFR-3/4-D-5M-O-MAXI <sup>1)</sup>	162692	LFR-3/4-D-O-MAXI <sup>1)</sup>	
	Fully automatic	Mini	G1	192619	LFR-1-D-5M-O-MAXI <sup>1)</sup>	162693	LFR-1-D-O-MAXI <sup>1)</sup>
			G1/8	192620	LFR-1/8-D-5M-O-MINI-A <sup>1)</sup>	162694	LFR-1/8-D-O-MINI-A <sup>1)</sup>
			G1/4	192621	LFR-1/4-D-5M-O-MINI-A <sup>1)</sup>	162695	LFR-1/4-D-O-MINI-A <sup>1)</sup>
Midi		G3/8	192622	LFR-3/8-D-5M-O-MINI-A <sup>1)</sup>	162696	LFR-3/8-D-O-MINI-A <sup>1)</sup>	
		G1/4	192623	LFR-1/4-D-5M-O-MIDI-A <sup>1)</sup>	186485	LFR-1/4-D-O-MIDI-A <sup>1)</sup>	
		G3/8	192624	LFR-3/8-D-5M-O-MIDI-A <sup>1)</sup>	162697	LFR-3/8-D-O-MIDI-A <sup>1)</sup>	
Maxi		G1/2	192625	LFR-1/2-D-5M-O-MIDI-A <sup>1)</sup>	162698	LFR-1/2-D-O-MIDI-A <sup>1)</sup>	
		G3/4	192626	LFR-3/4-D-5M-O-MIDI-A <sup>1)</sup>	162699	LFR-3/4-D-O-MIDI-A <sup>1)</sup>	
		G1/2	192627	LFR-1/2-D-5M-O-MAXI-A <sup>1)</sup>	186493	LFR-1/2-D-O-MAXI-A <sup>1)</sup>	
	Maxi	G3/4	192628	LFR-3/4-D-5M-O-MAXI-A <sup>1)</sup>	162700	LFR-3/4-D-O-MAXI-A <sup>1)</sup>	
		G1	192629	LFR-1-D-5M-O-MAXI-A <sup>1)</sup>	162701	LFR-1-D-O-MAXI-A <sup>1)</sup>	

1) Free of copper and PTFE

## Datasheet

### Ordering data

Pressure regulation range 0.5 ... 7 bar, rotary knob with latch, connecting plates with threaded connection

Condensate drain	Size	Connection	Grade of filtration 40 µm	
			Part no.	Type

### With pressure gauge, outer scale in bar, inner scale in psi

Manual	Mini	G1/8	162702	LFR-1/8-D-7-MINI	
		G1/4	162703	LFR-1/4-D-7-MINI	
		G3/8	162704	LFR-3/8-D-7-MINI	
	Midi	G1/4	186487	LFR-1/4-D-7-MIDI	
		G3/8	162705	LFR-3/8-D-7-MIDI	
		G1/2	162706	LFR-1/2-D-7-MIDI	
		G3/4	162707	LFR-3/4-D-7-MIDI	
	Maxi	G1/2	186495	LFR-1/2-D-7-MAXI	
		G3/4	162708	LFR-3/4-D-7-MAXI	
		G1	162709	LFR-1-D-7-MAXI	
	Fully automatic	Mini	G1/8	162710	LFR-1/8-D-7-MINI-A
			G1/4	162711	LFR-1/4-D-7-MINI-A
G3/8			162712	LFR-3/8-D-7-MINI-A	
Midi		G1/4	186488	LFR-1/4-D-7-MIDI-A	
		G3/8	162713	LFR-3/8-D-7-MIDI-A	
		G1/2	162714	LFR-1/2-D-7-MIDI-A	
		G3/4	162715	LFR-3/4-D-7-MIDI-A	
Maxi		G1/2	186496	LFR-1/2-D-7-MAXI-A	
		G3/4	162716	LFR-3/4-D-7-MAXI-A	
		G1	162717	LFR-1-D-7-MAXI-A	

### Without pressure gauge

Manual	Mini	G1/8	192590	LFR-1/8-D-7-O-MINI <sup>1)</sup>	
		G1/4	192591	LFR-1/4-D-7-O-MINI <sup>1)</sup>	
		G3/8	192592	LFR-3/8-D-7-O-MINI <sup>1)</sup>	
	Midi	G1/4	192593	LFR-1/4-D-7-O-MIDI <sup>1)</sup>	
		G3/8	192594	LFR-3/8-D-7-O-MIDI <sup>1)</sup>	
		G1/2	192595	LFR-1/2-D-7-O-MIDI <sup>1)</sup>	
		G3/4	192596	LFR-3/4-D-7-O-MIDI <sup>1)</sup>	
	Maxi	G1/2	192597	LFR-1/2-D-7-O-MAXI <sup>1)</sup>	
		G3/4	192598	LFR-3/4-D-7-O-MAXI <sup>1)</sup>	
		G1	192599	LFR-1-D-7-O-MAXI <sup>1)</sup>	
	Fully automatic	Mini	G1/8	192600	LFR-1/8-D-7-O-MINI-A <sup>1)</sup>
			G1/4	192601	LFR-1/4-D-7-O-MINI-A <sup>1)</sup>
G3/8			192602	LFR-3/8-D-7-O-MINI-A <sup>1)</sup>	
Midi		G1/4	192603	LFR-1/4-D-7-O-MIDI-A <sup>1)</sup>	
		G3/8	192604	LFR-3/8-D-7-O-MIDI-A <sup>1)</sup>	
		G1/2	192605	LFR-1/2-D-7-O-MIDI-A <sup>1)</sup>	
		G3/4	192606	LFR-3/4-D-7-O-MIDI-A <sup>1)</sup>	
Maxi		G1/2	192607	LFR-1/2-D-7-O-MAXI-A <sup>1)</sup>	
		G3/4	192608	LFR-3/4-D-7-O-MAXI-A <sup>1)</sup>	
		G1	192609	LFR-1-D-7-O-MAXI-A <sup>1)</sup>	

1) Free of copper and PTFE

## Datasheet

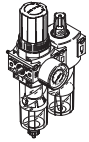
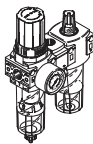
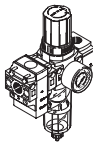
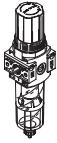

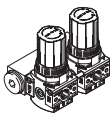

Ordering data						
Pressure regulation range 0.5 ... 12 bar, directly actuated diaphragm regulator with integrated return flow function, rotary knob with latch, connecting plates with threaded connection						
Condensate drain	Size	Connection	Grade of filtration 5 µm		Grade of filtration 40 µm	
			Part no.	Type	Part no.	Type
<b>With pressure gauge, outer scale in bar, inner scale in psi</b>						
Manual	Maxi	G1/2	192370	LFR-1/2-D-5M-DI-MAXI	192368	LFR-1/2-D-DI-MAXI
		G3/4	192376	LFR-3/4-D-5M-DI-MAXI	192374	LFR-3/4-D-DI-MAXI
		G1	192382	LFR-1-D-5M-DI-MAXI	192380	LFR-1-D-DI-MAXI
Fully automatic	Maxi	G1/2	192388	LFR-1/2-D-5M-DI-MAXI-A	192386	LFR-1/2-D-DI-MAXI-A
		G3/4	192394	LFR-3/4-D-5M-DI-MAXI-A	192392	LFR-3/4-D-DI-MAXI-A
		G1	192400	LFR-1-D-5M-DI-MAXI-A	192398	LFR-1-D-DI-MAXI-A
<b>Without pressure gauge</b>						
Manual	Maxi	G1/2	192371	LFR-1/2-D-5M-O-DI-MAXI	192369	LFR-1/2-D-O-DI-MAXI
		G3/4	192377	LFR-3/4-D-5M-O-DI-MAXI	192375	LFR-3/4-D-O-DI-MAXI
		G1	192383	LFR-1-D-5M-O-DI-MAXI	192381	LFR-1-D-O-DI-MAXI
Fully automatic	Maxi	G1/2	192389	LFR-1/2-D-5M-O-DI-MAXI-A	192387	LFR-1/2-D-O-DI-MAXI-A
		G3/4	192395	LFR-3/4-D-5M-O-DI-MAXI-A	192393	LFR-3/4-D-O-DI-MAXI-A
		G1	192401	LFR-1-D-5M-O-DI-MAXI-A	192399	LFR-1-D-O-DI-MAXI-A

Ordering data						
Pressure regulation range 0.5 ... 7 bar, directly actuated diaphragm regulator with integrated return flow function, rotary knob with latch, connecting plates with threaded connection						
Condensate drain	Size	Connection	Grade of filtration 5 µm		Grade of filtration 40 µm	
			Part no.	Type	Part no.	Type
<b>With pressure gauge, outer scale in bar, inner scale in psi</b>						
Manual	Maxi	G1/2	–	–	192372	LFR-1/2-D-7-DI-MAXI
		G3/4	–	–	192378	LFR-3/4-D-7-DI-MAXI
		G1	–	–	192384	LFR-1-D-7-DI-MAXI
Fully automatic	Maxi	G1/2	–	–	192390	LFR-1/2-D-7-DI-MAXI-A
		G3/4	–	–	192396	LFR-3/4-D-7-DI-MAXI-A
		G1	–	–	192402	LFR-1-D-7-DI-MAXI-A
<b>Without pressure gauge</b>						
Manual	Maxi	G1/2	–	–	192373	LFR-1/2-D-7-O-DI-MAXI
		G3/4	–	–	192379	LFR-3/4-D-7-O-DI-MAXI
		G1	–	–	192385	LFR-1-D-7-O-DI-MAXI
Fully automatic	Maxi	G1/2	–	–	192391	LFR-1/2-D-7-O-DI-MAXI-A
		G3/4	–	–	192397	LFR-3/4-D-7-O-DI-MAXI-A
		G1	–	–	192403	LFR-1-D-7-O-DI-MAXI-A

Ordering data						
Pressure regulation range 0.5 ... 12 bar, rotary knob with integrated lock, connecting plates with threaded connection						
Condensate drain	Size	Connection	Grade of filtration 5 µm		Grade of filtration 40 µm	
			Part no.	Type	Part no.	Type
<b>With pressure gauge, outer scale in bar, inner scale in psi</b>						
Manual	Mini	G1/4	194716	LFRS-1/4-D-5M-MINI	194708	LFRS-1/4-D-MINI
	Midi	G1/2	194764	LFRS-1/2-D-5M-MIDI	194756	LFRS-1/2-D-MIDI
Fully automatic	Mini	G1/4	194718	LFRS-1/4-D-5M-MINI-A	194709	LFRS-1/4-D-MINI-A
	Midi	G1/2	194766	LFRS-1/2-D-5M-MIDI-A	194757	LFRS-1/2-D-MIDI-A

Ordering data						
Pressure regulation range 0.5 ... 7 bar, rotary knob with integrated lock, connecting plates with threaded connection						
Condensate drain	Size	Connection	Grade of filtration 5 µm		Grade of filtration 40 µm	
			Part no.	Type	Part no.	Type
<b>With pressure gauge, outer scale in bar, inner scale in psi</b>						
Manual	Mini	G1/4	–	–	194712	LFRS-1/4-D-7-MINI
	Midi	G1/2	–	–	194760	LFRS-1/2-D-7-MIDI
Fully automatic	Mini	G1/4	–	–	194714	LFRS-1/4-D-7-MINI-A
	Midi	G1/2	–	–	194762	LFRS-1/2-D-7-MIDI-A

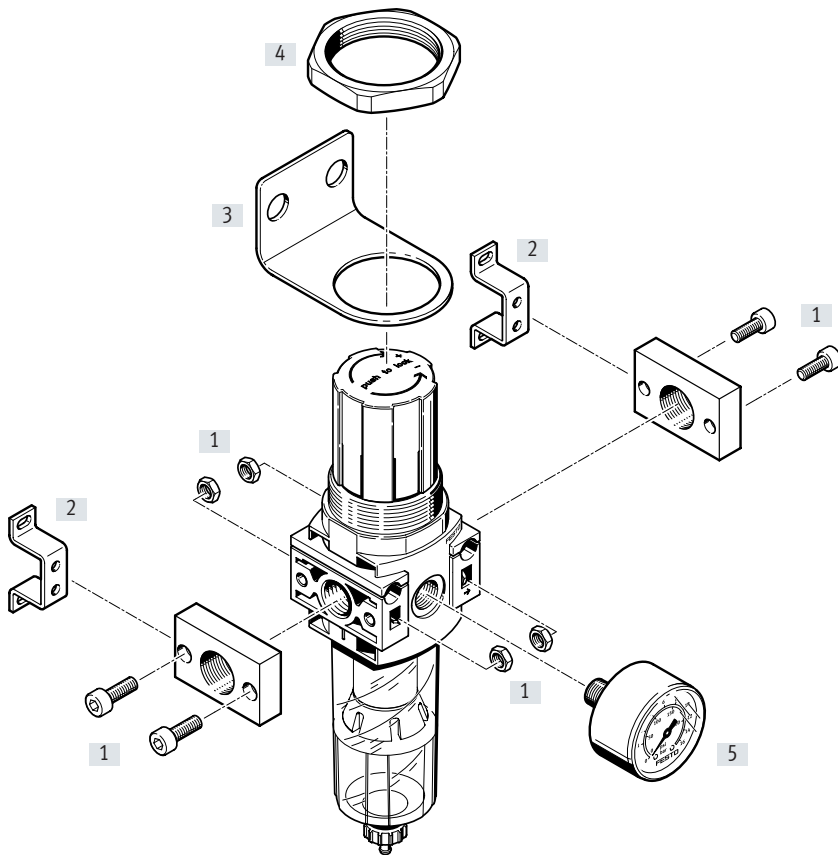
Product range overview – Service unit components, D series, polymer

Type	Size	Pneumatic connection		Pressure regulation range [bar]	Grade of filtration [µm]		
		G1/4	G1/2		5	40	
<b>Service units</b>							
<b>FRC</b>		Mini	■	-	■	■	■
<b>Service unit combinations</b>							
<b>FRC-K</b>		Mini	■	-	■	-	■
<b>LFR-K</b>		Mini	■	-	■	-	■
<b>Individual devices</b>							
Filter regulators <b>LFR</b>		Mini	■	-	■	■	■
Pressure regulators <b>LR</b>		Mini	■	-	■	-	-
Pressure regulator manifolds <b>LRB-K</b>		Mini	-	■	■	-	-
On/off valves <b>HE</b>		Mini	■	-	-	-	-

## Product range overview – Service unit components, D series, polymer

Type	Size	Condensate drain		Pressure indicator		Actuator lock	Regulating functions		→ Page/ Internet
		Manual	Semi-automatic	With pressure gauge	Without pressure gauge		With secondary exhausting	With return flow function	
<b>Service units</b>									
<b>FRC</b>	Mini	■	■	■	-	■	■	■	frc
<b>Service unit combinations</b>									
<b>FRC-K</b>	Mini	■	-	■	-	■	■	■	frc
<b>LFR-K</b>	Mini	■	-	■	-	■	■	■	lfr
<b>Individual devices</b>									
Filter regulators <b>LFR</b>	Mini	■	■	■	■	■	■	■	lfr
Pressure regulators <b>LR</b>	Mini	-	-	■	■	■	■	■	lr
Pressure regulator manifolds <b>LRB-K</b>	Mini	-	-	-	■	■	■	■	lrb
On/off valves <b>HE</b>	Mini	-	-	-	■	-	-	-	he

Peripherals overview



Mounting attachments and accessories

		→ Page/Internet
[1]	Connection set PBL	pbl
[2]	Mounting bracket HFOE	hfoe-d
[3]	Mounting bracket HR-D	hr-d
[4]	Hex nut HMR	hmr-d
[5]	Pressure gauge MA	28

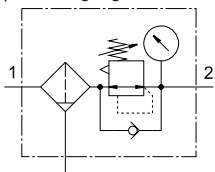
## Type codes

001	Series
<b>LFR</b>	Filter regulator
002	Pneumatic connection
<b>1/4</b>	Female thread G1/4
003	Version
<b>DB</b>	D series, polymer
004	Pressure regulation range
<b>7</b>	0.5 ... 7 bar (0.05 ... 0.7 MPa)

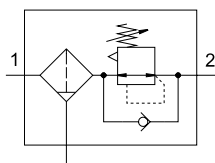
005	Grade of filtration
	40 µm
<b>5M</b>	5 µm
006	Pressure gauge
	With pressure gauge
<b>O</b>	Without pressure gauge
007	Size
<b>MINI</b>	Grid dimension 40 mm (without connecting plates)
008	Condensate drain
	Manually rotating
<b>H</b>	Semi-automatic

## Datasheet

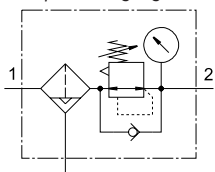
Condensate drain, manual, with pressure gauge



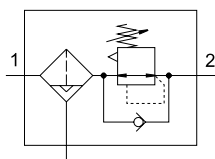
Condensate drain, manual, without pressure gauge






Condensate drain, semi-automatic, with pressure gauge



Condensate drain, semi-automatic, without pressure gauge



-  Flow rate  
500 ... 1200 l/min
-  Temperature range  
-5 ... +50°C
-  Operating pressure  
1.5 ... 10 bar

- Space-saving design with filter and regulator in a single unit
- Good particle separation and high flow rate
- Good regulation characteristics with minimal hysteresis
- Choice of manual or semi-automatic condensate drain
- Setting values are secured by locking the rotary knob
- Choice of 5 µm or 40 µm filter inserts
- New filter cartridges → page 27

### General technical data

Size	Mini	Without pressure gauge
Pneumatic connection 1, 2	G1/4	
Design	Filter regulator with pressure gauge	Filter regulator without pressure gauge
Regulator function	With return flow function, with secondary exhaust	
Type of mounting	In-line installation Via through-hole With mounting bracket	
Mounting position	Vertical ±5°	
Grade of filtration [µm]	5 40	
Air quality class at the output	Compressed air to ISO 8573-1:2010 [6:8:4] (grade of filtration 5 µm) Compressed air to ISO 8573-1:2010 [7:8:4] (grade of filtration 40 µm) Inert gases	
Condensate drain	Manual Semi-automatic	
Actuator lock	Rotary knob with latch	
Pressure regulation range [bar]	0.5 ... 7	
Max. pressure hysteresis [bar]	0.5	
Pressure indicator	With pressure gauge	Prepared for G1/8
Pressure gauge connection	G1/8	

### Standard nominal flow rate<sup>1)</sup> qnN [l/min]

Size	Mini
Grade of filtration 5 µm	≥ 1000
40 µm	≥ 1200

1) Measured at p1 = 10 bar, p2 = 6 bar and Δp = 1 bar.

- 125 l/min must be available for the semi-automatic condensate drain to close fully.



## Datasheet

Operating and environmental conditions		
Size		Mini
Operating pressure [bar]		1.5 ... 10
Operating medium		Compressed air to ISO 8573-1:2010 [--9:-] Inert gases
Ambient temperature [°C]		-5 ... +50
Temperature of medium [°C]		-5 ... +50
Corrosion resistance class CRC <sup>1)</sup>		1

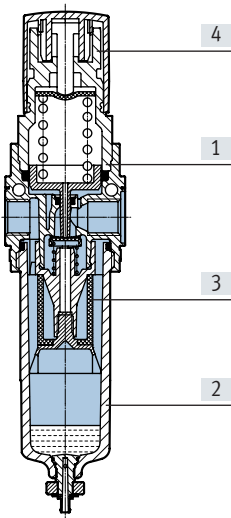
1) Corrosion resistance class CRC 1 to Festo standard FN 940070

Low corrosion stress. Dry internal application or transport and storage protection. Also applies to parts behind covers, in the non-visible interior area, or parts which are covered in the application (e.g. drive trunnions).

Weights [g]	
Size	Mini
Filter regulator	200

### Materials

Sectional view



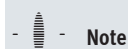
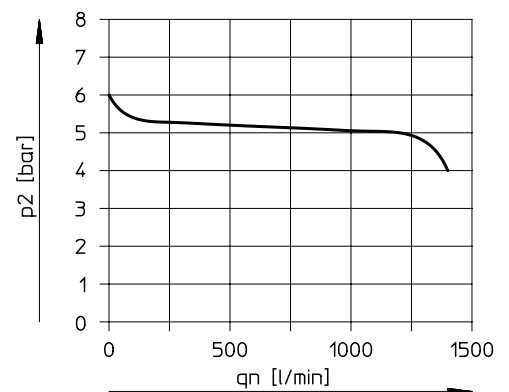
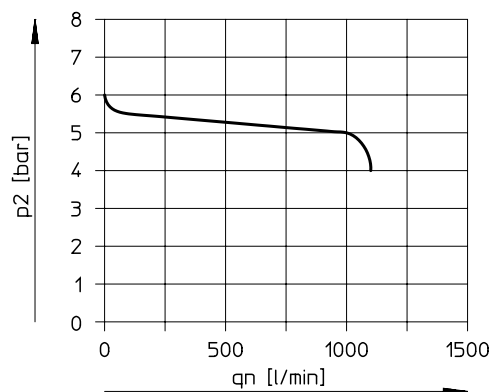
Filter regulator		Mini
[1]	Housing	Reinforced PA
[2]	Bowl	PC
[3]	Filter	PE
[4]	Rotary knob	POM
-	Seals	NBR
Note on materials		RoHS-compliant

### Standard flow rate $q_n$ as a function of output pressure $p_2$

Grade of filtration 5  $\mu\text{m}$

Grade of filtration 40  $\mu\text{m}$

Operating pressure  $p_1 = 10$  bar



#### Note

Minor leakage at the output is intended by design. It improves the control behaviour of the regulator which is not compensated for input pressure.

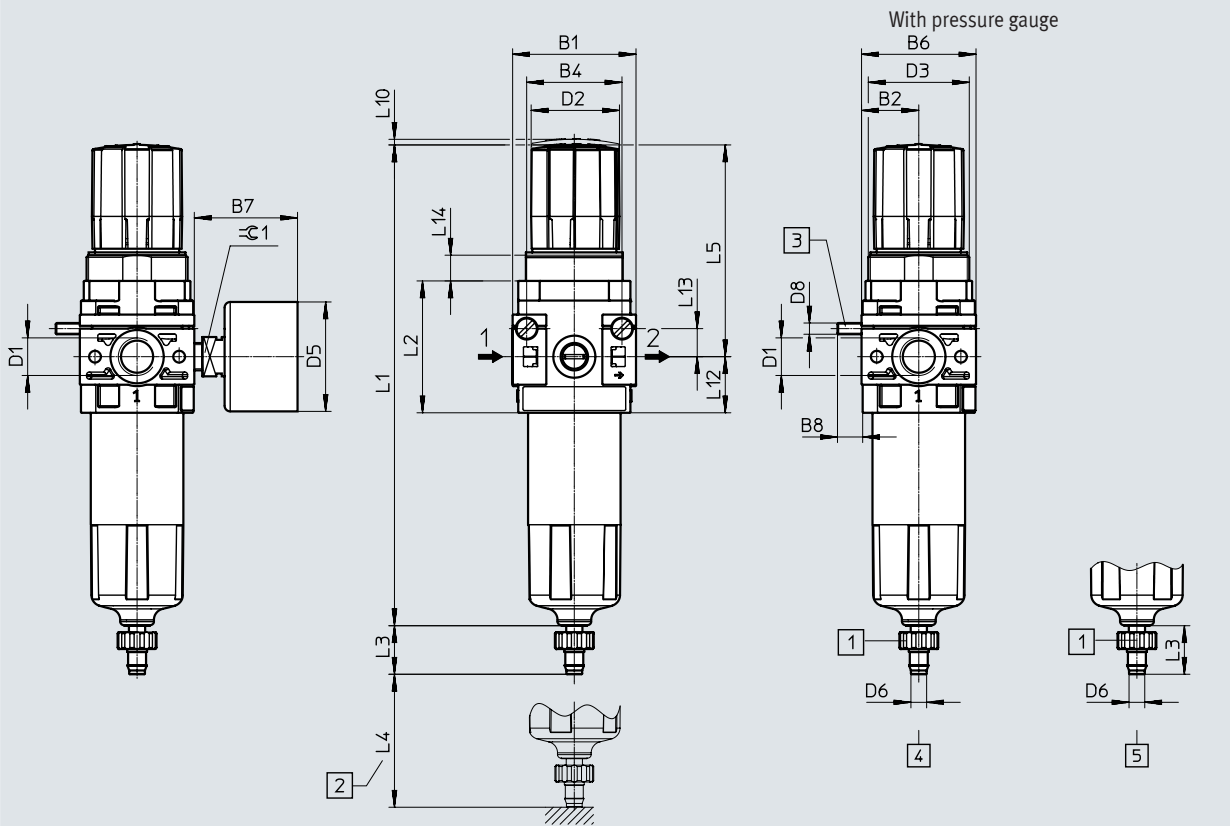
In rare cases, however, the leakage can be up to 500 l/h.

Datasheet

Dimensions

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

Mini



- [1] Barbed connector for plastic tubing PUN(-H)-8x1.25
  - [2] Installation dimension
  - [3] Socket head screw for wall mounting (2 included in the scope of delivery)
  - [4] Manual condensate drain
  - [5] Semi-automatic condensate drain
- Flow direction

	B1	B2	B4	B6	B7 max.	B8	D1	D2 ∅	D3	D5 ∅	D6 ∅	D8
LFR-1/4-DB	44	20.5	34	41	37	9	G1/4	32	M36x1.5	39	5.6	M4
	L1	L2	L3	L4 min.	L5	L10	L12	L13	L14	⊕ 1		
LFR-1/4-DB	171.7	47	17.3	60	76	2	20	10	9	14		

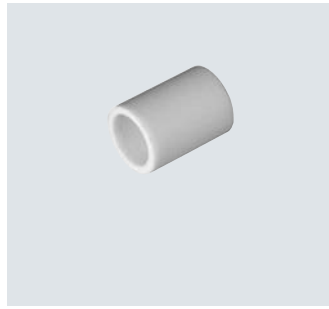
Ordering data

Pressure regulation range 0.5 ... 7 bar

Condensate drain	Size	Connection	Grade of filtration 5 µm		Grade of filtration 40 µm	
			Part no.	Type	Part no.	Type
<b>With pressure gauge, outer scale in bar, inner scale in psi</b>						
Manual	Mini	G1/4	539689	LFR-1/4-DB-7-5M-MINI	539685	LFR-1/4-DB-7-MINI
Semi-automatic	Mini	G1/4	539690	LFR-1/4-DB-7-5M-MINI-H	539686	LFR-1/4-DB-7-MINI-H
<b>Without pressure gauge</b>						
Manual	Mini	G1/4	537644	LFR-1/4-DB-7-5M-O-MINI	537647	LFR-1/4-DB-7-O-MINI
Semi-automatic	Mini	G1/4	537646	LFR-1/4-DB-7-5M-O-MINI-H	537645	LFR-1/4-DB-7-O-MINI-H

## Accessories

## Filter cartridges, D series, metal



## Ordering data

Size	Grade of filtration [μm]	Part no.	Type
Micro	5	526818	MS2/LFP-D-MICRO-5M
Mini	5 (colour: blue)	159640	LFP-D-MINI-5M
	40 (colour: white)	363665	LFP-D-MINI-40M
Midi	5 (colour: blue)	159594	LFP-D-MIDI-5M
	40 (colour: white)	363667	LFP-D-MIDI-40M
Maxi	5 (colour: blue)	159641	LFP-D-MAXI-5M
	40 (colour: white)	363664	LFP-D-MAXI-40M


## Filter cartridges, D series, polymer




## Ordering data

Size	Grade of filtration [μm]	Part no.	Type
Mini	5	547957	LFP-DB-MINI-5M
	40	534502	MS4-LFP-E

## Accessories

Ordering data – Pressure gauge MA						
	Nominal size	Pneumatic connection	Display range		Part no.	Type
			[bar]	[psi]		
	<b>Pressure gauge MA</b> <span style="float: right;">Datasheets → Internet: ma</span>					
	27	M5	0 ... 10	–	526323	MA-27-10-M5
	40	G1/8	0 ... 10	0 ... 145	359874	MA-40-10-1/8
			0 ... 16	0 ... 232	345395	MA-40-16-1/8
	50	G1/4	0 ... 10	0 ... 145	359873	MA-50-10-1/4
			0 ... 16	0 ... 232	356759	MA-50-16-1/4
	<b>Pressure gauge MA, DIN EN 837-1</b> <span style="float: right;">Datasheets → Internet: ma</span>					
	40	R1/8	0 ... 10	0 ... 145	162835	MA-40-10-1/8-EN
		G1/4	0 ... 10	0 ... 145	183900	MA-40-10-G1/4-EN
	<b>Flanged pressure gauge FMA, DIN EN 837-1</b> <span style="float: right;">Datasheets → Internet: fma</span>					
	40	G1/4	0 ... 10	0 ... 145	159596	FMA-40-10-1/4-EN
			0 ... 16	0 ... 232	159597	FMA-40-16-1/4-EN
50	G1/4	0 ... 10	0 ... 145	159599	FMA-50-10-1/4-EN	
		0 ... 16	0 ... 232	159600	FMA-50-16-1/4-EN	

Ordering data – Pressure sensors SPAU						
	Pneumatic connection	Switching output	Display type	Electrical connection	Part no.	Type
<b>Pressure sensor SPAU for direct mounting on the service unit component with pressure gauge connection (adapter for pneumatic connection included in the scope of delivery), pressure measurement range 0 ... 10 bar, relative pressure measurement</b> <span style="float: right;">Datasheets → Internet: spau</span>						
	Male thread R1/8	2x PNP or 2x NPN, switchable	Illuminated LCD	M8x1, 4-pin	8001203	SPAU-P10R-T-R18M-L-PNLK-PNVBA-M8D
				M12x1, 4-pin	8001206	SPAU-P10R-T-R18M-L-PNLK-PNVBA-M12D
	Male thread R1/4			M8x1, 4-pin	8001209	SPAU-P10R-T-R14M-L-PNLK-PNVBA-M8D
				M12x1, 4-pin	8001208	SPAU-P10R-T-R14M-L-PNLK-PNVBA-M12D

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