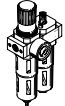


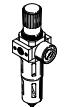
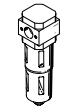
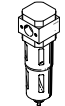
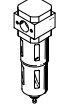
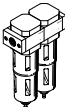
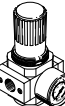


## Service units LFR-K, D series

**FESTO**



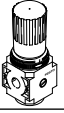
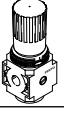
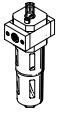
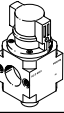
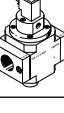
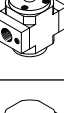
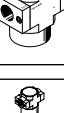
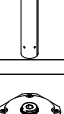


Product range overview – Service unit components, D series, metal

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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6
	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	-	-	-	-	-	■	■	■	■	-	-	-	■	■	-	

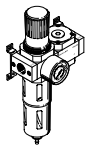
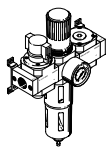
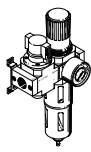
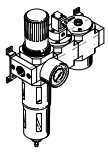
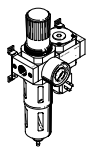
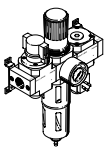
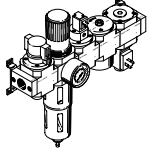
Product range overview – Service unit components, D series, metal

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	–	–	–	–	–	–	–	–	–	–	–	–

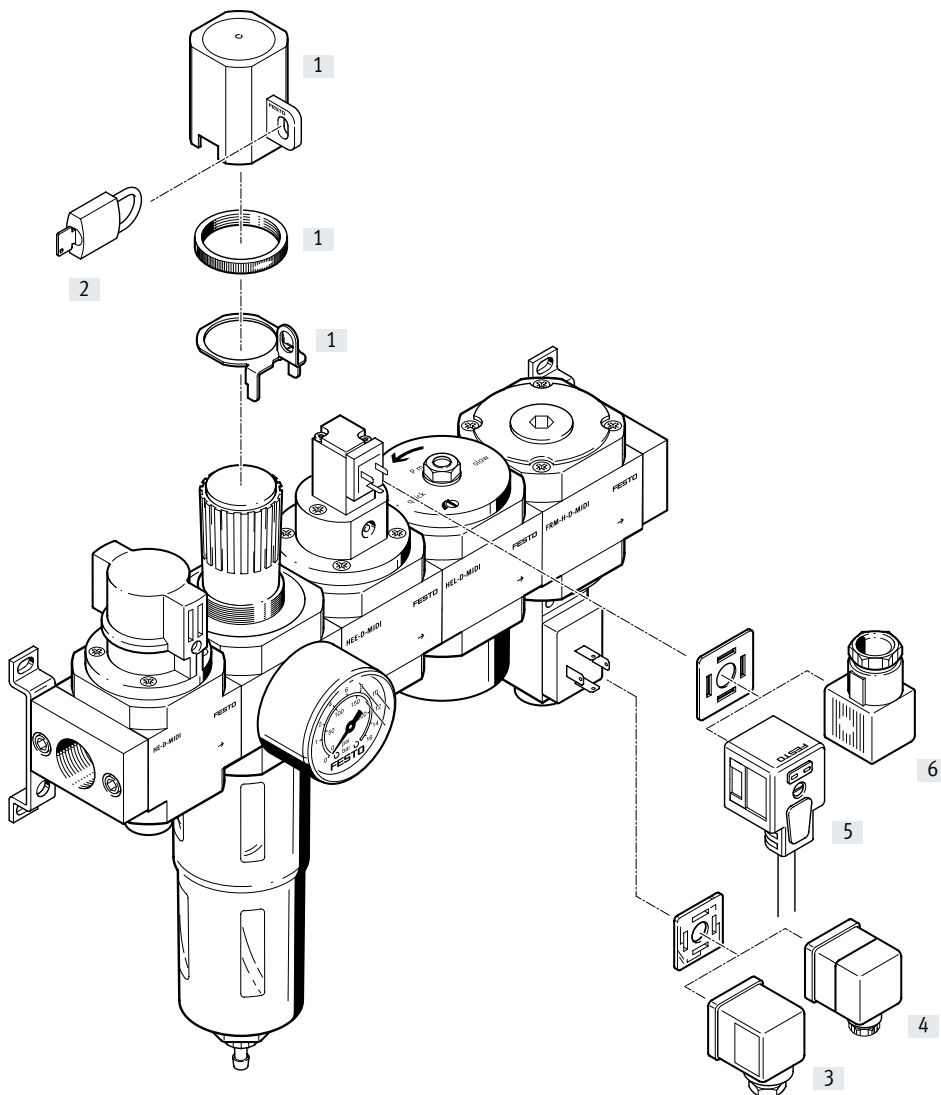
## Product range overview – Service unit components, D series, metal

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	-	-	-	■	-	-	-	-	-	-	-	

Product range overview

LFR Rotary knob with latch	 WTP	 RH	 KC	 KD	 KE	 KF	 KG
<b>Individual devices</b>							
On/off valve Manually operated	-	■	■	-	-	■	■
Filter regulator with pressure gauge	■	■	■	■	■	■	■
Branching module	■	■	-	-	-	-	-
On/off valve Electrically actuated, 24 V DC	-	-	-	■	-	-	■
Soft-start valve Pneumatically actuated	-	-	-	■	-	-	■
Branching module with pressure switch	-	-	-	-	■	■	■
Mounting bracket	■	■	■	■	■	■	■
→ Page/Internet	9	13	17	21	25	29	33

Peripherals overview



Mounting attachments and accessories		→ Page/Internet
[1]	Regulator lock LRVS	lrvs-d
[2]	Padlock LRVS	lrvs-d
[3]	Plug socket MSSD-C	49
[4]	Angled plug socket PEV...-WD-LED	49
[5]	Plug socket with cable KMEB-1	49
[6]	Plug socket MSSD-EB	49
-	Filter cartridge LFP	48

## Type codes

001	Series
LFR	Filter regulator

002	Pneumatic connection
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

003	Version
D	D series, metal

004	Function
	Directly actuated pressure regulator (MICRO, MINI, MIDI), pilot actuated pressure regulator (only MAXI)
DI	Directly actuated pressure regulator with integrated return flow function (only MAXI)

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)

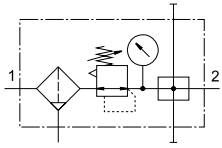
006	Service unit combination
KB	Filter regulator, branching module, on/off valve manually operated
KA	Filter regulator, branching module
KC	On/off valve manually operated, filter regulator
KG	On/off valve manually operated, filter regulator, on/off valve electrically operated, 24 V DC, soft-start valve pneumatically operated, branching module with pressure switch
KF	On/off valve manually operated, filter regulator, branching module with pressure switch
KE	Filter regulator, branching module, soft-start valve pneumatically operated
KD	Filter regulator, on/off valve electrically operated, 24 V DC, soft-start valve pneumatically operated

007	Condensate drain
	Manually rotating
A	Fully automatic

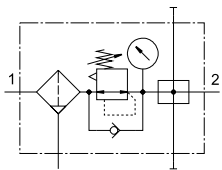





## Datasheet LFR-KA

LFR...-MINI/MIDI-KA  
With condensate drain  
Manual

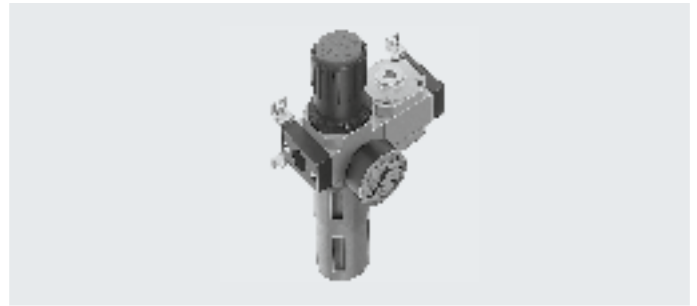


LFR...-MAXI-KA  
With condensate drain  
Manual



-  Flow rate  
720 ... 9400 l/min
-  Temperature range  
-10 ... +60°C
-  Operating pressure  
1 ... 16 bar

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- For unlubricated compressed air
- Three connections are available
- New filter cartridges → page 48

- Filter regulator LFR
- Branching module FRM
- Mounting accessories

General technical data							
Size	Mini		Midi			Maxi	
Pneumatic connection 1, 2	G1/8	G1/4	G1/4	G3/8	G1/2	G1/2	G3/4
Type of mounting	With accessories						
	In-line installation						
Mounting position	Vertical ±5°						
Grade of filtration [µm]	40						
Air purity class at the output	Compressed air to ISO 8573-1:2010 [7:8:4], (compressed air to ISO 8573-1:2010 [6:8:4]) <sup>1)</sup>						
	Inert gases						
Bowl guard	Metal bowl guard						
Condensate drain	Manual						
	Fully automatic						
Actuator lock	Rotary knob with latch						
	Rotary knob with integrated lock						
Pressure regulation range [bar]	0.5 ... 12						
Max. pressure hysteresis [bar]	0.15	0.15	0.25	0.2	0.2	0.2	0.3
Pressure indicator	With pressure gauge						
Max. condensate volume [cm <sup>3</sup> ]	22		43			80 (43) <sup>1)</sup>	

1) With the LFR...-D-DI.

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

Standard nominal flow rate $q_{n1}$ <sup>1)</sup> [l/min]							
Connection	Mini		Midi			Maxi	
	G1/8	G1/4	G1/4	G3/8	G1/2	G1/2	G3/4
In main flow direction 1 → 2	720	1140	1850	2620	3050	9200 (5200) <sup>2)</sup>	9400 (5800) <sup>2)</sup>

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

2) With the LFR...-D-DI.

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

## Datasheet LFR-KA

Operating and environmental conditions		
Condensate drain	Manual	Fully automatic
Operating pressure [bar]	1 ... 16	2 ... 12
Operating medium	Compressed air to ISO 8573-1:2010 [:-::-]	
	Inert gases	
Ambient temperature [°C]	-10 ... +60	
Temperature of medium [°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.

Weight [g]			
Size	Mini	Midi	Maxi
LFR	800	1800	2400 (2600) <sup>1)</sup>

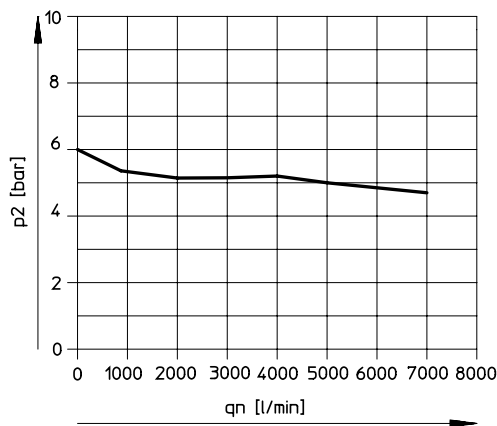
1) With the LFR...-D-DI.

 **Note**

Materials → Datasheet for the individual components

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

LFR-1/2-D-DI-MAXI-KA(-A)



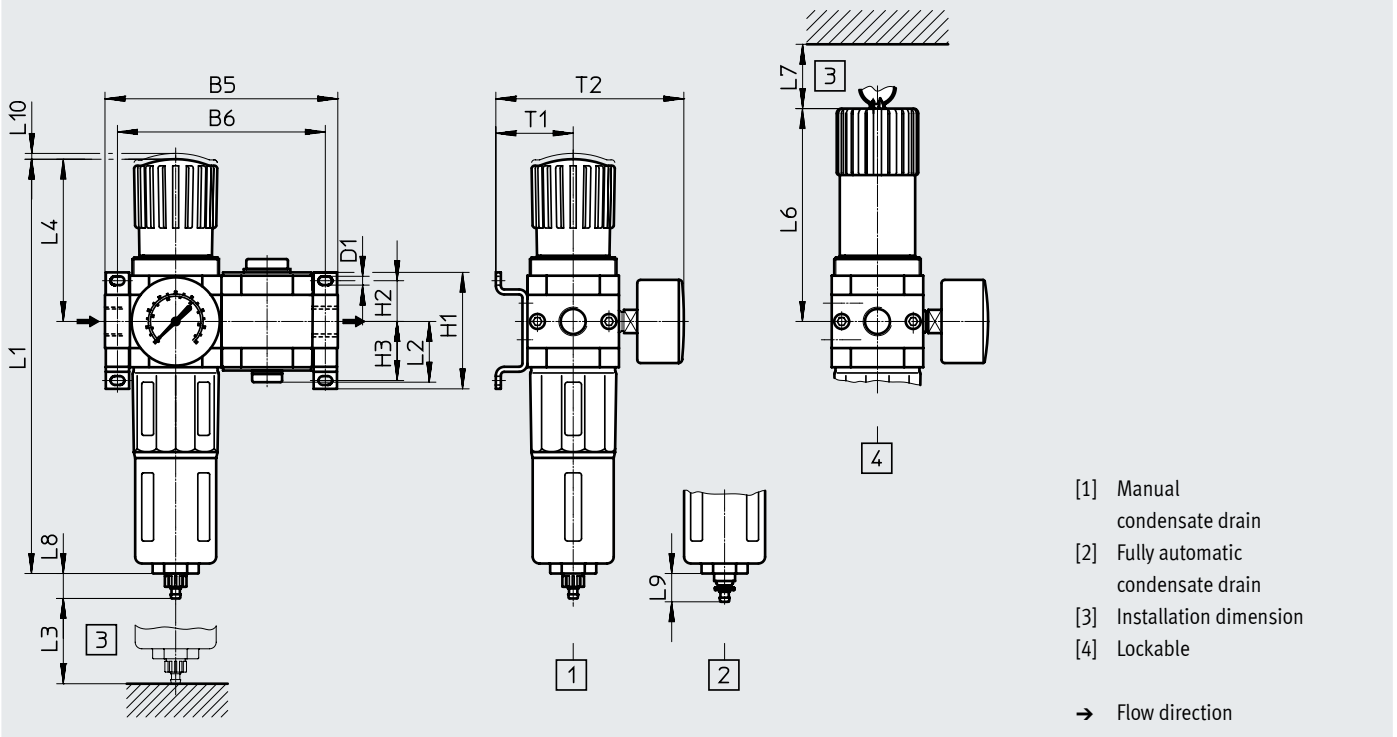
Primary pressure  $p_1 = 10$  bar

# Datasheet LFR-KA

## Dimensions

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LFR...-KA



Type	B5	B6	D1	H1	H2	H3	L1	L2	L3	L4	L6	L7	L8	L9	L10	T1	T2
<b>Mini</b>																	
LFR...-D-MINI-KA (A)	104	92	4.3	43	17.5	17.5	193	28	60	68	98	60	15	19	3	39	95
<b>Midi</b>																	
LFR...-D-MIDI-KA (A)	140	125	5.3	70	24.5	35.5	250	36.5	80	99	130	60	15	19	3	47	114
<b>Maxi</b>																	
LFR...-D-MAXI-KA (A)	162	146	5.3	70	24.5	35.5	252	42	90	82	111	60	15	19	3	53	126
LFR...-D-DI-MAXI-KA (A)							275			105	135						

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

## Datasheet LFR-KA

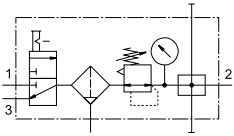
### Ordering data

Rotary knob with latch, pressure gauge with outer scale in bar and inner scale in psi

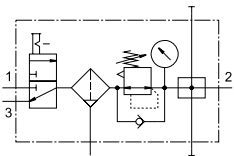
Size	Connection	Condensate drain		Condensate drain	
		Manual		Fully automatic	
		Part no.	Type	Part no.	Type
Mini	G1/8	<b>185707</b>	<b>LFR-1/8-D-MINI-KA</b>	<b>185708</b>	<b>LFR-1/8-D-MINI-KA-A</b>
	G1/4	<b>185709</b>	<b>LFR-1/4-D-MINI-KA</b>	<b>185710</b>	<b>LFR-1/4-D-MINI-KA-A</b>
Midi	G1/4	<b>185711</b>	<b>LFR-1/4-D-MIDI-KA</b>	<b>185712</b>	<b>LFR-1/4-D-MIDI-KA-A</b>
	G3/8	<b>185713</b>	<b>LFR-3/8-D-MIDI-KA</b>	<b>185714</b>	<b>LFR-3/8-D-MIDI-KA-A</b>
	G1/2	<b>185715</b>	<b>LFR-1/2-D-MIDI-KA</b>	<b>185716</b>	<b>LFR-1/2-D-MIDI-KA-A</b>
Maxi	G1/2	<b>186039</b>	<b>LFR-1/2-D-MAXI-KA</b>	<b>186040</b>	<b>LFR-1/2-D-MAXI-KA-A</b>
	G3/4	<b>185717</b>	<b>LFR-3/4-D-MAXI-KA</b>	<b>185718</b>	<b>LFR-3/4-D-MAXI-KA-A</b>
<b>Directly actuated pressure regulator with integrated return flow function</b>					
Maxi	G1/2	<b>192440</b>	<b>LFR-1/2-D-DI-MAXI-KA</b>	<b>192454</b>	<b>LFR-1/2-D-DI-MAXI-KA-A</b>
	G3/4	<b>192447</b>	<b>LFR-3/4-D-DI-MAXI-KA</b>	<b>192461</b>	<b>LFR-3/4-D-DI-MAXI-KA-A</b>

## Datasheet LFR-KB

LFR...-MINI/MIDI-KB  
With condensate drain  
Manual



LFR...-MAXI-KB  
With condensate drain  
Manual



- On/off valve HE, manually operated
- Filter regulator LFR
- Branching module FRM
- Mounting accessories

- Flow rate  
700 ... 8400 l/min
- Temperature range  
-10 ... +60°C
- Operating pressure  
1 ... 16 bar

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- For unlubricated compressed air
- The operating pressure can be switched on or off
- Three connections are available
- An additional quick exhaust valve is required at the service unit outlet for safe exhausting of the system
- New filter cartridges → page 48

**General technical data**

Size	Mini		Midi			Maxi	
	G1/8	G1/4	G1/4	G3/8	G1/2	G1/2	G3/4
Pneumatic connection 1, 2	G1/8	G1/4	G1/4	G3/8	G1/2	G1/2	G3/4
Type of mounting	With accessories In-line installation						
Mounting position	Vertical ±5°						
Grade of filtration [µm]	40						
Air purity class at the output	Compressed air to ISO 8573-1:2010 [7:8:4], (compressed air to ISO 8573-1:2010 [6:8:4]) <sup>1)</sup> Inert gases						
Bowl guard	Metal bowl guard						
Condensate drain	Manual Fully automatic						
Actuator lock	Rotary knob with latch Rotary knob with integrated lock						
Pressure regulation range [bar]	0.5 ... 12						
Max. pressure hysteresis [bar]	0.2	0.2	0.25	0.35	0.35	0.1	0.2
Pressure indicator	With pressure gauge						
Max. condensate volume [cm <sup>3</sup> ]	22		43			80 (43) <sup>1)</sup>	

1) With the LFR...-D-DI.

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

**Standard nominal flow rate  $q_{nn}^{1)}$  [l/min]**

Connection	Mini		Midi			Maxi	
	G1/8	G1/4	G1/4	G3/8	G1/2	G1/2	G3/4
In main flow direction 1 → 2	700	1050	1720	2420	2920	8000 (5400) <sup>2)</sup>	8400 (7000) <sup>2)</sup>

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

2) With the LFR...-D-DI.

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

## Datasheet LFR-KB


Operating and environmental conditions		
Condensate drain	Manual	Fully automatic
Operating pressure [bar]	1 ... 16	2 ... 12
Operating medium	Compressed air to ISO 8573-1:2010 [---:--]	
	Inert gases	
Ambient temperature [°C]	-10 ... +60	
Temperature of medium [°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.

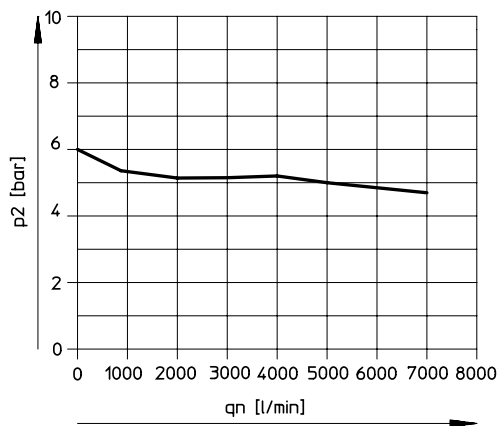
Weight [g]			
Size	Mini	Midi	Maxi
LFR	1000	2200	3300 (3500) <sup>1)</sup>

1) With the LFR...-D-DI.

 **Note**  
Materials → Datasheet for the individual components

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

LFR-1/2-D-DI-MAXI-KB(-A)



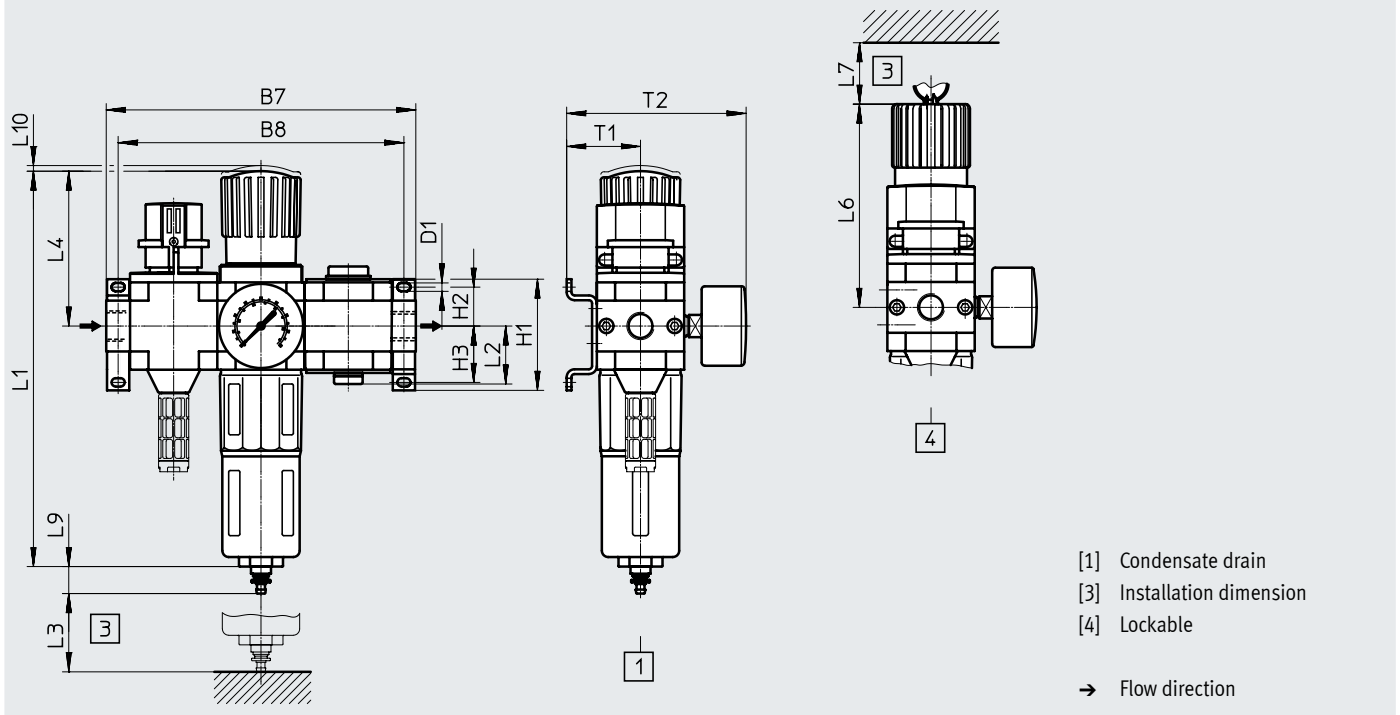
Primary pressure  $p_1 = 10$  bar

# Datasheet LFR-KB

## Dimensions

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LFR...-KB



Type	B7	B8	D1	H1	H2	H3	L1	L2	L3	L4	L6	L7	L9	L10	T1	T2
<b>Mini</b>																
LFR...-D-MINI-KB (A)	144	132	4.3	43	17.5	17.5	193	28	60	68	98	60	19	3	39	95
<b>Midi</b>																
LFR...-D-MIDI-KB (A)	195	180	5.3	70	24.5	35.5	250	36.5	80	99	130	60	19	3	47	114
<b>Maxi</b>																
LFR...-D-MAXI-KB (A)	228	212	5.3	70	24.5	35.5	252	42	90	82	111	60	19	3	53	126
LFR...-D-DI-MAXI-KB (A)							275			105	135					

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

## Datasheet LFR-KB

### Ordering data

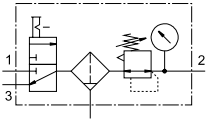
Rotary knob with latch, pressure gauge with outer scale in bar and inner scale in psi

Size	Connection	Condensate drain		Condensate drain	
		Manual		Fully automatic	
		Part no.	Type	Part no.	Type
Mini	G1/8	185719	LFR-1/8-D-MINI-KB	185720	LFR-1/8-D-MINI-KB-A
	G1/4	185721	LFR-1/4-D-MINI-KB	185722	LFR-1/4-D-MINI-KB-A
Midi	G1/4	185723	LFR-1/4-D-MIDI-KB	185724	LFR-1/4-D-MIDI-KB-A
	G3/8	185725	LFR-3/8-D-MIDI-KB	185726	LFR-3/8-D-MIDI-KB-A
	G1/2	185727	LFR-1/2-D-MIDI-KB	185728	LFR-1/2-D-MIDI-KB-A
Maxi	G1/2	186041	LFR-1/2-D-MAXI-KB	186042	LFR-1/2-D-MAXI-KB-A
	G3/4	185729	LFR-3/4-D-MAXI-KB	185730	LFR-3/4-D-MAXI-KB-A
<b>Directly actuated pressure regulator with integrated return flow function</b>					
Maxi	G1/2	192441	LFR-1/2-D-DI-MAXI-KB	192455	LFR-1/2-D-DI-MAXI-KB-A
	G3/4	192448	LFR-3/4-D-DI-MAXI-KB	192462	LFR-3/4-D-DI-MAXI-KB-A

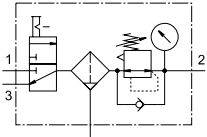


## Datasheet LFR-KC

LFR-...-MINI/MIDI-KC  
With condensate drain  
Manual



LFR-...-MAXI-KC  
With condensate drain  
Manual



- On/off valve HE, manually operated
- Filter regulator LFR
- Mounting accessories

- Flow rate  
750 ... 8400 l/min
- Temperature range  
-10 ... +60°C
- Operating pressure  
1 ... 16 bar
- [www.festo.com](http://www.festo.com)



- For unlubricated compressed air
- The operating pressure can be switched on or off
- An additional quick exhaust valve is required at the service unit outlet for safe exhausting of the system
- New filter cartridges → page 48

General technical data							
Size	Mini		Midi			Maxi	
Pneumatic connection 1, 2	G1/8	G1/4	G1/4	G3/8	G1/2	G1/2	G3/4
Type of mounting	With accessories In-line installation						
Mounting position	Vertical ±5°						
Grade of filtration [µm]	40						
Air purity class at the output	Compressed air to ISO 8573-1:2010 [7:8:4], (compressed air to ISO 8573-1:2010 [6:8:4]) <sup>1)</sup> Inert gases						
Bowl guard	Metal bowl guard						
Condensate drain	Manual Fully automatic						
Actuator lock	Rotary knob with latch Rotary knob with integrated lock						
Pressure regulation range [bar]	0.5 ... 12						
Max. pressure hysteresis [bar]	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Pressure indicator	With pressure gauge						
Max. condensate volume [cm <sup>3</sup> ]	22		43			80 (43) <sup>1)</sup>	

1) With the LFR/...-D-DI.

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

Standard nominal flow rate $q_{nn}^{1)}$ [l/min]							
Connection	Mini		Midi			Maxi	
	G1/8	G1/4	G1/4	G3/8	G1/2	G1/2	G3/4
In main flow direction 1 → 2	750	1150	1900	2700	3150	8100 (4800) <sup>2)</sup>	8400 (5400) <sup>2)</sup>

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

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

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

## Datasheet LFR-KC

Operating and environmental conditions		
Condensate drain	Manual	Fully automatic
Operating pressure [bar]	1 ... 16	2 ... 12
Operating medium	Compressed air to ISO 8573-1:2010 [-:--:-] Inert gases	
Ambient temperature [°C]	-10 ... +60	
Temperature of medium [°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.

Weight [g]			
Size	Mini	Midi	Maxi
LFR	700	1600	2300 (2600) <sup>1)</sup>

1) With the LFR-...-D-DI.

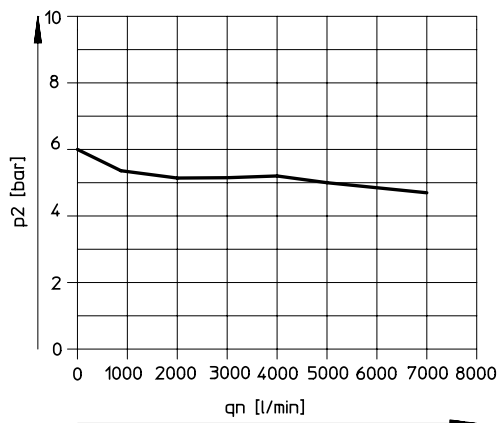


**Note**

Materials → Datasheet for the individual components

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

LFR-1/2-D-DI-MAXI-KC(-A)



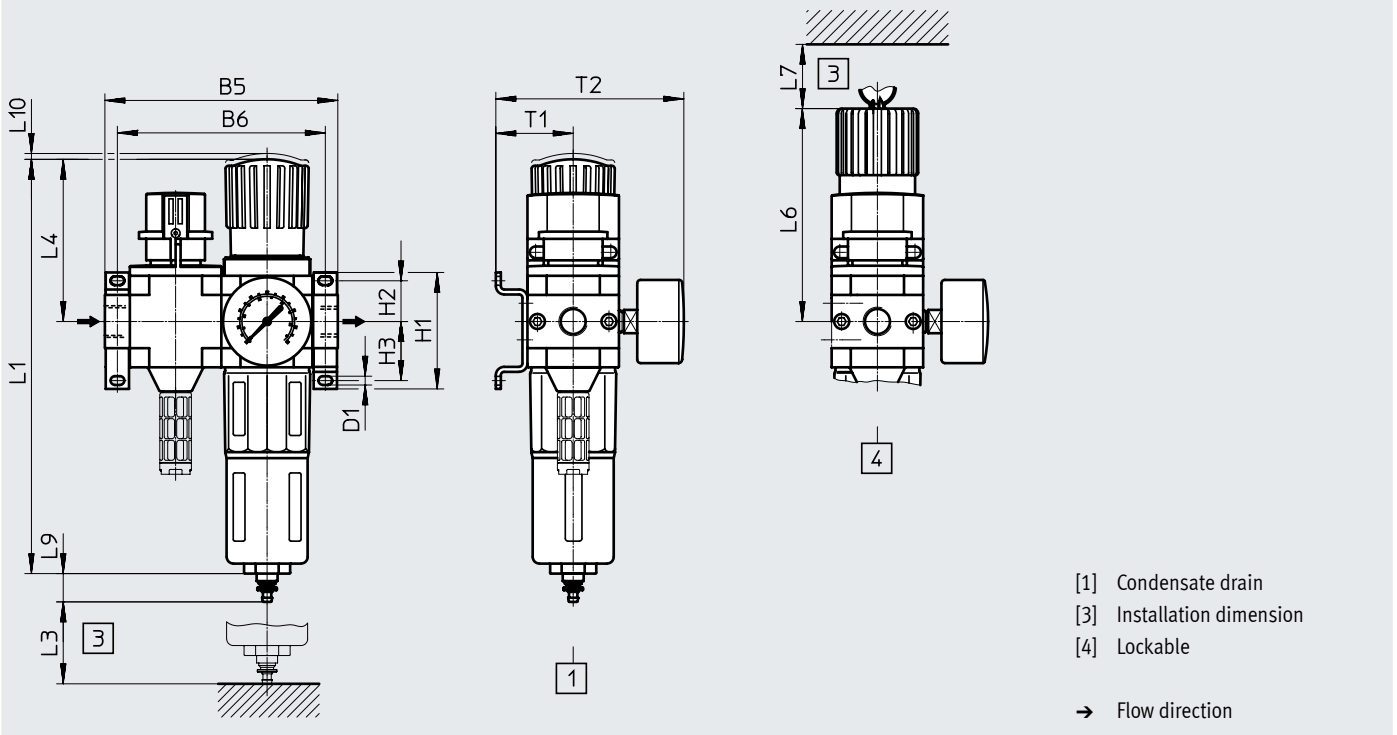
Primary pressure  $p_1 = 10$  bar

# Datasheet LFR-KC

## Dimensions

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LFR...-KC



Type	B5	B6	D1	H1	H2	H3	L1	L3	L4	L6	L7	L9	L10	T1	T2
<b>Mini</b>															
LFR...-D-MINI-KC (A)	104	92	4.3	43	17.5	17.5	193	60	68	98	60	19	3	39	95
<b>Midi</b>															
LFR...-D-MIDI-KC (A)	140	125	5.3	70	24.5	35.5	250	80	99	130	60	19	3	47	114
<b>Maxi</b>															
LFR...-D-MAXI-KC (A)	162	146	5.3	70	24.5	35.5	252	90	82	111	60	19	3	53	126
LFR...-D-DI-MAXI-KC (A)							275		105	135					

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

## Datasheet LFR-KC

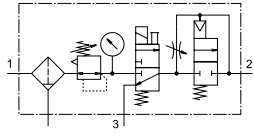
**Ordering data**

Rotary knob with latch, pressure gauge with outer scale in bar and inner scale in psi

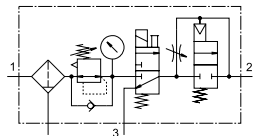
Size	Connection	Condensate drain		Condensate drain	
		Manual		Fully automatic	
		Part no.	Type	Part no.	Type
Mini	G1/8	185731	LFR-1/8-D-MINI-KC	185732	LFR-1/8-D-MINI-KC-A
	G1/4	185733	LFR-1/4-D-MINI-KC	185734	LFR-1/4-D-MINI-KC-A
Midi	G1/4	185735	LFR-1/4-D-MIDI-KC	185736	LFR-1/4-D-MIDI-KC-A
	G3/8	185737	LFR-3/8-D-MIDI-KC	185738	LFR-3/8-D-MIDI-KC-A
	G1/2	185739	LFR-1/2-D-MIDI-KC	185740	LFR-1/2-D-MIDI-KC-A
Maxi	G1/2	186043	LFR-1/2-D-MAXI-KC	186044	LFR-1/2-D-MAXI-KC-A
	G3/4	185741	LFR-3/4-D-MAXI-KC	185742	LFR-3/4-D-MAXI-KC-A
<b>Directly actuated pressure regulator with integrated return flow function</b>					
Maxi	G1/2	192442	LFR-1/2-D-DI-MAXI-KC	192456	LFR-1/2-D-DI-MAXI-KC-A
	G3/4	192449	LFR-3/4-D-DI-MAXI-KC	192463	LFR-3/4-D-DI-MAXI-KC-A




## Datasheet LFR-KD

LFR...-MINI/MIDI-KD  
With condensate drain  
Manual



LFR...-MAXI-KD  
With condensate drain  
Manual



-  Flow rate  
595 ... 5000 l/min
-  Temperature range  
-10 ... +60°C
-  Operating pressure  
3 ... 16 bar

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- For unlubricated compressed air
- When the unit is switched off, quick exhausting ensures rapid pressure reduction
- Gradual pressure build-up at switch-on prevents sudden, unpredictable movements
- New filter cartridges → page 48

- Filter regulator LFR
- On/off valve HEE, electrically actuated, 24 V DC
- Soft-start valve HEL, pneumatically actuated
- Mounting accessories

General technical data							
Size	Mini		Midi			Maxi	
Pneumatic connection 1, 2	G1/8	G1/4	G1/4	G3/8	G1/2	G1/2	G3/4
Type of mounting	With accessories In-line installation						
Mounting position	Vertical ±5°						
Grade of filtration [µm]	40						
Air purity class at the output	Compressed air to ISO 8573-1:2010 [7:8:4], (compressed air to ISO 8573-1:2010 [6:8:4]) <sup>1)</sup> Inert gases						
Bowl guard	Metal bowl guard						
Condensate drain	Manual Fully automatic						
Actuator lock	Rotary knob with latch Rotary knob with integrated lock						
Pressure regulation range [bar]	2.5 ... 12						
Max. pressure hysteresis [bar]	0.15	0.15	0.25	0.25	0.25	0.3	0.2
Pressure indicator	With pressure gauge						
Max. condensate volume [cm <sup>3</sup> ]	22		43			80 (43) <sup>1)</sup>	

1) With the LFR...-D-DI.

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

Standard nominal flow rate $q_{n1}$ <sup>1)</sup> [l/min]							
Connection	Mini		Midi			Maxi	
	G1/8	G1/4	G1/4	G3/8	G1/2	G1/2	G3/4
In main flow direction 1 → 2	595	730	1440	1890	2000	4300 (3000) <sup>2)</sup>	5000 (2800) <sup>2)</sup>

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

2) With the LFR...-D-DI.

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


## Datasheet LFR-KD

Operating and environmental conditions		
Condensate drain	Manual	Fully automatic
Operating pressure [bar]	3 ... 16	
Operating medium	Compressed air to ISO 8573-1:2010 [---:--]	
	Inert gases	
Ambient temperature [°C]	-10 ... +60	
Temperature of medium [°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.

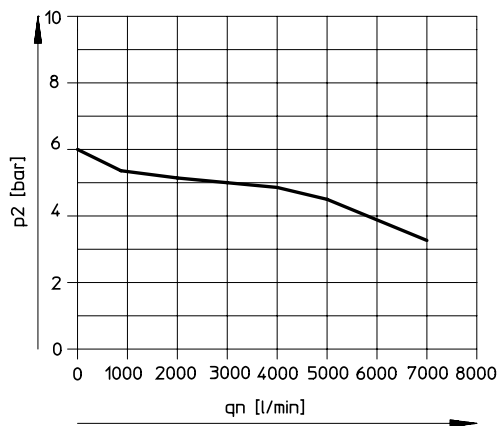
Weight [g]			
Size	Mini	Midi	Maxi
LFR	900	2100	3100 (3300) <sup>1)</sup>

1) With the LFR...-D-DI.

 **Note**  
 Materials → Datasheet for the individual components

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

LFR-1/2-D-DI-MAXI-KD(-A)



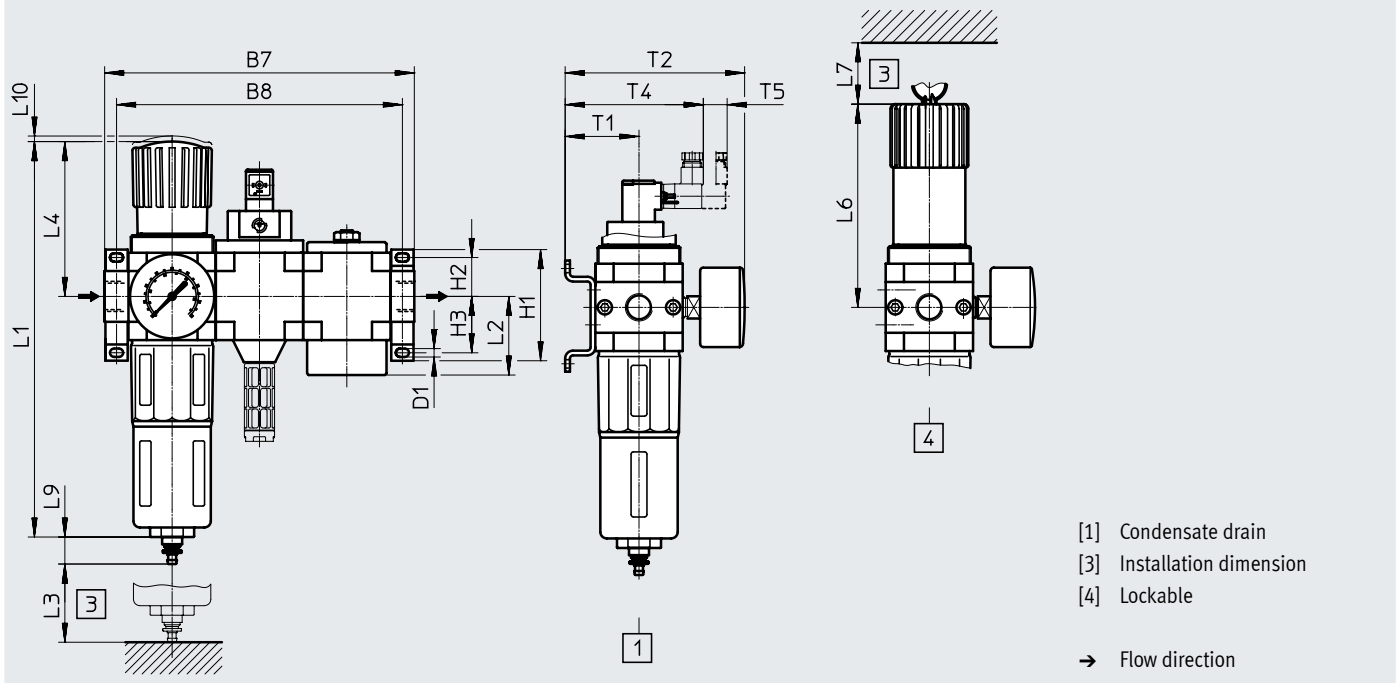
Primary pressure  $p_1 = 10$  bar

# Datasheet LFR-KD

## Dimensions

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LFR...-KD



Type	B7	B8	D1	H1	H2	H3	L1	L2	L3	L4	L6	L7	L9	L10	T1	T2	T4	T5	
<b>Mini</b>																			
LFR...-D-MINI-KD (A)	144	132	4.3	43	17.5	17.5	193	36	60	68	98	60	19	3	39	95	78	15	
<b>Midi</b>																			
LFR...-D-MIDI-KD (A)	195	180	5.3	70	24.5	35.5	250	49.5	80	99	130	60	19	3	47	114	86	15	
<b>Maxi</b>																			
LFR...-D-MAXI-KD (A)	228	212	5.3	70	24.5	35.5	252	56.4	90	82	111	60	19	3	53	126	92	15	
LFR...-D-DI-MAXI-KD (A)							275			105	135								

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

## Datasheet LFR-KD

### Ordering data

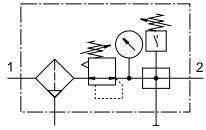
Rotary knob with latch, pressure gauge with outer scale in bar and inner scale in psi

Size	Connection	Condensate drain		Condensate drain	
		Manual		Fully automatic	
		Part no.	Type	Part no.	Type
Mini	G1/8	185743	LFR-1/8-D-MINI-KD	185744	LFR-1/8-D-MINI-KD-A
	G1/4	185745	LFR-1/4-D-MINI-KD	185746	LFR-1/4-D-MINI-KD-A
Midi	G1/4	185747	LFR-1/4-D-MIDI-KD	185748	LFR-1/4-D-MIDI-KD-A
	G3/8	185749	LFR-3/8-D-MIDI-KD	185750	LFR-3/8-D-MIDI-KD-A
	G1/2	185751	LFR-1/2-D-MIDI-KD	185752	LFR-1/2-D-MIDI-KD-A
Maxi	G1/2	186045	LFR-1/2-D-MAXI-KD	186046	LFR-1/2-D-MAXI-KD-A
	G3/4	185753	LFR-3/4-D-MAXI-KD	185754	LFR-3/4-D-MAXI-KD-A
<b>Directly actuated pressure regulator with integrated return flow function</b>					
Maxi	G1/2	192443	LFR-1/2-D-DI-MAXI-KD	192457	LFR-1/2-D-DI-MAXI-KD-A
	G3/4	192450	LFR-3/4-D-DI-MAXI-KD	192464	LFR-3/4-D-DI-MAXI-KD-A

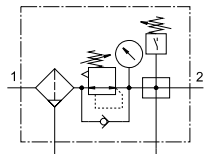


## Datasheet LFR-KE

LFR...-MINI/MIDI-KE  
With condensate drain  
Manual

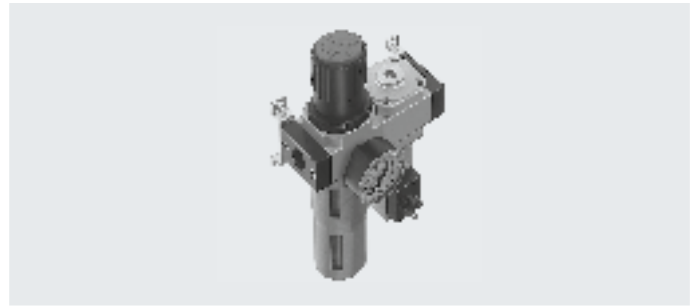


LFR...-MAXI-KE  
With condensate drain  
Manual



- Filter regulator LFR
- Branching module FRM with pressure switch
- Mounting accessories

- Flow rate  
720 ... 9400 l/min
- Temperature range  
-10 ... +60°C
- Operating pressure  
1 ... 16 bar
- [www.festo.com](http://www.festo.com)



- For unlubricated compressed air
- Two branch connections are available
- Electrical pressure monitoring with adjustable switching pressure
- New filter cartridges → page 48

### General technical data

Size	Mini		Midi			Maxi	
	G1/8	G1/4	G1/4	G3/8	G1/2	G1/2	G3/4
Pneumatic connection 1, 2	G1/8	G1/4	G1/4	G3/8	G1/2	G1/2	G3/4
Type of mounting	With accessories In-line installation						
Mounting position	Vertical ±5°						
Grade of filtration [µm]	40						
Air purity class at the output	Compressed air to ISO 8573-1:2010 [7:8:4], (compressed air to ISO 8573-1:2010 [6:8:4]) <sup>1)</sup> Inert gases						
Bowl guard	Metal bowl guard						
Condensate drain	Manual Fully automatic						
Actuator lock	Rotary knob with latch Rotary knob with integrated lock						
Pressure regulation range [bar]	0.5 ... 12						
Max. pressure hysteresis [bar]	0.15	0.15	0.25	0.2	0.2	0.2	0.3
Pressure indicator	With pressure gauge						
Max. condensate volume [cm <sup>3</sup> ]	22		43			80 (43) <sup>1)</sup>	

1) With the LFR...-D-DI.

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

### Standard nominal flow rate $q_{nn}^{1)}$ [l/min]

Connection	Mini		Midi			Maxi	
	G1/8	G1/4	G1/4	G3/8	G1/2	G1/2	G3/4
In main flow direction 1 → 2	720	1140	1850	2620	3050	9200 (5000) <sup>2)</sup>	9400 (6000) <sup>2)</sup>

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

2) With the LFR...-D-DI.

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

## Datasheet LFR-KE

Operating and environmental conditions		
Condensate drain	Manual	Fully automatic
Operating pressure [bar]	1 ... 16	2 ... 12
Operating medium	Compressed air to ISO 8573-1:2010 [-:-:-]	
	Inert gases	
Ambient temperature [°C]	-10 ... +60	
Temperature of medium [°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.

Weight [g]			
Size	Mini	Midi	Maxi
LFR	1000	2000	2400 (2600) <sup>1)</sup>

1) With the LFR...-D-DI.

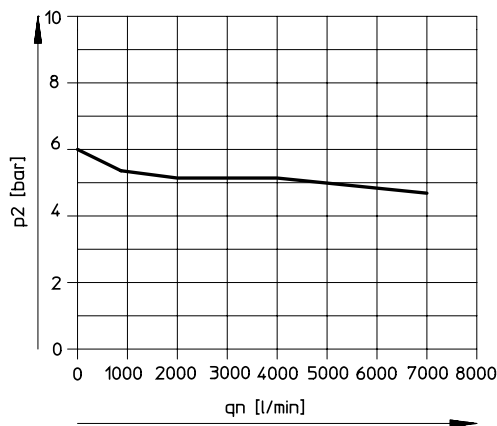


**Note**

Materials → Datasheet for the individual components

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

LFR-1/2-D-DI-MAXI-KE(-A)



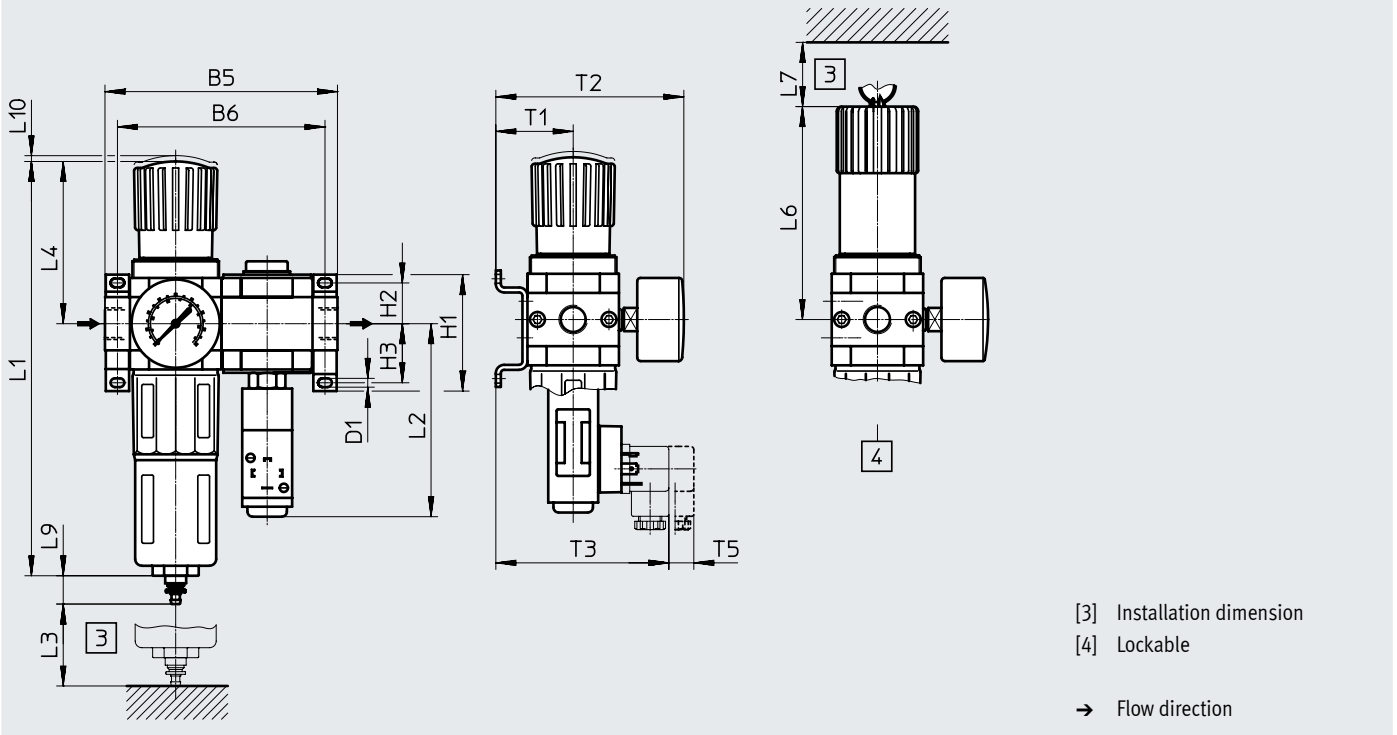
Primary pressure  $p_1 = 10$  bar

Datasheet LFR-KE

Dimensions

LFR...-KE

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Type	B5	B6	D1	H1	H2	H3	L1	L2	L3	L4	L6	L7	L9	L10	T1	T2	T3	T5	
<b>Mini</b>																			
LFR...-D-MINI-KE (A)	104	92	4.3	43	17.5	17.5	193	108	60	68	98	60	19	3	39	95	97	15	
<b>Midi</b>																			
LFR...-D-MIDI-KE (A)	140	125	5.3	70	24.5	35.5	250	117	80	99	130	60	19	3	47	114	109	15	
<b>Maxi</b>																			
LFR...-D-MAXI-KE (A)	162	146	5.3	70	24.5	35.5	252	122	90	82	111	60	19	3	53	126	111	15	
LFR...-D-DI-MAXI-KE (A)							275			105	135								

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

## Datasheet LFR-KE

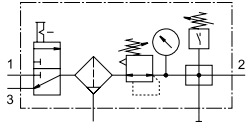
### Ordering data

Rotary knob with latch, pressure gauge with outer scale in bar and inner scale in psi

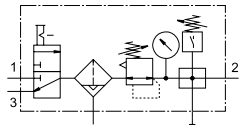
Size	Connection	Condensate drain Manual		Condensate drain Fully automatic	
		Part no.	Type	Part no.	Type
Mini	G1/8	185755	LFR-1/8-D-MINI-KE	185756	LFR-1/8-D-MINI-KE-A
	G1/4	185757	LFR-1/4-D-MINI-KE	185758	LFR-1/4-D-MINI-KE-A
Midi	G1/4	185759	LFR-1/4-D-MIDI-KE	185760	LFR-1/4-D-MIDI-KE-A
	G3/8	185761	LFR-3/8-D-MIDI-KE	185762	LFR-3/8-D-MIDI-KE-A
	G1/2	185763	LFR-1/2-D-MIDI-KE	185764	LFR-1/2-D-MIDI-KE-A
Maxi	G1/2	186047	LFR-1/2-D-MAXI-KE	186048	LFR-1/2-D-MAXI-KE-A
	G3/4	185765	LFR-3/4-D-MAXI-KE	185766	LFR-3/4-D-MAXI-KE-A
<b>Directly actuated pressure regulator with integrated return flow function</b>					
Maxi	G1/2	192444	LFR-1/2-D-DI-MAXI-KE	192458	LFR-1/2-D-DI-MAXI-KE-A
	G3/4	192451	LFR-3/4-D-DI-MAXI-KE	192465	LFR-3/4-D-DI-MAXI-KE-A




## Datasheet LFR-KF

LFR...-MINI/MIDI-KF  
With condensate drain  
Manual

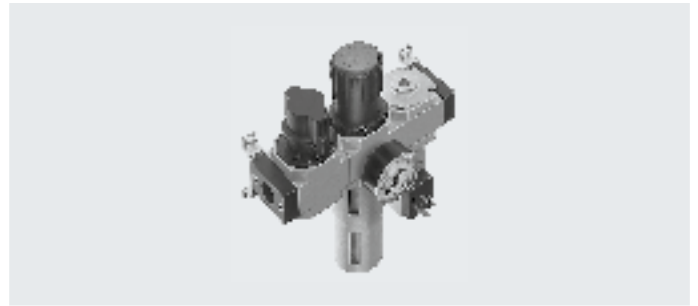


LFR...-MAXI-KF  
With condensate drain  
Manual



-  Flow rate  
700 ... 8400 l/min
-  Temperature range  
-10 ... +60°C
-  Operating pressure  
1 ... 16 bar

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- For unlubricated compressed air
- The operating pressure can be switched on or off
- Two branch connections are available
- Electrical pressure monitoring with adjustable switching pressure
- An additional quick exhaust valve is required at the service unit outlet for safe exhausting of the system
- New filter cartridges → page 48

- On/off valve HE, manually operated
- Filter regulator LFR
- Branching module FRM with pressure switch
- Mounting accessories

General technical data							
Size	Mini		Midi			Maxi	
Pneumatic connection 1, 2	G1/8	G1/4	G1/4	G3/8	G1/2	G1/2	G3/4
Type of mounting	With accessories In-line installation						
Mounting position	Vertical ±5°						
Grade of filtration [µm]	40						
Air purity class at the output	Compressed air to ISO 8573-1:2010 [7:8:4], (compressed air to ISO 8573-1:2010 [6:8:4]) <sup>1)</sup> Inert gases						
Bowl guard	Metal bowl guard						
Condensate drain	Manual Fully automatic						
Actuator lock	Rotary knob with latch Rotary knob with integrated lock						
Pressure regulation range [bar]	0.5 ... 12						
Max. pressure hysteresis [bar]	0.2	0.2	0.25	0.3	0.25	0.2	0.2
Pressure indicator	With pressure gauge						
Max. condensate volume [cm <sup>3</sup> ]	22		43			80 (43) <sup>1)</sup>	

1) With the LFR...-D-DI.

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

Standard nominal flow rate $q_{nN}^{1)}$ [l/min]							
Connection	Mini		Midi			Maxi	
	G1/8	G1/4	G1/4	G3/8	G1/2	G1/2	G3/4
In main flow direction 1 → 2	700	1050	1720	2420	2920	8000 (5000) <sup>2)</sup>	8400 (6000) <sup>2)</sup>

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

2) With the LFR...-D-DI.

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

## Datasheet LFR-KF


Operating and environmental conditions		
Condensate drain	Manual	Fully automatic
Operating pressure [bar]	1 ... 16	2 ... 12
Operating medium	Compressed air to ISO 8573-1:2010 [-:-:-]	
	Inert gases	
Ambient temperature [°C]	-10 ... +60	
Temperature of medium [°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.

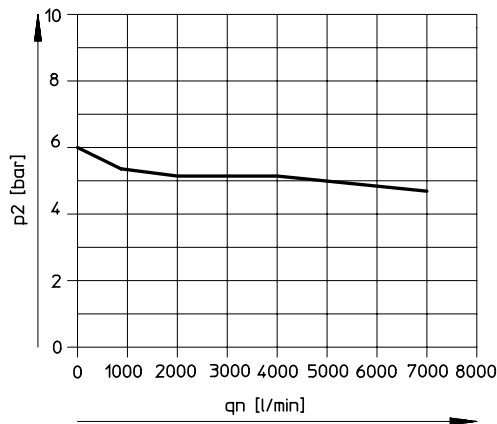
Weight [g]			
Size	Mini	Midi	Maxi
LFR	1200	2400	3300 (3500) <sup>1)</sup>

1) With the LFR...-D-DI.

 **Note**  
Materials → Datasheet for the individual components

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

LFR-1/2-D-DI-MAXI-KF(A)



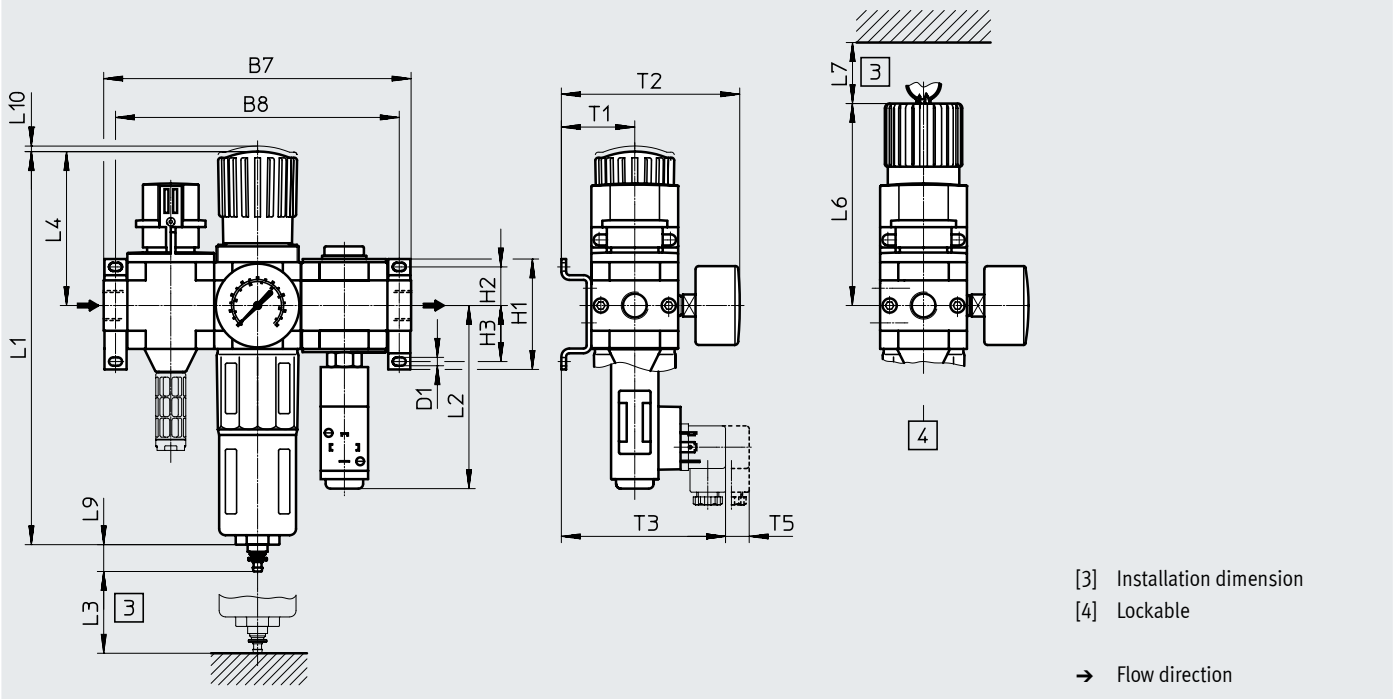
Primary pressure  $p_1 = 10$  bar

# Datasheet LFR-KF

## Dimensions

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LFR...-KF



[3] Installation dimension

[4] Lockable

→ Flow direction

Type	B7	B8	D1	H1	H2	H3	L1	L2	L3	L4	L6	L7	L9	L10	T1	T2	T3	T5	
<b>Mini</b>																			
LFR...-D-MINI-KF (A)	144	132	4.3	43	17.5	17.5	193	108	60	68	98	60	19	3	39	95	97	15	
<b>Midi</b>																			
LFR...-D-MIDI-KF (A)	195	180	5.3	70	24.5	35.5	250	117	80	99	130	60	19	3	47	114	105	15	
<b>Maxi</b>																			
LFR...-D-MAXI-KF (A)	228	212	5.3	70	24.5	35.5	252	122	90	82	111	60	19	3	53	126	111	15	
LFR...-D-DI-MAXI-KF (A)							275			105	135								

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

## Datasheet LFR-KF

### Ordering data

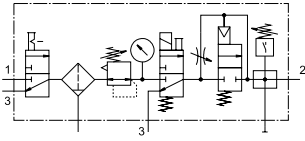
Rotary knob with latch, pressure gauge with outer scale in bar and inner scale in psi

Size	Connection	Condensate drain		Condensate drain	
		Manual		Fully automatic	
		Part no.	Type	Part no.	Type
Mini	G1/8	<b>185767</b>	<b>LFR-1/8-D-MINI-KF</b>	<b>185768</b>	<b>LFR-1/8-D-MINI-KF-A</b>
	G1/4	<b>185769</b>	<b>LFR-1/4-D-MINI-KF</b>	<b>185770</b>	<b>LFR-1/4-D-MINI-KF-A</b>
Midi	G1/4	<b>185771</b>	<b>LFR-1/4-D-MIDI-KF</b>	<b>185772</b>	<b>LFR-1/4-D-MIDI-KF-A</b>
	G3/8	<b>185773</b>	<b>LFR-3/8-D-MIDI-KF</b>	<b>185774</b>	<b>LFR-3/8-D-MIDI-KF-A</b>
	G1/2	<b>185775</b>	<b>LFR-1/2-D-MIDI-KF</b>	<b>185776</b>	<b>LFR-1/2-D-MIDI-KF-A</b>
Maxi	G1/2	<b>186049</b>	<b>LFR-1/2-D-MAXI-KF</b>	<b>186050</b>	<b>LFR-1/2-D-MAXI-KF-A</b>
	G3/4	<b>185777</b>	<b>LFR-3/4-D-MAXI-KF</b>	<b>185778</b>	<b>LFR-3/4-D-MAXI-KF-A</b>
<b>Directly actuated pressure regulator with integrated return flow function</b>					
Maxi	G1/2	<b>192445</b>	<b>LFR-1/2-D-DI-MAXI-KF</b>	<b>192459</b>	<b>LFR-1/2-D-DI-MAXI-KF-A</b>
	G3/4	<b>192452</b>	<b>LFR-3/4-D-DI-MAXI-KF</b>	<b>192466</b>	<b>LFR-3/4-D-DI-MAXI-KF-A</b>

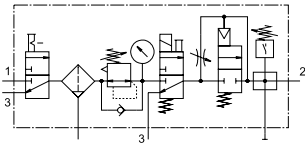





## Datasheet LFR-KG

LFR...-MINI/MIDI-KG  
With condensate drain  
Manual

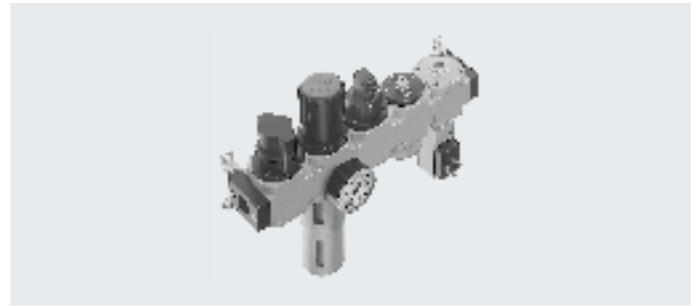


LFR...-MAXI-KG  
With condensate drain  
Manual



-  Flow rate  
575 ... 4900 l/min
-  Temperature range  
-10 ... +60°C
-  Operating pressure  
3 ... 16 bar

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- For unlubricated compressed air
- An additional quick exhaust valve is required at the service unit outlet for safe exhausting of the system
- Two branch connections are available
- Gradual pressure build-up at switch-on prevents sudden, unpredictable movements
- Electrical pressure monitoring with adjustable switching pressure
- New filter cartridges → page 48

- On/off valve HE, manually operated
- Filter regulator LFR
- On/off valve HEE, electrically actuated, 24 V DC
- Soft-start valve HEL, pneumatically actuated
- Branching module FRM with pressure switch
- Mounting accessories

General technical data							
Size	Mini		Midi			Maxi	
Pneumatic connection 1, 2	G1/8	G1/4	G1/4	G3/8	G1/2	G1/2	G3/4
Type of mounting	With accessories In-line installation						
Mounting position	Vertical ±5°						
Grade of filtration [µm]	40						
Air purity class at the output	Compressed air to ISO 8573-1:2010 [7:8:4], (compressed air to ISO 8573-1:2010 [6:8:4]) <sup>1)</sup> Inert gases						
Bowl guard	Metal bowl guard						
Condensate drain	Manual Fully automatic						
Actuator lock	Rotary knob with latch Rotary knob with integrated lock						
Pressure regulation range [bar]	2.5 ... 12						
Max. pressure hysteresis [bar]	0.15	0.15	0.25	0.2	0.2	0.25	0.25
Pressure indicator	With pressure gauge						
Max. condensate volume [cm <sup>3</sup> ]	22		43			80 (43) <sup>1)</sup>	

1) With the LFR...-D-DI.

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

Standard nominal flow rate $q_{n1}$ <sup>1)</sup> [l/min]							
Connection	Mini		Midi			Maxi	
	G1/8	G1/4	G1/4	G3/8	G1/2	G1/2	G3/4
In main flow direction 1 → 2	575	715	1370	1680	1740	4200 (2500) <sup>2)</sup>	4900 (3000) <sup>2)</sup>

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

2) With the LFR...-D-DI.

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

## Datasheet LFR-KG

Operating and environmental conditions		
Condensate drain	Manual	Fully automatic
Operating pressure [bar]	3 ... 16	
Operating medium	Compressed air to ISO 8573-1:2010 [:-::-]	
	Inert gases	
Ambient temperature [°C]	-10 ... +60	
Temperature of medium [°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.

Weight [g]			
Size	Mini	Midi	Maxi
LFR	1500	3400	5200 (5400) <sup>1)</sup>

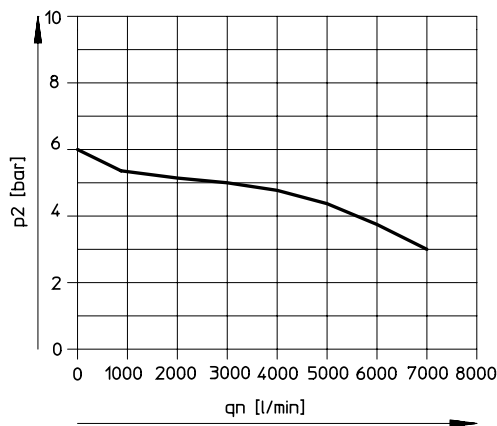
1) With the LFR...-D-DI.

 **Note**

Materials → Datasheet for the individual components

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

LFR-1/2-D-DI-MAXI-KG(-A)



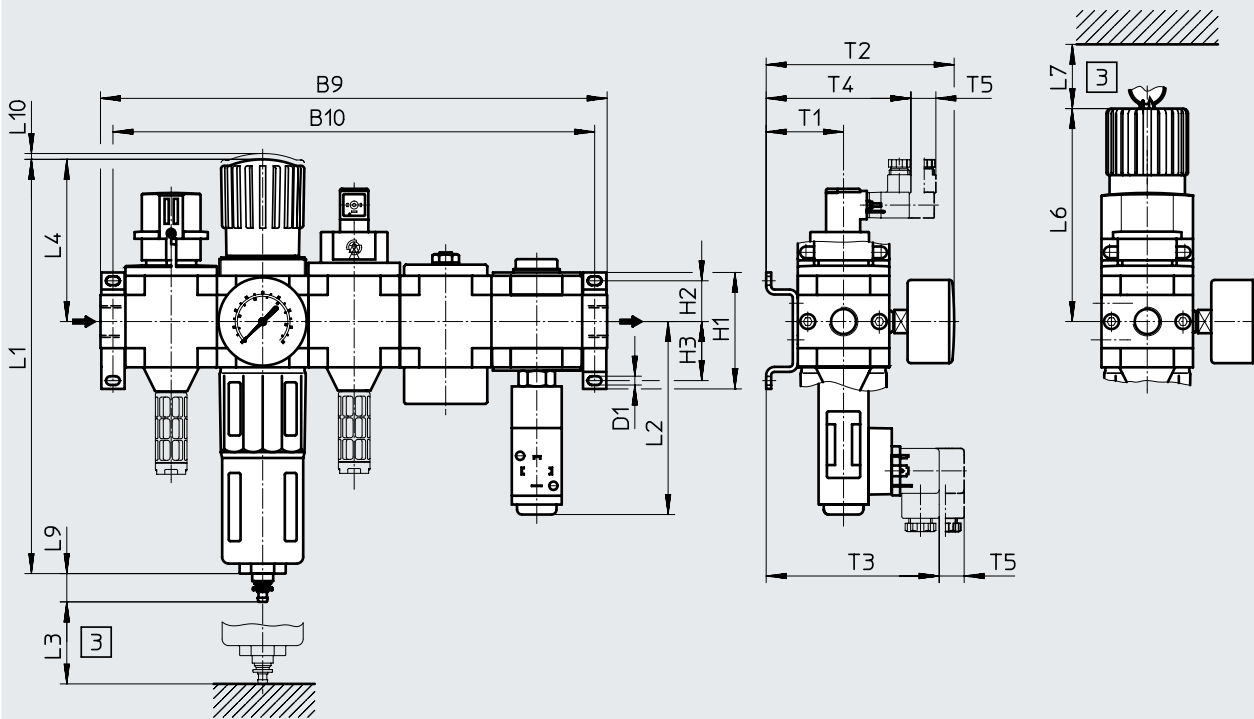
Primary pressure  $p_1 = 10$  bar

# Datasheet LFR-KG

## Dimensions

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

LFR...-KG



[3] Installation dimension

→ Flow direction

Type	B9	B10	D1	H1	H2	H3	L1	L2	L3	L4	L6	L7	L9	L10	T1	T2	T3	T4	T5
<b>Mini</b>																			
LFR...-D-MINI-KG (A)	224	212	4.3	43	17.5	17.5	193	108	60	68	98	60	19	3	39	95	97	78	15
<b>Midi</b>																			
LFR...-D-MIDI-KG (A)	305	290	5.3	70	24.5	35.5	250	117	80	99	130	60	19	3	47	114	105	86	15
<b>Maxi</b>																			
LFR...-D-MAXI-KG (A)	360	344	5.3	70	24.5	35.5	252	122	90	82	111	60	19	3	53	126	111	92	15
LFR...-D-DI-MAXI-KG (A)							275			105	135								

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

## Datasheet LFR-KG

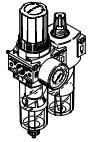
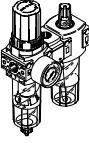
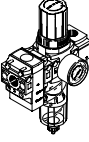
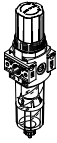

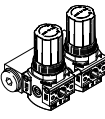

### Ordering data

Rotary knob with latch, pressure gauge with outer scale in bar and inner scale in psi

Size	Connection	Condensate drain		Condensate drain	
		Manual		Fully automatic	
		Part no.	Type	Part no.	Type
Mini	G1/8	185779	LFR-1/8-D-MINI-KG	185780	LFR-1/8-D-MINI-KG-A
	G1/4	185781	LFR-1/4-D-MINI-KG	185782	LFR-1/4-D-MINI-KG-A
Midi	G1/4	185783	LFR-1/4-D-MIDI-KG	185784	LFR-1/4-D-MIDI-KG-A
	G3/8	185785	LFR-3/8-D-MIDI-KG	185786	LFR-3/8-D-MIDI-KG-A
	G1/2	185787	LFR-1/2-D-MIDI-KG	185788	LFR-1/2-D-MIDI-KG-A
Maxi	G1/2	186051	LFR-1/2-D-MAXI-KG	186052	LFR-1/2-D-MAXI-KG-A
	G3/4	185789	LFR-3/4-D-MAXI-KG	185790	LFR-3/4-D-MAXI-KG-A
<b>Directly actuated pressure regulator with integrated return flow function</b>					
Maxi	G1/2	192446	LFR-1/2-D-DI-MAXI-KG	192460	LFR-1/2-D-DI-MAXI-KG-A
	G3/4	192453	LFR-3/4-D-DI-MAXI-KG	192467	LFR-3/4-D-DI-MAXI-KG-A

## Datasheet LFR-KG

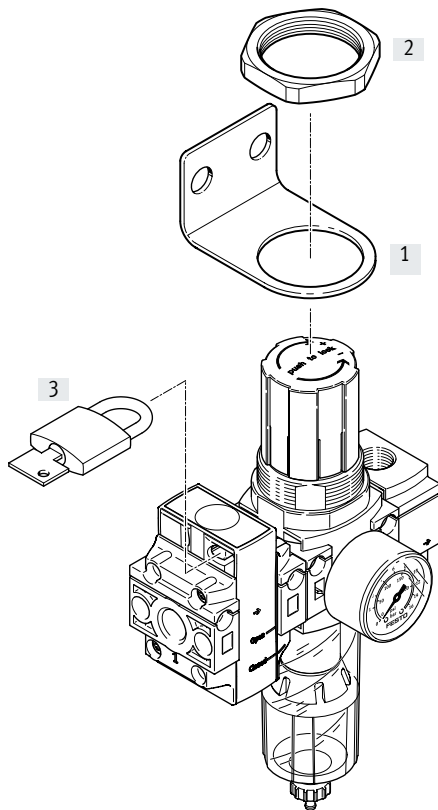
Product range overview – Service unit components, D series, polymer

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	■	-	■	-	■	■	■	40
<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



**Note**

The range of accessories depends on the service unit combination selected. The example shows the service unit combination LFR-KB.

### Mounting attachments and accessories

		→ Page/Internet
[1]	Mounting bracket HR-D	hr-d
[2]	Hex nut HMR	hmr-d
[3]	Padlock LRVS	lrvs-d
-	Filter cartridge MS4-LFP-E	48

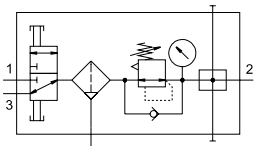


## Type codes

<b>001</b>	<b>Series</b>		
<b>LFR</b>	Filter regulator		
<b>002</b>	<b>Pneumatic connection</b>		
<b>1/4</b>	Female thread G1/4		
<b>003</b>	<b>Version</b>		
<b>DB</b>	D series, polymer		
<b>004</b>	<b>Pressure regulation range</b>		
<b>7</b>	0.5 ... 7 bar (0.05 ... 0.7 MPa)		
<b>005</b>	<b>Size</b>		
<b>MINI</b>	Grid dimension 40 mm (without connecting plates)		
<b>006</b>	<b>Service unit combination</b>		
<b>KB</b>	Filter regulator, branching module, on/off valve manually operated		
<b>KC</b>	On/off valve manually operated, filter regulator		

## Datasheet LFR-KB

### Function



- Manually operated on/off valve
- Filter regulator
- Distributor

- - Standard nominal flow rate  
1900 l/min
- - Temperature range  
-5 ... +50°C
- - Operating pressure  
1.5 ... 10 bar



- For unlubricated compressed air
- The operating pressure can be switched on or off
- Three connections are available
- New filter cartridges → page 48

General technical data	
Size	Mini
Pneumatic connection 1, 2, 3	G1/4
Design	On/off valve-filter regulator-distributor module
Regulator function	Output pressure constant, without primary pressure compensation, with return flow, with secondary venting
Type of mounting	In-line installation Via through-hole With mounting bracket
Mounting position	Vertical ±5°
Grade of filtration [µm]	40
Air purity class at the output	Compressed air to ISO 8573-1:2010 [7:8:4]
Condensate drain	Manual
Actuator lock	Rotary knob with latch Padlock (optional)
Exhaust function	Cannot be throttled
Pressure regulation range [bar]	0.5 ... 7
Max. pressure hysteresis [bar]	0.5
Pressure indicator	With pressure gauge
Pressure gauge connection	G1/8
Max. condensate volume [ml]	13

Flow rates [l/min]	
Standard nominal flow rate $q_{nN}^{1)}$	1900
Max. standard flow rate	2500

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

Operating and environmental conditions		
Operating pressure	[bar]	1.5 ... 10
Operating medium		Compressed air to ISO 8573-1:2010 [7:9:4]
Note on the operating/pilot medium		Lubricated operation not possible
Ambient temperature	[°C]	-5 ... +50
Temperature of medium	[°C]	-5 ... +50
Storage temperature	[°C]	-5 ... +50
Corrosion resistance class CRC <sup>1)</sup>		1

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

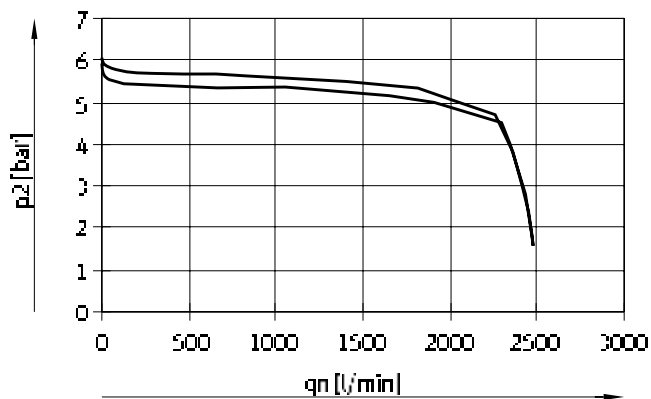
Low corrosion stress. Dry internal application or transport and storage protection. Also applies to parts behind covers, in the non-visible interior area, or parts which are covered in the application (e.g. drive trunnions).

Weight [g]	
Service unit	270

Materials	
Housing	Reinforced PA
Piston spool	POM
Bowl	PC
Rotary knob	POM
Filters	PE
Seals	NBR
On/off valve seals	FPM
Note on materials	RoHS-compliant

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

LFR-1/4-DB-7-MINI-KB



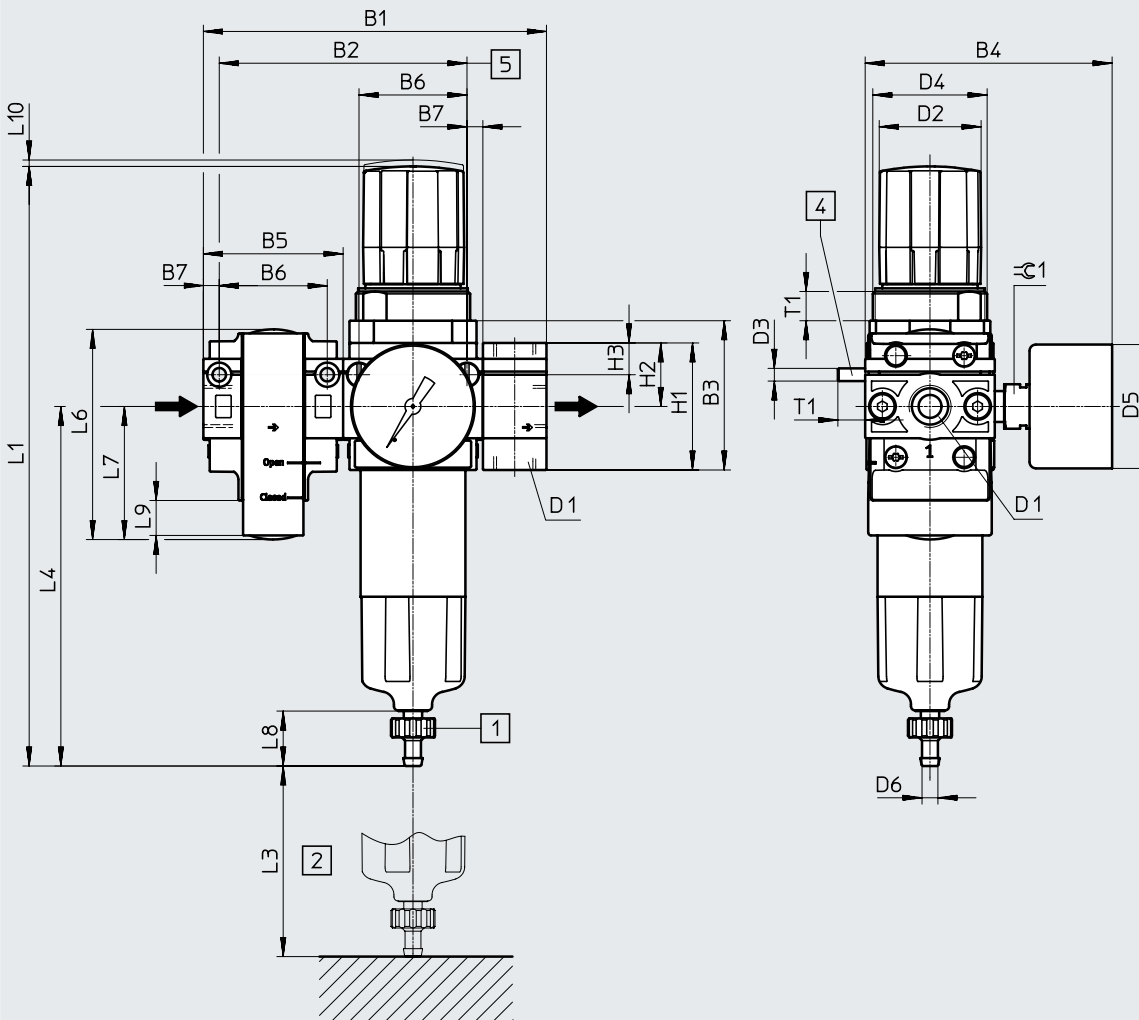
Input pressure  $p_1 = 10$  bar

Datasheet LFR-KB

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
  - [4] Socket head screw M4 for wall mounting (2 included in the scope of delivery)
  - [5] Recommended through-holes for wall mounting via socket head screws
- Flow direction

Type	D1	B1	B2	B3	B4	B5	B6	B7	D2 ∅	D3	D4	D5 ∅	D6 ∅
LFR-1/4-DB	G1/4	108	78	47	78	44	34	5	32	M4	M36x1.5	39	5.6

Type	H1	H2	H3	L1	L3 min.	L4	L6	L7	L8	L9	L10	T1	≈C 1
LFR-1/4-DB	40	20	10	189	60	113	66	42	17	11	2	9	14

Ordering data

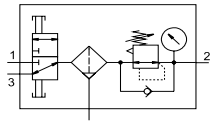
Condensate drain	Size	Connection	Grade of filtration 40 µm
			Part no.    Type

Pressure gauge with outer scale in bar and inner scale in psi

Manual	Mini	G1/4	<b>8002798</b>	<b>LFR-1/4-DB-7-MINI-KB</b>
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## Datasheet LFR-KC

## Function



- Manually operated on/off valve
- Filter regulator

- - Standard nominal flow rate  
1900 l/min
- - Temperature range  
-5 ... +50°C
- - Operating pressure  
1.5 ... 10 bar



- For unlubricated compressed air
- The operating pressure can be switched on or off
- New filter cartridges → page 48

General technical data	
Size	Mini
Pneumatic connection 1, 2	G1/4
Design	On/off valve-filter regulator
Regulator function	Output pressure constant, without primary pressure compensation, with return flow, with secondary venting
Type of mounting	In-line installation Via through-hole With mounting bracket
Mounting position	Vertical ±5°
Grade of filtration [μm]	40
Air purity class at the output	Compressed air to ISO 8573-1:2010 [7:8:4]
Condensate drain	Manual
Actuator lock	Rotary knob with latch Padlock (optional)
Exhaust function	Cannot be throttled
Pressure regulation range [bar]	0.5 ... 7
Max. pressure hysteresis [bar]	0.5
Pressure indicator	With pressure gauge
Pressure gauge connection	G1/8
Max. condensate volume [ml]	13

Flow rates [l/min]	
Standard nominal flow rate $q_{nN}^{1)}$	1900
Max. standard flow rate	2500

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

### Operating and environmental conditions

Operating pressure [bar]	1.5 ... 10
Operating medium	Compressed air to ISO 8573-1:2010 [7:9:4]
Note on the operating/pilot medium	Lubricated operation not possible
Ambient temperature [°C]	-5 ... +50
Temperature of medium [°C]	-5 ... +50
Storage temperature [°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).

### Weight [g]

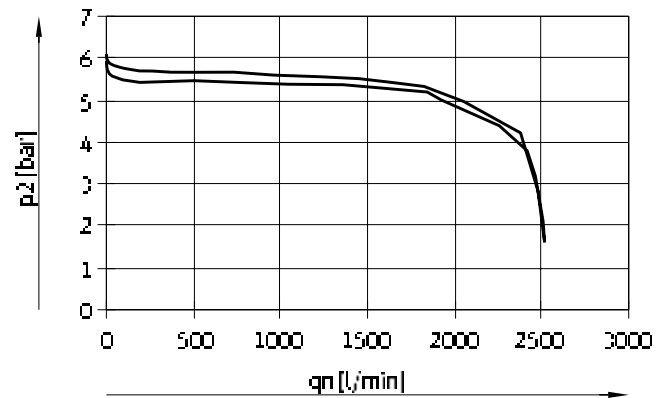
Service unit	245
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### Materials

Housing	Reinforced PA
Piston spool	POM
Bowl	PC
Rotary knob	POM
Filters	PE
Seals	NBR
On/off valve seals	FPM
Note on materials	RoHS-compliant

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

LFR-1/4-DB-7-MINI-KC



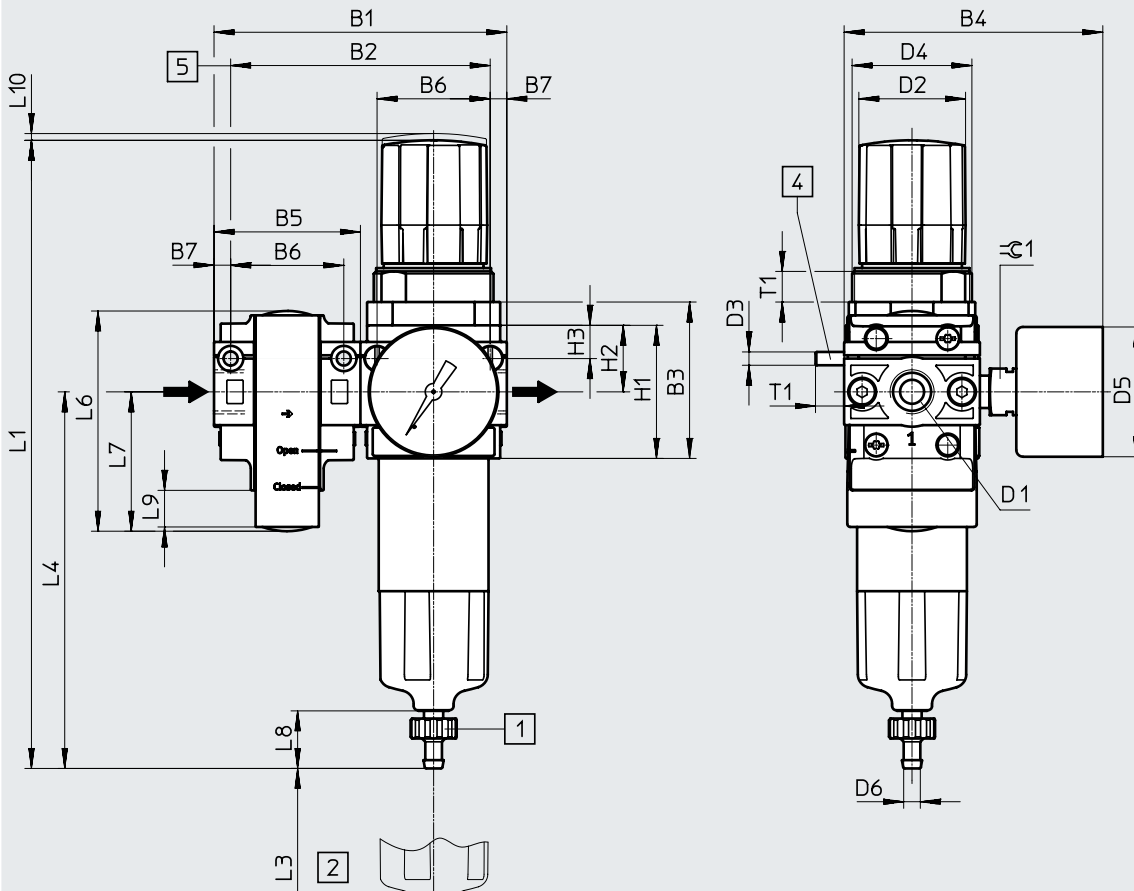
Input pressure  $p_1 = 10$  bar

Datasheet LFR-KC

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

[4] Socket head screw M4 for wall mounting (2 included in the scope of delivery)

[5] Recommended through-holes for wall mounting via socket head screws

→ Flow direction

Type	D1	B1	B2	B3	B4	B5	B6	B7	D2	D3	D4	D5	D6
LFR-1/4-DB	G1/4	88	78	47	78	44	34	5	∅ 32	M4	M36x1.5	∅ 39	∅ 5.6

Type	H1	H2	H3	L1	L3	L4	L6	L7	L8	L9	L10	T1	±0.1
LFR-1/4-DB	40	20	10	189	60 min.	113	66	42	17	11	2	9	14

Ordering data

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

Pressure gauge with outer scale in bar and inner scale in psi

Manual	Mini	G1/4	8002799	LFR-1/4-DB-7-MINI-KC
--------	------	------	---------	----------------------

## Accessories

### Filter cartridges, D series, metal



#### Ordering data

Size	Grade of filtration [µm]	Part no.	Type
Mini	40 (colour: white)	<b>363665</b>	<b>LFP-D-MINI-40M</b>
Midi	40 (colour: white)	<b>363667</b>	<b>LFP-D-MIDI-40M</b>
Maxi	40 (colour: white)	<b>363664</b>	<b>LFP-D-MAXI-40M</b>

### Filter cartridges, D series, polymer





#### Ordering data

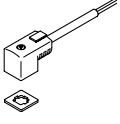
Size	Grade of filtration [µm]	Part no.	Type
Mini	40	<b>534502</b>	<b>MS4-LFP-E</b>




## Accessories

Ordering data – Angled plug socket PEV							Datasheets → Internet: pev-1/4
	Description	Operating voltage range	Electrical connection	Switching status indication	Part no.	Type	
	For PEV-1/4-...-OD	15 ... 30 V DC	4-pin	Yellow LED	<b>164274</b>	<b>PEV-1/4-WD-LED-24</b>	
		≤ 230 V AC ≤ 180 V DC	4-pin	Yellow LED	<b>164275</b>	<b>PEV-1/4-WD-LED-230</b>	

Ordering data – Plug socket MSSD							Datasheets → Internet: mssd
	Description	Operating voltage range	Electrical connection	Type of mounting for cable connection	Part no.	Type	
	For PEV-1/4-...-OD	≤ 250 V AC/DC	3-pin	Clamping screws	<b>171157</b>	<b>MSSD-C-4P</b>	
	For on/off valve HEE	≤ 250 V AC/DC	3-pin	Clamping screws	<b>151687</b>	<b>MSSD-EB</b>	
			4-pin	Insulation displacement technology	<b>192745</b>	<b>MSSD-EB-S-M14</b>	

Ordering data – Plug socket with cable KMEB							Datasheets → Internet: kmeb
	Description	Operating voltage	Electrical connection	Switching status indication	Cable length [m]	Part no.	Type
	For on/off valve HEE	24 V DC	3-pin	LED	2.5	<b>151688</b>	<b>KMEB-1-24-2.5-LED</b>
					5	<b>151689</b>	<b>KMEB-1-24-5-LED</b>
					10	<b>193457</b>	<b>KMEB-1-24-10-LED</b>
		230 V AC	3-pin	-	2.5	<b>151690</b>	<b>KMEB-1-230AC-2.5</b>
					5	<b>151691</b>	<b>KMEB-1-230AC-5</b>

Ordering data – Illuminating seal MEB-LD					Datasheets → Internet: meb
	Description	Operating voltage range	Part no.	Type	
	For plug socket with cable KMEB and plug socket MSSD-EB	12 ... 24 V DC	<b>151717</b>	<b>MEB-LD-12-24DC</b>	
		230 V DC/AC ±10%	<b>151718</b>	<b>MEB-LD-230AC</b>	