

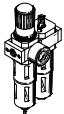

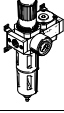
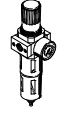
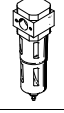
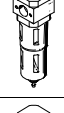
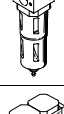


Service unit combinations LFR-K/LFRS-K, D series



# Service unit combinations LFR-K/LFRS-K, D series, metal design



Product range overview D series service units, metal design

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>Service unit combinations</b>																		
<b>FRC-K</b> 	Micro	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Mini	-	-	■	■	-	-	-	-	-	-	■	■	-	-	-	-	■
	Midi	-	-	-	■	■	■	■	-	-	-	■	■	-	-	-	-	■
	Maxi	-	-	-	-	-	■	■	-	-	-	■	■	-	-	-	-	■
<b>LFR-K LFRS-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>Active carbon filters LFX</b> 	Micro	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Mini	-	-	■	■	■	-	-	-	-	-	-	-	-	-	-	-	-
	Midi	-	-	-	■	■	■	■	-	-	-	-	-	-	-	-	-	-
	Maxi	-	-	-	-	-	■	■	■	-	-	-	-	-	-	-	-	-
<b>Filter combinations LFMBA</b> 	Micro	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Mini	-	-	■	■	■	-	-	-	-	-	-	-	■	■	-	-	-
	Midi	-	-	-	■	■	■	■	-	-	-	-	-	■	■	-	-	-
	Maxi	-	-	-	-	-	■	■	■	-	-	-	-	■	■	-	-	-
<b>Pressure regulators LR/LRS</b> 	Micro	■	■	■	-	-	-	-	-	■	■	■	-	-	-	-	-	-
	Mini	-	-	■	■	■	-	-	-	-	-	■	■	-	-	-	-	-
	Midi	-	-	-	■	■	■	■	-	-	-	■	■	-	-	-	-	-
	Maxi	-	-	-	-	-	■	■	■	-	-	■	■	-	-	-	-	-

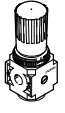
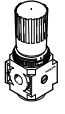
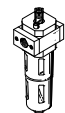


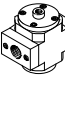
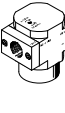


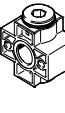
# Service unit combinations LFR-K/LFRS-K, D series, metal design

Product range overview D series service units, metal design

Type	Size	Bowl guard		Condensate drain			Pressure indication		Actuator lock		Supply voltage			Options			→ Page/ Internet
		Metal bowl guard	Plastic bowl	Manual rotary	Semi-automatic	Fully automatic	With pressure gauge	Without pressure gauge	Rotary knob with detent	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 indicator	
<b>Service units</b>																	
FRC/FRCS	Micro	-	■	■	■	-	■	■	■	-	-	-	-	-	-	-	frc
	Mini	■	-	■	-	■	■	■	■	■	-	-	-	-	-	-	
	Midi	■	-	■	-	■	■	■	■	■	-	-	-	-	-	-	
	Maxi	■	-	■	-	■	■	■	■	■	-	-	-	■	■	-	
<b>Service unit combinations</b>																	
FRC-K	Micro	-															frc
	Mini	■	-	■	-	■	■	-	■	-	■	-	-	-	-	-	
	Midi	■	-	■	-	■	■	-	■	-	■	-	-	-	-	-	
	Maxi	■	-	■	-	■	■	-	■	-	■	-	-	■	■	-	
LFR-K LFRS-K	Micro	-															6
	Mini	■	-	■	-	■	■	-	■	■	■	-	-	-	-	-	
	Midi	■	-	■	-	■	■	-	■	■	■	-	-	-	-	-	
	Maxi	■	-	■	-	■	■	-	■	■	■	-	-	■	■	-	
<b>Individual devices</b>																	
Filter regulators LFR/LFRS	Micro	-	■	■	■	-	■	■	■	-	-	-	-	-	-	-	lfr
	Mini	■	-	■	-	■	■	■	■	■	-	-	-	-	-	-	
	Midi	■	-	■	-	■	■	■	■	■	-	-	-	-	-	-	
	Maxi	■	-	■	-	■	■	■	■	■	-	-	-	■	■	-	
Filters LF	Micro	-	■	■	■	-	-	-	-	-	-	-	-	-	-	-	lf
	Mini	■	-	■	-	■	-	-	-	-	-	-	-	-	-	-	
	Midi	■	-	■	-	■	-	-	-	-	-	-	-	-	-	-	
	Maxi	■	-	■	-	■	-	-	-	-	-	-	-	-	-	-	
Fine and micro filters LFMA/LFMB	Micro	-															lfma, lfmb
	Mini	■	-	■	-	■	-	-	-	-	-	-	-	-	-	■	
	Midi	■	-	■	-	■	-	-	-	-	-	-	-	-	-	■	
	Maxi	■	-	■	-	■	-	-	-	-	-	-	-	-	-	■	
Active carbon filters LFX	Micro	-															lfx
	Mini	■	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Midi	■	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Maxi	■	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Filter combinations LFMBA	Micro	-															lfmba
	Mini	■	-	■	-	■	-	-	-	-	-	-	-	-	-	■	
	Midi	■	-	■	-	■	-	-	-	-	-	-	-	-	-	■	
	Maxi	■	-	■	-	■	-	-	-	-	-	-	-	-	-	■	
Pressure regulators LR/LRS	Micro	-	-	-	-	-	■	■	■	-	-	-	-	-	-	-	lr
	Mini	-	-	-	-	-	■	■	■	■	-	-	-	■	-	-	
	Midi	-	-	-	-	-	■	■	■	■	-	-	-	■	-	-	
	Maxi	-	-	-	-	-	■	■	■	■	-	-	-	■	■	-	

# Service unit combinations LFR-K/LFRS-K, D series, metal design

Product range overview D series service units, metal design

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 combinations <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, electrical <b>HEE</b>		Micro	-											
		Mini	-	-	■	■	■	-	-	-	-	-	-	-
		Midi	-	-	-	■	■	■	■	-	-	-	-	-
		Maxi	-	-	-	-	-	■	■	■	-	-	-	-
On-off valves, pneumatic <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	-											

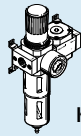
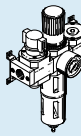
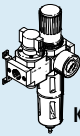
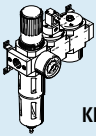
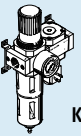
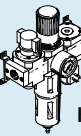
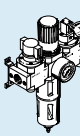
# Service unit combinations LFR-K/LFRS-K, D series, metal design

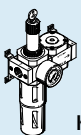
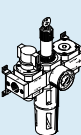
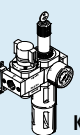
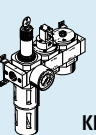
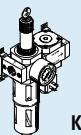
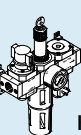
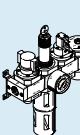
Product range overview D series service units, metal design

Type	Size	Bowl guard		Pressure indication		Actuator lock		Supply voltage			Options		→ Page/ Internet
		Metal bowl guard	Plastic bowl	With pressure gauge	Without pressure gauge	Rotary knob with detent	Rotary knob with integrated lock	24 V DC	110 V AC	230 V AC	Non-return function	Pressure switch	
<b>Individual devices</b>													
Pressure regulators <b>LRB/LRBS</b>	Micro	-	-	-	■	■	■	-	-	-	-	-	lrb
	Mini	-	-	-	■	■	■	-	-	-	-	-	
	Midi	-	-	-	■	■	■	-	-	-	-	-	
	Maxi	-	-	-	■	■	■	-	-	-	-	-	
Pressure regulator combinations <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, electrical <b>HEE</b>	Micro	-	-	-	■	-	-	■	■	■	-	-	hee
	Mini	-	-	-	■	-	-	■	■	■	-	-	
	Midi	-	-	-	■	-	-	■	■	■	-	-	
	Maxi	-	-	-	■	-	-	■	■	■	-	-	
On-off valves, pneumatic <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	-	-	-	■	-	-	-	-	-	-	-	

# Service unit combinations LFR-K/LFRS-K, D series, metal design

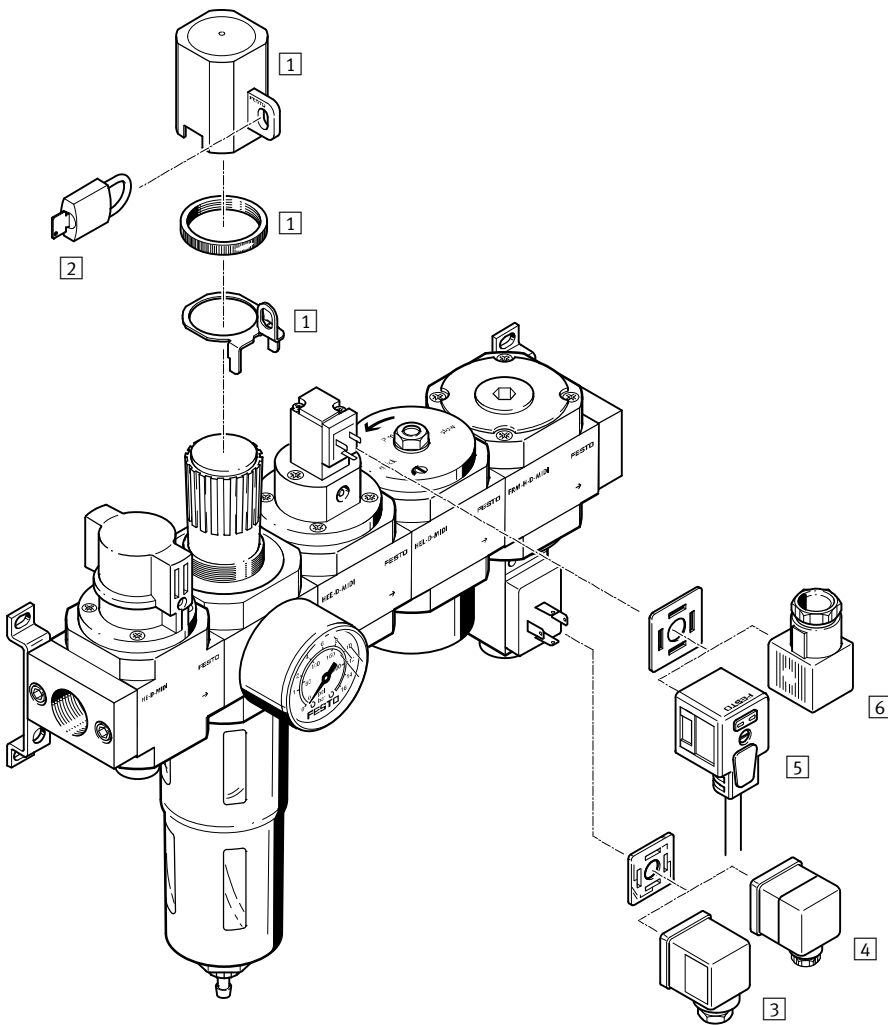
Product range overview

LFR Rotary knob with detent	 KA	 KB	 KC	 KD	 KE	 KF	 KG
<b>Individual devices</b>							
On-off valve manually actuated	-	■	■	-	-	■	■
Filter regulator with pressure gauge	■	■	■	■	■	■	■
Branching module	■	■	-	-	-	-	-
On-off valve solenoid 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

LFRS Rotary knob with integrated lock	 KA	 KB	 KC	 KD	 KE	 KF	 KG
<b>Individual devices</b>							
On-off valve manually actuated	-	■	■	-	-	■	■
Filter regulator with pressure gauge	■	■	■	■	■	■	■
Branching module	■	■	-	-	-	-	-
On-off valve with solenoid 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

# Service unit combinations LFR-K/LFRS-K, D series, metal design

Peripherals overview



**Note**

The choice of accessories depends on the selected service unit combination. The example shows the service unit combination LFR-KG. This combination can also be obtained with a lockable rotary regulator as service unit combination LFRS-KG.

Range of accessories  
 → Peripherals pages of the individual devices

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

# Service unit combinations LFR-K/LFRS-K, D series, metal design

Type codes

LFR – 1/2 – D – DI – MAXI – KA – A

### Basic function

LFR	Service unit combination
LFRS	Service unit combination, lockable

### Pneumatic connection

1/8	Thread G1/8
1/4	Thread G1/4
3/8	Thread G3/8
1/2	Thread G1/2
3/4	Thread G3/4

### Series

D	Series
---	--------

### Function (MAXI size only)

DI	Directly actuated pressure regulator with integrated return flow function
----	---

### Size

MINI	Grid dimension for individual device 40 mm (without connecting plates)
MIDI	Grid dimension for individual device 55 mm (without connecting plates)
MAXI	Grid dimension for individual device 66 mm (without connecting plates)

### Options for service unit combinations

KA	Filter regulator, branching module
KB	On-off valve manually actuated, filter regulator, branching module
KC	On-off valve manually actuated, filter regulator
KD	Filter regulator, on-off valve solenoid actuated, 24 V DC, soft-start valve pneumatically actuated
KE	Filter regulator, branching module with pressure switch
KF	On-off valve manually actuated, filter regulator, branching module with pressure switch
KG	On-off valve manually actuated, filter regulator, on-off valve solenoid actuated, 24 V DC, soft-start valve pneumatically actuated, branching module with pressure switch

### Condensate drain

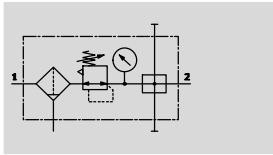
	Turned manually
A	Fully automatic



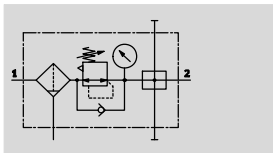
# Service unit combinations LFR-KA/LFRS-KA, D series, metal design

Technical data combination LFR-KA/LFRS-KA

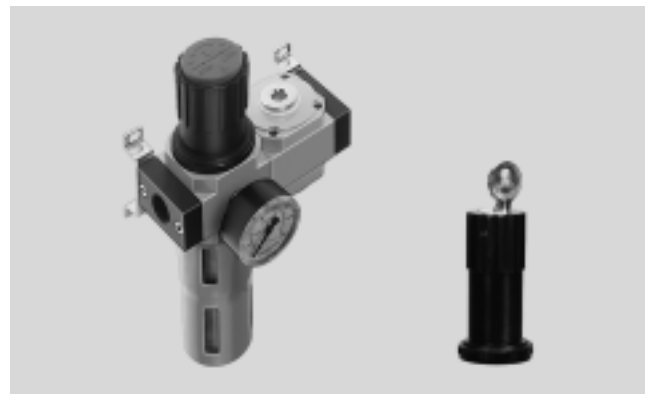
LFR/LFRS-...-MINI/MIDI-KA  
With condensate drain  
manual rotary



LFR/LFRS-...-MAXI-KA  
With condensate drain  
manual rotary



- - Flow rate  
720 ... 9,400 l/min
- - Temperature range  
-10 ... +60 °C
- - Operating pressure  
1 ... 16 bar (0.1 ... 1.6 MPa)
- - [www.festo.com](http://www.festo.com)



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

- Filter regulator LFR/LFRS
- Branching module FRM
- Mounting accessories

General technical data							
Size	Mini		Midi			Maxi	
Pneumatic connection 1, 2	G <sup>1</sup> / <sub>8</sub>	G <sup>1</sup> / <sub>4</sub>	G <sup>1</sup> / <sub>4</sub>	G <sup>3</sup> / <sub>8</sub>	G <sup>1</sup> / <sub>2</sub>	G <sup>1</sup> / <sub>2</sub>	G <sup>3</sup> / <sub>4</sub>
Type of mounting	Via accessories In-line installation						
Assembly position	Vertical ±5°						
Grade of filtration [µm]	40						
Air purity class at the output	Compressed air in accordance with ISO 8573-1:2010 [7:8:4] (Compressed air in accordance with ISO 8573-1:2010 [6:8:4]) <sup>1)</sup> Inert gases						
Bowl guard	Metal bowl guard						
Condensate drain	Manual rotary Fully automatic						
Actuator lock	Rotary knob with detent Rotary knob with integrated lock						
Pressure regulation range [bar]	0.5 ... 12 (0.05 ... 1.2 MPa)						
Max. hysteresis [bar]	0.15 (0.015 MPa)	0.15 (0.015 MPa)	0.25 (0.025 MPa)	0.2 (0.02 MPa)	0.2 (0.02 MPa)	0.2 (0.02 MPa)	0.3 (0.03 MPa)
Pressure indication	Via pressure gauge						
Max. condensate volume [cm <sup>3</sup> ]	22			43		80 (43) <sup>1)</sup>	

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

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

Standard nominal flow rate $q_{mN}^{1)}$ [l/min]							
Connection	Mini		Midi			Maxi	
	G <sup>1</sup> / <sub>8</sub>	G <sup>1</sup> / <sub>4</sub>	G <sup>1</sup> / <sub>4</sub>	G <sup>3</sup> / <sub>8</sub>	G <sup>1</sup> / <sub>2</sub>	G <sup>1</sup> / <sub>2</sub>	G <sup>3</sup> / <sub>4</sub>
In main flow direction 1 → 2	720	1,140	1,850	2,620	3,050	9,200 (5,200) <sup>2)</sup>	9,400 (5,800) <sup>2)</sup>

1) Measured at p<sub>1</sub> = 10 bar (1 MPa), p<sub>2</sub> = 6 bar (0.6 MPa) and Δp = 1 bar (0.1 MPa).

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

# Service unit combinations LFR-KA/LFRS-KA, D series, metal design


Technical data combination LFR-KA/LFRS-KA

Operating and environmental conditions		
Condensate drain	Manual rotary	Fully automatic
Operating pressure [bar]	1 ... 16 (0.1 ... 1.6 MPa)	2 ... 12 (0.2 ... 1.2 MPa)
Operating medium	Compressed air in accordance with 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	
Certification	Germanischer Lloyd	

1) Corrosion resistance class CRC 2 to Festo standard FN 940070  
 Moderate corrosion stress. Indoor applications in which condensation may occur. External visible parts with primarily decorative requirements for the surface and which are in direct contact with the ambient atmosphere typical for industrial applications.

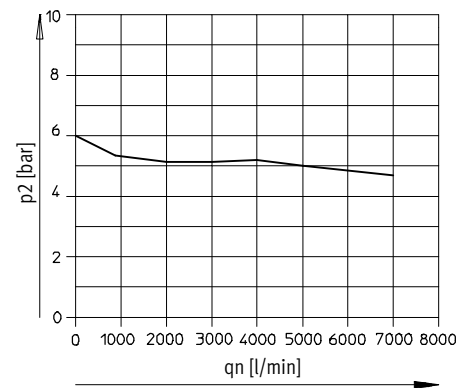
Weight [g]			
Size	Mini	Midi	Maxi
LFR	800	1,800	2,400 (2,600) <sup>1)</sup>
LFRS	900	2,040	2,500

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

-  - Note  
 Materials → Technical data of the individual devices

## Standard flow rate qn as a function of the output pressure p2

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



Primary pressure p1 = 10 bar (1 MPa)

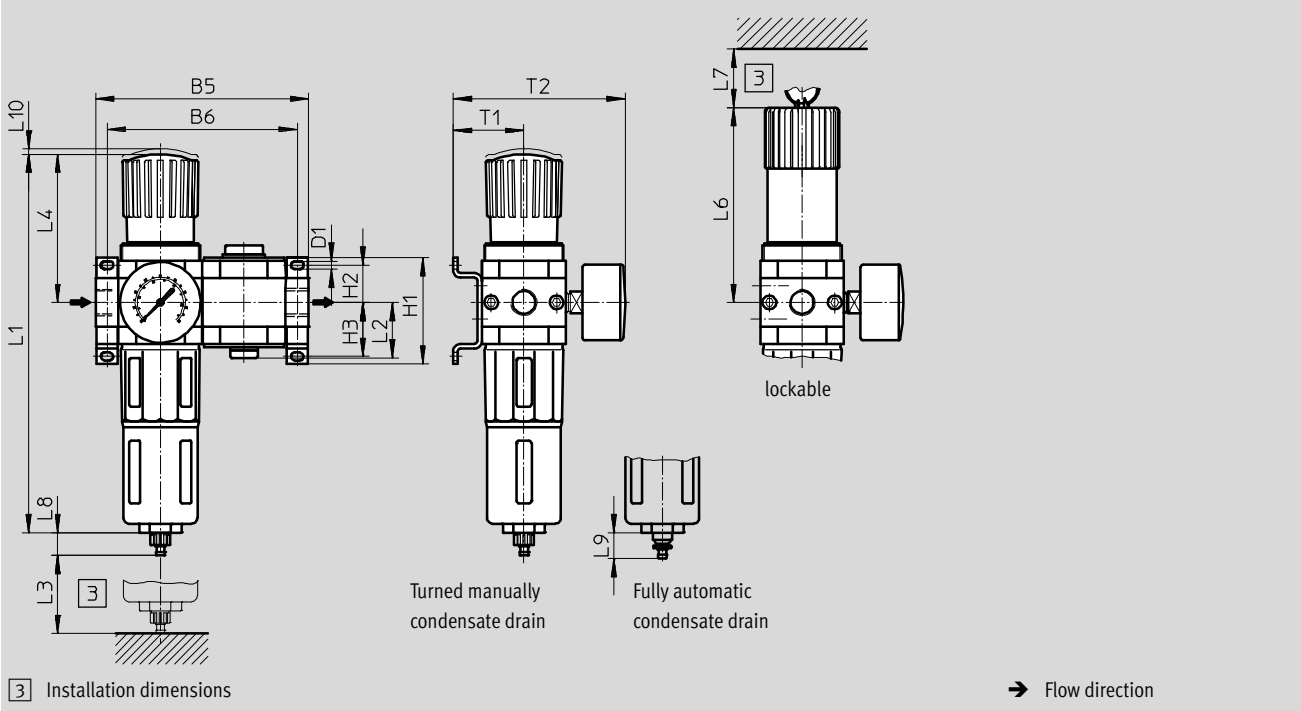
# Service unit combinations LFR-KA/LFRS-KA, D series, metal design

Technical data combination LFR-KA/LFRS-KA

**Dimensions**

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

LFR/LFRS-...-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
LFRS-...-D-MINI-KA (A)																	
<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
LFRS-...-D-MIDI-KA (A)																	
<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
LFRS-...-D-MAXI-KA (A)							275			105	135						
LFR-...-D-DI-MAXI-KA (A)																	

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

## Service unit combinations LFR-KA/LFRS-KA, D series, metal design

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Technical data combination LFR-KA/LFRS-KA

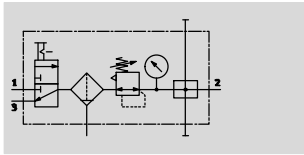
Ordering data					
Rotary knob with detent, pressure gauge with outer scale in bar and inner scale in psi					
Size	Connection	Condensate drain turned manually		Condensate drain fully automatic	
		Part No.	Type	Part No.	Type
Mini	G $\frac{1}{8}$	185707	LFR- $\frac{1}{8}$ -D-MINI-KA	185708	LFR- $\frac{1}{8}$ -D-MINI-KA-A
	G $\frac{1}{4}$	185709	LFR- $\frac{1}{4}$ -D-MINI-KA	185710	LFR- $\frac{1}{4}$ -D-MINI-KA-A
Midi	G $\frac{1}{4}$	185711	LFR- $\frac{1}{4}$ -D-MIDI-KA	185712	LFR- $\frac{1}{4}$ -D-MIDI-KA-A
	G $\frac{3}{8}$	185713	LFR- $\frac{3}{8}$ -D-MIDI-KA	185714	LFR- $\frac{3}{8}$ -D-MIDI-KA-A
	G $\frac{1}{2}$	185715	LFR- $\frac{1}{2}$ -D-MIDI-KA	185716	LFR- $\frac{1}{2}$ -D-MIDI-KA-A
Maxi	G $\frac{1}{2}$	186039	LFR- $\frac{1}{2}$ -D-MAXI-KA	186040	LFR- $\frac{1}{2}$ -D-MAXI-KA-A
	G $\frac{3}{4}$	185717	LFR- $\frac{3}{4}$ -D-MAXI-KA	185718	LFR- $\frac{3}{4}$ -D-MAXI-KA-A
Directly actuated pressure regulator with integrated return flow function					
Maxi	G $\frac{1}{2}$	192440	LFR- $\frac{1}{2}$ -D-DI-MAXI-KA	192454	LFR- $\frac{1}{2}$ -D-DI-MAXI-KA-A
	G $\frac{3}{4}$	192447	LFR- $\frac{3}{4}$ -D-DI-MAXI-KA	192461	LFR- $\frac{3}{4}$ -D-DI-MAXI-KA-A

Ordering data					
Rotary knob with integrated lock, pressure gauge with outer scale in bar and inner scale in psi					
Size	Connection	Condensate drain turned manually		Condensate drain fully automatic	
		Part No.	Type	Part No.	Type
Mini	G $\frac{1}{8}$	195008	LFRS- $\frac{1}{8}$ -D-MINI-KA	195009	LFRS- $\frac{1}{8}$ -D-MINI-KA-A
	G $\frac{1}{4}$	195022	LFRS- $\frac{1}{4}$ -D-MINI-KA	195023	LFRS- $\frac{1}{4}$ -D-MINI-KA-A
Midi	G $\frac{1}{4}$	195036	LFRS- $\frac{1}{4}$ -D-MIDI-KA	195037	LFRS- $\frac{1}{4}$ -D-MIDI-KA-A
	G $\frac{3}{8}$	195050	LFRS- $\frac{3}{8}$ -D-MIDI-KA	195051	LFRS- $\frac{3}{8}$ -D-MIDI-KA-A
	G $\frac{1}{2}$	195064	LFRS- $\frac{1}{2}$ -D-MIDI-KA	195065	LFRS- $\frac{1}{2}$ -D-MIDI-KA-A
Maxi	G $\frac{1}{2}$	195078	LFRS- $\frac{1}{2}$ -D-MAXI-KA	195079	LFRS- $\frac{1}{2}$ -D-MAXI-KA-A
	G $\frac{3}{4}$	195092	LFRS- $\frac{3}{4}$ -D-MAXI-KA	195093	LFRS- $\frac{3}{4}$ -D-MAXI-KA-A

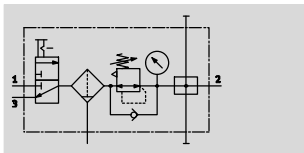
# Service unit combinations LFR-KB/LFRS-KB, D series, metal design

Technical data combination LFR-KB/LFRS-KB

LFR/LFRS-...-MINI/MIDI-KB  
With condensate drain  
manual rotary

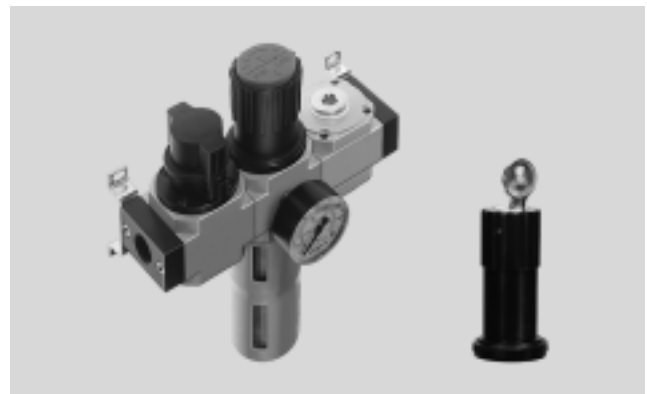


LFR/LFRS-...-MAXI-KB  
With condensate drain  
manual rotary



- On-off valve HE manually actuated
- Filter regulator LFR/LFRS
- Branching module FRM
- Mounting accessories

- Flow rate  
700 ... 8,400 l/min
- Temperature range  
-10 ... +60 °C
- Operating pressure  
1 ... 16 bar (0.1 ... 1.6 MPa)
- [www.festo.com](http://www.festo.com)



- For unlubricated compressed air supply
- Operating pressure can be opened and closed
- Three branch connections are available
- To ensure safe venting of the system, an additional quick exhaust valve is necessary at the output of the service unit combination
- New filter cartridges → 48

General technical data							
Size	Mini		Midi			Maxi	
Pneumatic connection 1, 2	G <sup>1</sup> / <sub>8</sub>	G <sup>1</sup> / <sub>4</sub>	G <sup>1</sup> / <sub>4</sub>	G <sup>3</sup> / <sub>8</sub>	G <sup>1</sup> / <sub>2</sub>	G <sup>1</sup> / <sub>2</sub>	G <sup>3</sup> / <sub>4</sub>
Type of mounting	Via accessories In-line installation						
Assembly position	Vertical ±5°						
Grade of filtration [µm]	40						
Air purity class at the output	Compressed air in accordance with ISO 8573-1:2010 [7:8:4] (Compressed air in accordance with ISO 8573-1:2010 [6:8:4]) <sup>1)</sup> Inert gases						
Bowl guard	Metal bowl guard						
Condensate drain	Manual rotary Fully automatic						
Actuator lock	Rotary knob with detent Rotary knob with integrated lock						
Pressure regulation range [bar]	0.5 ... 12 (0.05 ... 1.2 MPa)						
Max. hysteresis [bar]	0.2 (0.02 MPa)	0.2 (0.02 MPa)	0.25 (0.025 MPa)	0.35 (0.035 MPa)	0.35 (0.035 MPa)	0.1 (0.01 MPa)	0.2 (0.02 MPa)
Pressure indication	Via pressure gauge						
Max. condensate volume [cm <sup>3</sup> ]	22		43			80 (43) <sup>1)</sup>	

1) For the LFR/LFRS-...-D-DI.

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

Standard nominal flow rate $q_{nN}^{1)}$ [l/min]							
Connection	Mini		Midi			Maxi	
	G <sup>1</sup> / <sub>8</sub>	G <sup>1</sup> / <sub>4</sub>	G <sup>1</sup> / <sub>4</sub>	G <sup>3</sup> / <sub>8</sub>	G <sup>1</sup> / <sub>2</sub>	G <sup>1</sup> / <sub>2</sub>	G <sup>3</sup> / <sub>4</sub>
In main flow direction 1 → 2	700	1,050	1,720	2,420	2,920	8,000 (5,400) <sup>2)</sup>	8,400 (7,000) <sup>2)</sup>

1) Measured at p<sub>1</sub> = 10 bar (1 MPa), p<sub>2</sub> = 6 bar (0.6 MPa) and Δp = 1 bar (0.1 MPa).

2) For the LFR/LFRS-...-D-DI.

# Service unit combinations LFR-KB/LFRS-KB, D series, metal design


Technical data combination LFR-KB/LFRS-KB

Operating and environmental conditions		
Condensate drain	Manual rotary	Fully automatic
Operating pressure [bar]	1 ... 16 (0.1 ... 1.6 MPa)	2 ... 12 (0.2 ... 1.2 MPa)
Operating medium	Compressed air in accordance with 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	
Certification	Germanischer Lloyd	

1) Corrosion resistance class CRC 2 to Festo standard FN 940070  
 Moderate corrosion stress. Indoor applications in which condensation may occur. External visible parts with primarily decorative requirements for the surface and which are in direct contact with the ambient atmosphere typical for industrial applications.

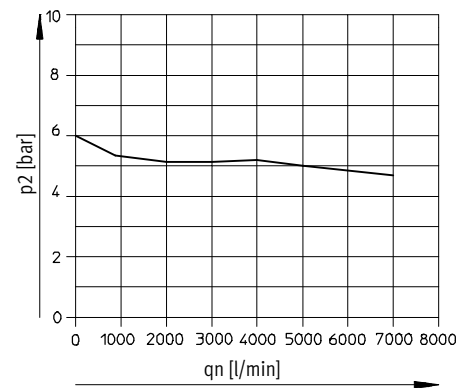
Weight [g]			
Size	Mini	Midi	Maxi
LFR	1,000	2,200	3,300 (3,500) <sup>1)</sup>
LFRS	1,100	2,440	3,400 (3,740) <sup>1)</sup>

1) For the LFR/LFRS-...-D-DI.

-  - Note  
 Materials → Technical data of the individual devices

## Standard flow rate qn as a function of the output pressure p2

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



Primary pressure p1 = 10 bar (1 MPa)

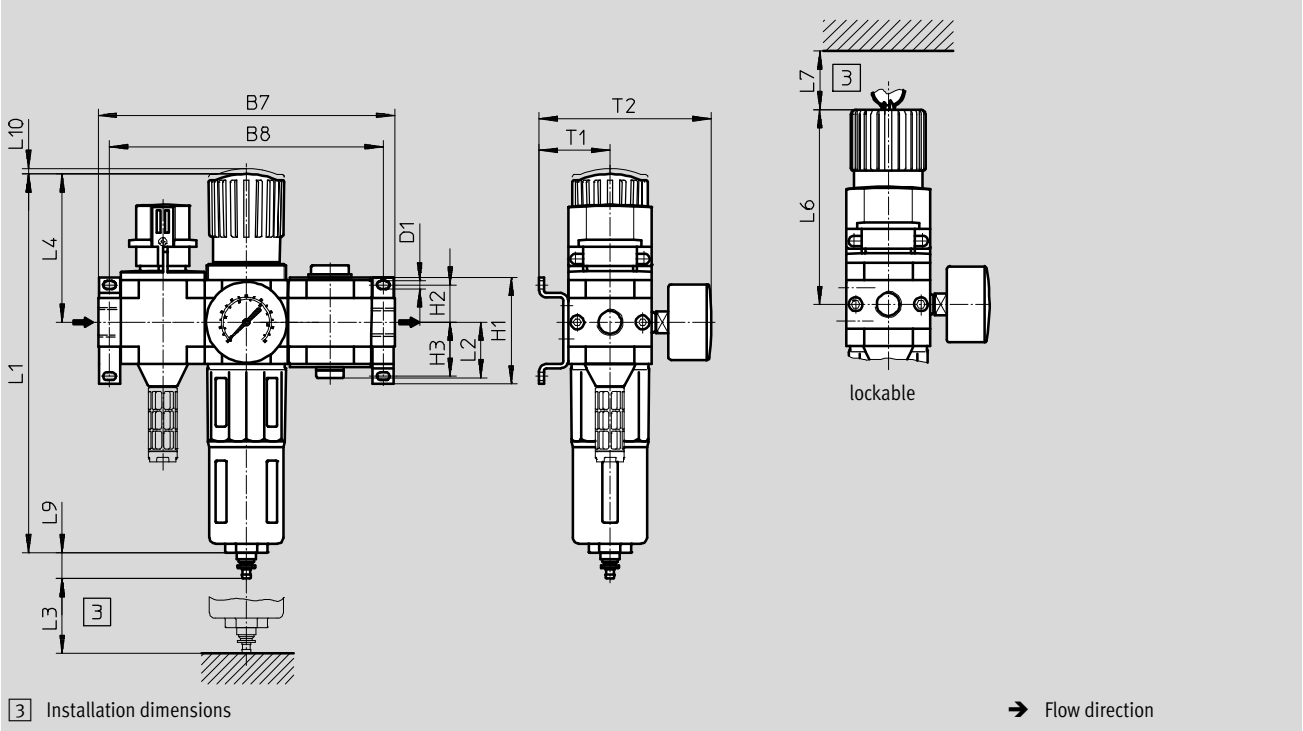
# Service unit combinations LFR-KB/LFRS-KB, D series, metal design

Technical data combination LFR-KB/LFRS-KB

**Dimensions**

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

LFR/LFRS-...-KB



3 Installation dimensions

→ Flow direction

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
LFRS-...-D-MINI-KB (A)																
<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
LFRS-...-D-MIDI-KB (A)																
<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
LFRS-...-D-MAXI-KB (A)							275			105	135					
LFR/LFRS-...-D-DI-MAXI-KB (A)																

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

## Service unit combinations LFR-KB/LFRS-KB, D series, metal design

FESTO

Technical data combination LFR-KB/LFRS-KB

Ordering data					
Rotary knob with detent, pressure gauge with outer scale in bar and inner scale in psi					
Size	Connection	Condensate drain turned manually		Condensate drain fully automatic	
		Part No.	Type	Part No.	Type
Mini	G $\frac{1}{8}$	185719	LFR- $\frac{1}{8}$ -D-MINI-KB	185720	LFR- $\frac{1}{8}$ -D-MINI-KB-A
	G $\frac{1}{4}$	185721	LFR- $\frac{1}{4}$ -D-MINI-KB	185722	LFR- $\frac{1}{4}$ -D-MINI-KB-A
Midi	G $\frac{1}{4}$	185723	LFR- $\frac{1}{4}$ -D-MIDI-KB	185724	LFR- $\frac{1}{4}$ -D-MIDI-KB-A
	G $\frac{3}{8}$	185725	LFR- $\frac{3}{8}$ -D-MIDI-KB	185726	LFR- $\frac{3}{8}$ -D-MIDI-KB-A
	G $\frac{1}{2}$	185727	LFR- $\frac{1}{2}$ -D-MIDI-KB	185728	LFR- $\frac{1}{2}$ -D-MIDI-KB-A
Maxi	G $\frac{1}{2}$	186041	LFR- $\frac{1}{2}$ -D-MAXI-KB	186042	LFR- $\frac{1}{2}$ -D-MAXI-KB-A
	G $\frac{3}{4}$	185729	LFR- $\frac{3}{4}$ -D-MAXI-KB	185730	LFR- $\frac{3}{4}$ -D-MAXI-KB-A
Directly actuated pressure regulator with integrated return flow function					
Maxi	G $\frac{1}{2}$	192441	LFR- $\frac{1}{2}$ -D-DI-MAXI-KB	192455	LFR- $\frac{1}{2}$ -D-DI-MAXI-KB-A
	G $\frac{3}{4}$	192448	LFR- $\frac{3}{4}$ -D-DI-MAXI-KB	192462	LFR- $\frac{3}{4}$ -D-DI-MAXI-KB-A

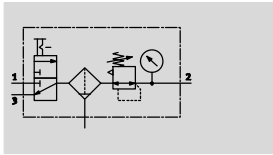
Ordering data					
Rotary knob with integrated lock, pressure gauge with outer scale in bar and inner scale in psi					
Size	Connection	Condensate drain turned manually		Condensate drain fully automatic	
		Part No.	Type	Part No.	Type
Mini	G $\frac{1}{8}$	195010	LFRS- $\frac{1}{8}$ -D-MINI-KB	195011	LFRS- $\frac{1}{8}$ -D-MINI-KB-A
	G $\frac{1}{4}$	195024	LFRS- $\frac{1}{4}$ -D-MINI-KB	195025	LFRS- $\frac{1}{4}$ -D-MINI-KB-A
Midi	G $\frac{1}{4}$	195038	LFRS- $\frac{1}{4}$ -D-MIDI-KB	195039	LFRS- $\frac{1}{4}$ -D-MIDI-KB-A
	G $\frac{3}{8}$	195052	LFRS- $\frac{3}{8}$ -D-MIDI-KB	195053	LFRS- $\frac{3}{8}$ -D-MIDI-KB-A
	G $\frac{1}{2}$	195066	LFRS- $\frac{1}{2}$ -D-MIDI-KB	195067	LFRS- $\frac{1}{2}$ -D-MIDI-KB-A
Maxi	G $\frac{1}{2}$	195080	LFRS- $\frac{1}{2}$ -D-MAXI-KB	195081	LFRS- $\frac{1}{2}$ -D-MAXI-KB-A
	G $\frac{3}{4}$	195094	LFRS- $\frac{3}{4}$ -D-MAXI-KB	195095	LFRS- $\frac{3}{4}$ -D-MAXI-KB-A
Directly actuated pressure regulator with integrated return flow function					
Maxi	G $\frac{1}{2}$	195178	LFRS- $\frac{1}{2}$ -D-DI-MAXI-KB	-	-
	G $\frac{3}{4}$	195192	LFRS- $\frac{3}{4}$ -D-DI-MAXI-KB	-	-



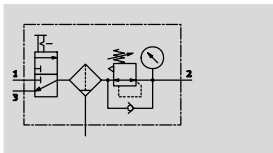
# Service unit combinations LFR-KC/LFRS-KC, D series, metal design

Technical data combination LFR-KC/LFRS-KC

LFR/LFRS-...-MINI/MIDI-KC  
With condensate drain  
manual rotary



LFR/LFRS-...-MAXI-KC  
With condensate drain  
manual rotary



- - Flow rate  
750 ... 8,400 l/min
- - Temperature range  
-10 ... +60 °C
- - Operating pressure  
1 ... 16 bar (0.1 ... 1.6 MPa)
- - [www.festo.com](http://www.festo.com)



- On-off valve HE manually actuated
- Filter regulator LFR/LFRS
- Mounting accessories

- For unlubricated compressed air
- Operating pressure can be opened and closed
- To ensure safe venting of the system, an additional quick exhaust valve is necessary at the output of the service unit combination
- New filter cartridges → 48

General technical data							
Size	Mini		Midi			Maxi	
Pneumatic connection 1, 2	G $\frac{1}{8}$	G $\frac{1}{4}$	G $\frac{1}{4}$	G $\frac{3}{8}$	G $\frac{1}{2}$	G $\frac{1}{2}$	G $\frac{3}{4}$
Type of mounting	Via accessories In-line installation						
Assembly position	Vertical $\pm 5^\circ$						
Grade of filtration [μm]	40						
Air purity class at the output	Compressed air in accordance with ISO 8573-1:2010 [7:8:4] (Compressed air in accordance with ISO 8573-1:2010 [6:8:4]) <sup>1)</sup> Inert gases						
Bowl guard	Metal bowl guard						
Condensate drain	Manual rotary Fully automatic						
Actuator lock	Rotary knob with detent Rotary knob with integrated lock						
Pressure regulation range [bar]	0.5 ... 12 (0.05 ... 1.2 MPa)						
Max. hysteresis [bar]	0.2 (0.02 MPa)	0.2 (0.02 MPa)	0.2 (0.02 MPa)	0.2 (0.02 MPa)	0.2 (0.02 MPa)	0.2 (0.02 MPa)	0.2 (0.02 MPa)
Pressure indication	Via pressure gauge						
Max. condensate volume [cm <sup>3</sup> ]	22		43			80 (43) <sup>1)</sup>	

1) For the LFR/LFRS-...-D-DI.

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

Standard nominal flow rate $q_{mN}^{1)}$ [l/min]							
Connection	Mini		Midi			Maxi	
	G $\frac{1}{8}$	G $\frac{1}{4}$	G $\frac{1}{4}$	G $\frac{3}{8}$	G $\frac{1}{2}$	G $\frac{1}{2}$	G $\frac{3}{4}$
In main flow direction 1 → 2	750	1,150	1,900	2,700	3,150	8,100 (4,800) <sup>2)</sup>	8,400 (5,400) <sup>2)</sup>

1) Measured at  $p_1 = 10$  bar (1 MPa),  $p_2 = 6$  bar (0.6 MPa) and  $\Delta p = 1$  bar (0.1 MPa).

2) For the LFR/LFRS-...-D-DI.

# Service unit combinations LFR-KC/LFRS-KC, D series, metal design


Technical data combination LFR-KC/LFRS-KC

Operating and environmental conditions		
Condensate drain	Manual rotary	Fully automatic
Operating pressure [bar]	1 ... 16 (0.1 ... 1.6 MPa)	2 ... 12 (0.2 ... 1.2 MPa)
Operating medium	Compressed air in accordance with 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	
Certification	Germanischer Lloyd	

1) Corrosion resistance class CRC 2 to Festo standard FN 940070  
 Moderate corrosion stress. Indoor applications in which condensation may occur. External visible parts with primarily decorative requirements for the surface and which are in direct contact with the ambient atmosphere typical for industrial applications.

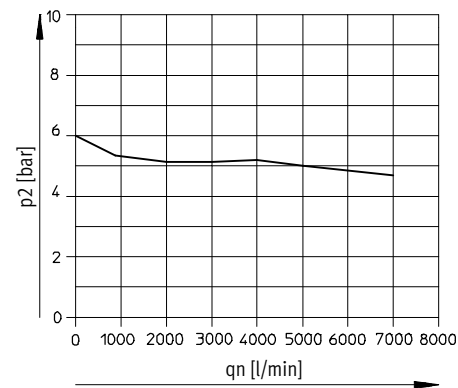
Weight [g]			
Size	Mini	Midi	Maxi
LFR	700	1,600	2,300 (2,600) <sup>1)</sup>
LFRS	1,000	1,840	2,400 (2,840) <sup>1)</sup>

1) For the LFR/LFRS-...-D-DI.

-  - Note  
 Materials → Technical data of the individual devices

## Standard flow rate qn as a function of the output pressure p2

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



Primary pressure p1 = 10 bar (1 MPa)

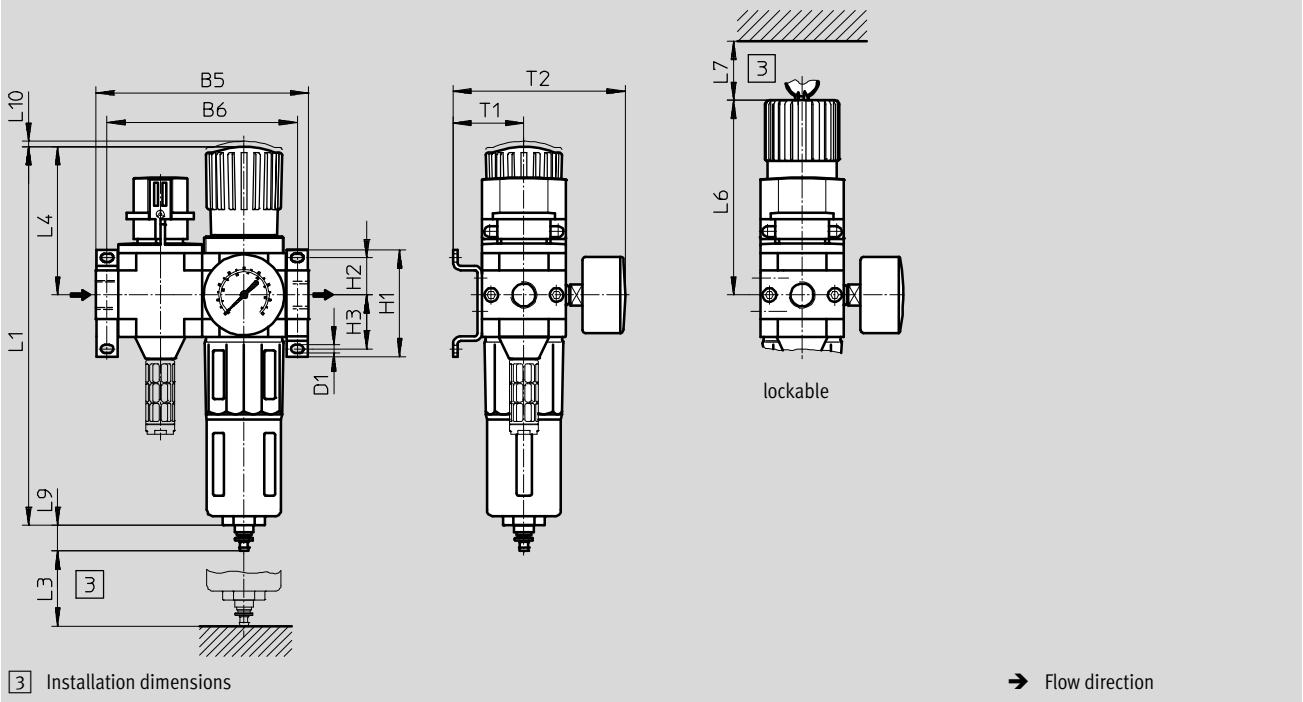
# Service unit combinations LFR-KC/LFRS-KC, D series, metal design

Technical data combination LFR-KC/LFRS-KC

**Dimensions**

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

LFR/LFRS-...-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
LFRS-...-D-MINI-KC (A)															
<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
LFRS-...-D-MIDI-KC (A)															
<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
LFRS-...-D-MAXI-KC (A)							275		105	135					
LFR/LFRS-...-D-DI-MAXI-KC (A)															

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

## Service unit combinations LFR-KC/LFRS-KC, D series, metal design

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Technical data combination LFR-KC/LFRS-KC

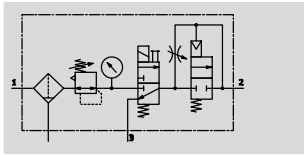
Ordering data					
Rotary knob with detent, pressure gauge with outer scale in bar and inner scale in psi					
Size	Connection	Condensate drain turned manually		Condensate drain fully automatic	
		Part No.	Type	Part No.	Type
Mini	G $\frac{1}{8}$	185731	LFR- $\frac{1}{8}$ -D-MINI-KC	185732	LFR- $\frac{1}{8}$ -D-MINI-KC-A
	G $\frac{1}{4}$	185733	LFR- $\frac{1}{4}$ -D-MINI-KC	185734	LFR- $\frac{1}{4}$ -D-MINI-KC-A
Midi	G $\frac{1}{4}$	185735	LFR- $\frac{1}{4}$ -D-MIDI-KC	185736	LFR- $\frac{1}{4}$ -D-MIDI-KC-A
	G $\frac{3}{8}$	185737	LFR- $\frac{3}{8}$ -D-MIDI-KC	185738	LFR- $\frac{3}{8}$ -D-MIDI-KC-A
	G $\frac{1}{2}$	185739	LFR- $\frac{1}{2}$ -D-MIDI-KC	185740	LFR- $\frac{1}{2}$ -D-MIDI-KC-A
Maxi	G $\frac{1}{2}$	186043	LFR- $\frac{1}{2}$ -D-MAXI-KC	186044	LFR- $\frac{1}{2}$ -D-MAXI-KC-A
	G $\frac{3}{4}$	185741	LFR- $\frac{3}{4}$ -D-MAXI-KC	185742	LFR- $\frac{3}{4}$ -D-MAXI-KC-A
Directly actuated pressure regulator with integrated return flow function					
Maxi	G $\frac{1}{2}$	192442	LFR- $\frac{1}{2}$ -D-DI-MAXI-KC	192456	LFR- $\frac{1}{2}$ -D-DI-MAXI-KC-A
	G $\frac{3}{4}$	192449	LFR- $\frac{3}{4}$ -D-DI-MAXI-KC	192463	LFR- $\frac{3}{4}$ -D-DI-MAXI-KC-A

Ordering data					
Rotary knob with integrated lock, pressure gauge with outer scale in bar and inner scale in psi					
Size	Connection	Condensate drain turned manually		Condensate drain fully automatic	
		Part No.	Type	Part No.	Type
Mini	G $\frac{1}{8}$	195012	LFRS- $\frac{1}{8}$ -D-MINI-KC	195013	LFRS- $\frac{1}{8}$ -D-MINI-KC-A
	G $\frac{1}{4}$	195026	LFRS- $\frac{1}{4}$ -D-MINI-KC	195027	LFRS- $\frac{1}{4}$ -D-MINI-KC-A
Midi	G $\frac{1}{4}$	195040	LFRS- $\frac{1}{4}$ -D-MIDI-KC	195041	LFRS- $\frac{1}{4}$ -D-MIDI-KC-A
	G $\frac{3}{8}$	195054	LFRS- $\frac{3}{8}$ -D-MIDI-KC	195055	LFRS- $\frac{3}{8}$ -D-MIDI-KC-A
	G $\frac{1}{2}$	195068	LFRS- $\frac{1}{2}$ -D-MIDI-KC	195069	LFRS- $\frac{1}{2}$ -D-MIDI-KC-A
Maxi	G $\frac{1}{2}$	195082	LFRS- $\frac{1}{2}$ -D-MAXI-KC	195083	LFRS- $\frac{1}{2}$ -D-MAXI-KC-A
	G $\frac{3}{4}$	195096	LFRS- $\frac{3}{4}$ -D-MAXI-KC	195097	LFRS- $\frac{3}{4}$ -D-MAXI-KC-A
Directly actuated pressure regulator with integrated return flow function					
Maxi	G $\frac{1}{2}$	195180	LFRS- $\frac{1}{2}$ -D-DI-MAXI-KC	-	
	G $\frac{3}{4}$	-		195195	LFRS- $\frac{3}{4}$ -D-DI-MAXI-KC-A

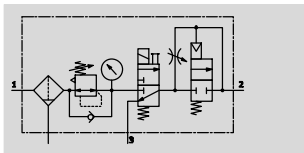
# Service unit combinations LFR-KD/LFRS-KD, D series, metal design

Technical data combination LFR-KD/LFRS-KD

LFR/LFRS-...-MINI/MIDI-KD  
With condensate drain  
manual rotary

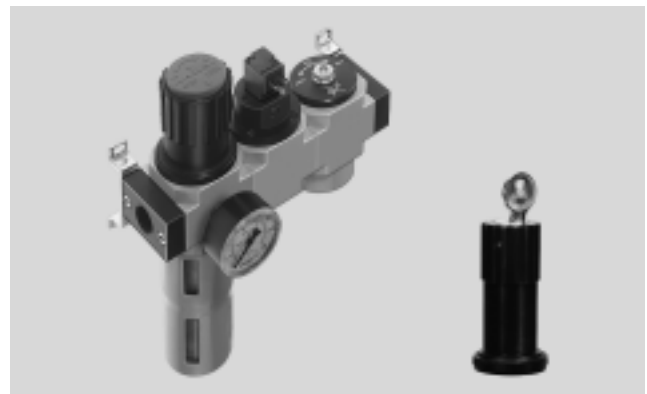


LFR/LFRS-...-MAXI-KD  
With condensate drain  
manual rotary



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

- Flow rate  
595 ... 5,000 l/min
- Temperature range  
-10 ... +60 °C
- Operating pressure  
3 ... 16 bar (0.3 ... 1.6 MPa)
- [www.festo.com](http://www.festo.com)



- For unlubricated compressed air
- When operating pressure is closed, quick venting ensures rapid pressure reduction
- Gradual pressure build-up prevents sudden, unpredictable movements
- New filter cartridges → 48

General technical data							
Size	Mini		Midi			Maxi	
Pneumatic connection 1, 2	G $\frac{1}{8}$	G $\frac{1}{4}$	G $\frac{1}{4}$	G $\frac{3}{8}$	G $\frac{1}{2}$	G $\frac{1}{2}$	G $\frac{3}{4}$
Type of mounting	Via accessories						
	In-line installation						
Assembly position	Vertical $\pm 5^\circ$						
Grade of filtration [µm]	40						
Air purity class at the output	Compressed air in accordance with ISO 8573-1:2010 [7:8:4] (Compressed air in accordance with ISO 8573-1:2010 [6:8:4]) <sup>1)</sup>						
	Inert gases						
Bowl guard	Metal bowl guard						
Condensate drain	Manual rotary						
	Fully automatic						
Actuator lock	Rotary knob with detent						
	Rotary knob with integrated lock						
Pressure regulation range [bar]	2.5 ... 12 (0.25 ... 1.2 MPa)						
Max. hysteresis [bar]	0.15 (0.015 MPa)	0.15 (0.015 MPa)	0.25 (0.025 MPa)	0.25 (0.025 MPa)	0.25 (0.025 MPa)	0.3 (0.03 MPa)	0.2 (0.02 MPa)
Pressure indication	Via pressure gauge						
Max. condensate volume [cm <sup>3</sup> ]	22		43			80 (43) <sup>1)</sup>	

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

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

Standard nominal flow rate $q_{nN}^1$ [l/min]							
Connection	Mini		Midi			Maxi	
	G $\frac{1}{8}$	G $\frac{1}{4}$	G $\frac{1}{4}$	G $\frac{3}{8}$	G $\frac{1}{2}$	G $\frac{1}{2}$	G $\frac{3}{4}$
In main flow direction 1 → 2	595	730	1,440	1,890	2,000	4,300 (3,000) <sup>2)</sup>	5,000 (2,800) <sup>2)</sup>

1) Measured at p<sub>1</sub> = 10 bar (1 MPa), p<sub>2</sub> = 6 bar (0.6 MPa) and Δp = 1 bar (0.1 MPa).

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

# Service unit combinations LFR-KD/LFRS-KD, D series, metal design


Technical data combination LFR-KD/LFRS-KD

Operating and environmental conditions		
Condensate drain	Manual rotary	Fully automatic
Operating pressure [bar]	3 ... 16 (0.3 ... 1.6 MPa)	3 ... 12 (0.3 ... 1.2 MPa)
Operating medium	Compressed air in accordance with 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	
Certification	Germanischer Lloyd	

1) Corrosion resistance class CRC 2 to Festo standard FN 940070  
 Moderate corrosion stress. Indoor applications in which condensation may occur. External visible parts with primarily decorative requirements for the surface and which are in direct contact with the ambient atmosphere typical for industrial applications.

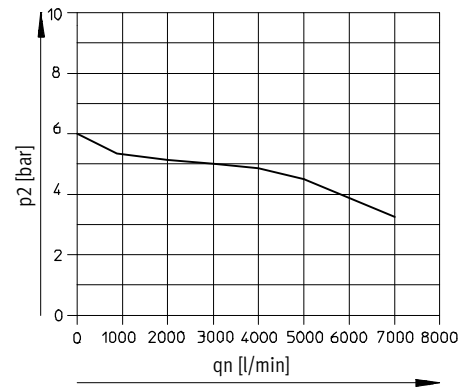
Weight [g]			
Size	Mini	Midi	Maxi
LFR	900	2,100	3,100 (3,300) <sup>1)</sup>
LFRS	1,000	2,340	3,200

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

 - Note  
 Materials → Technical data of the individual devices

## Standard flow rate qn as a function of the output pressure p2

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



Primary pressure p1 = 10 bar (1 MPa)

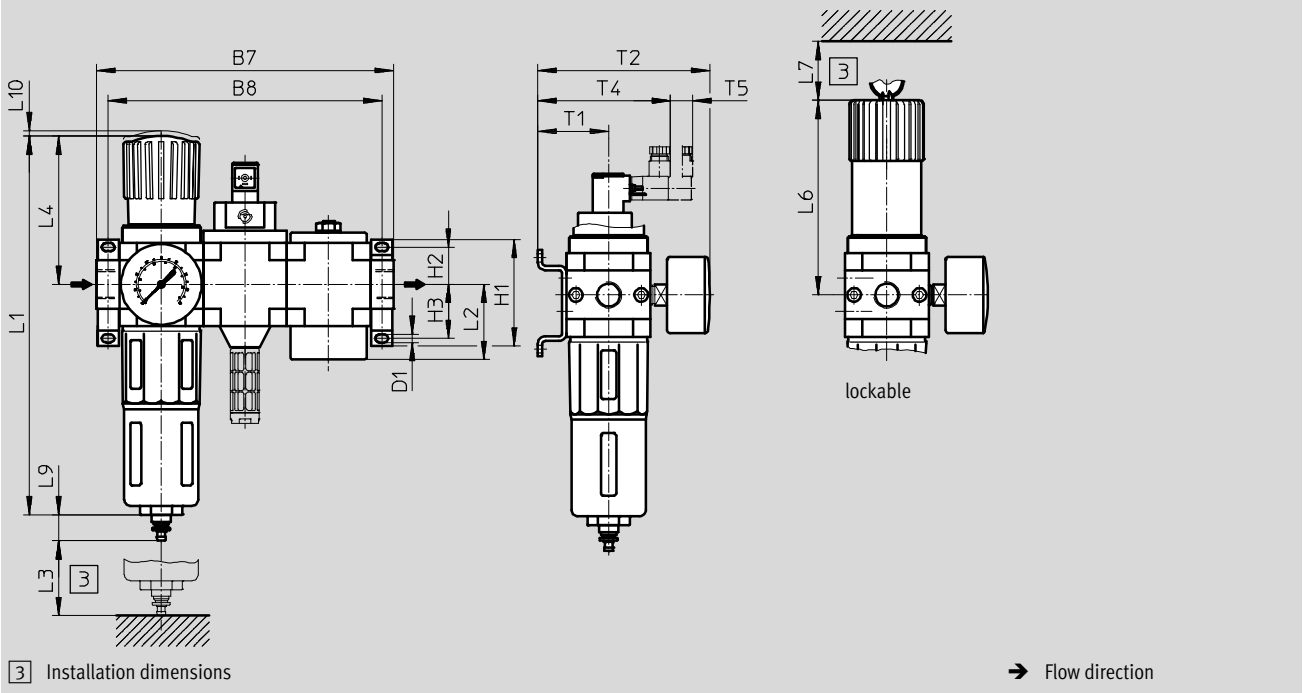
# Service unit combinations LFR-KD/LFRS-KD, D series, metal design

Technical data combination LFR-KD/LFRS-KD

**Dimensions**

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

LFR/LFRS-...-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
LFRS-...-D-MINI-KD (A)																		
<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
LFRS-...-D-MIDI-KD (A)																		
<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
LFRS-...-D-MAXI-KD (A)							275			105	135							
LFR-...-D-DI-MAXI-KD (A)																		

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

## Service unit combinations LFR-KD/LFRS-KD, D series, metal design

FESTO

Technical data combination LFR-KD/LFRS-KD

Ordering data					
Rotary knob with detent, pressure gauge with outer scale in bar and inner scale in psi					
Size	Connection	Condensate drain turned manually		Condensate drain fully automatic	
		Part No.	Type	Part No.	Type
Mini	G $\frac{1}{8}$	185743	LFR- $\frac{1}{8}$ -D-MINI-KD	185744	LFR- $\frac{1}{8}$ -D-MINI-KD-A
	G $\frac{1}{4}$	185745	LFR- $\frac{1}{4}$ -D-MINI-KD	185746	LFR- $\frac{1}{4}$ -D-MINI-KD-A
Midi	G $\frac{1}{4}$	185747	LFR- $\frac{1}{4}$ -D-MIDI-KD	185748	LFR- $\frac{1}{4}$ -D-MIDI-KD-A
	G $\frac{3}{8}$	185749	LFR- $\frac{3}{8}$ -D-MIDI-KD	185750	LFR- $\frac{3}{8}$ -D-MIDI-KD-A
	G $\frac{1}{2}$	185751	LFR- $\frac{1}{2}$ -D-MIDI-KD	185752	LFR- $\frac{1}{2}$ -D-MIDI-KD-A
Maxi	G $\frac{1}{2}$	186045	LFR- $\frac{1}{2}$ -D-MAXI-KD	186046	LFR- $\frac{1}{2}$ -D-MAXI-KD-A
	G $\frac{3}{4}$	185753	LFR- $\frac{3}{4}$ -D-MAXI-KD	185754	LFR- $\frac{3}{4}$ -D-MAXI-KD-A
Directly actuated pressure regulator with integrated return flow function					
Maxi	G $\frac{1}{2}$	192443	LFR- $\frac{1}{2}$ -D-DI-MAXI-KD	192457	LFR- $\frac{1}{2}$ -D-DI-MAXI-KD-A
	G $\frac{3}{4}$	192450	LFR- $\frac{3}{4}$ -D-DI-MAXI-KD	192464	LFR- $\frac{3}{4}$ -D-DI-MAXI-KD-A

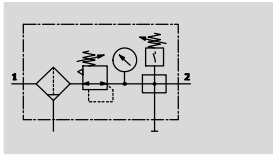
Ordering data					
Rotary knob with integrated lock, pressure gauge with outer scale in bar and inner scale in psi					
Size	Connection	Condensate drain turned manually		Condensate drain fully automatic	
		Part No.	Type	Part No.	Type
Mini	G $\frac{1}{8}$	195014	LFRS- $\frac{1}{8}$ -D-MINI-KD	195015	LFRS- $\frac{1}{8}$ -D-MINI-KD-A
	G $\frac{1}{4}$	195028	LFRS- $\frac{1}{4}$ -D-MINI-KD	195029	LFRS- $\frac{1}{4}$ -D-MINI-KD-A
Midi	G $\frac{1}{4}$	195042	LFRS- $\frac{1}{4}$ -D-MIDI-KD	195043	LFRS- $\frac{1}{4}$ -D-MIDI-KD-A
	G $\frac{3}{8}$	195056	LFRS- $\frac{3}{8}$ -D-MIDI-KD	195057	LFRS- $\frac{3}{8}$ -D-MIDI-KD-A
	G $\frac{1}{2}$	195070	LFRS- $\frac{1}{2}$ -D-MIDI-KD	195071	LFRS- $\frac{1}{2}$ -D-MIDI-KD-A
Maxi	G $\frac{1}{2}$	195084	LFRS- $\frac{1}{2}$ -D-MAXI-KD	195085	LFRS- $\frac{1}{2}$ -D-MAXI-KD-A
	G $\frac{3}{4}$	195098	LFRS- $\frac{3}{4}$ -D-MAXI-KD	195099	LFRS- $\frac{3}{4}$ -D-MAXI-KD-A



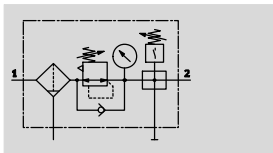
# Service unit combinations LFR-KE/LFRS-KE, D series, metal design

Technical data combination LFR-KE/LFRS-KE

LFR/LFRS-...-MINI/MIDI-KE  
With condensate drain  
manual rotary

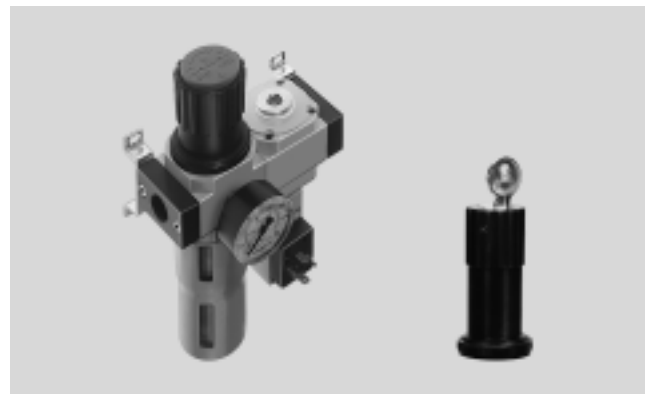


LFR/LFRS-...-MAXI-KE  
With condensate drain  
manual rotary



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

- Flow rate  
720 ... 9,400 l/min
- Temperature range  
-10 ... +60 °C
- Operating pressure  
1 ... 16 bar (0.1 ... 1.6 MPa)
- [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 → 48

General technical data							
Size	Mini		Midi			Maxi	
Pneumatic connection 1, 2	G <sup>1</sup> / <sub>8</sub>	G <sup>1</sup> / <sub>4</sub>	G <sup>1</sup> / <sub>4</sub>	G <sup>3</sup> / <sub>8</sub>	G <sup>1</sup> / <sub>2</sub>	G <sup>1</sup> / <sub>2</sub>	G <sup>3</sup> / <sub>4</sub>
Type of mounting	Via accessories						
	In-line installation						
Assembly position	Vertical ±5°						
Grade of filtration [µm]	40						
Air purity class at the output	Compressed air in accordance with ISO 8573-1:2010 [7:8:4] (Compressed air in accordance with ISO 8573-1:2010 [6:8:4]) <sup>1)</sup>						
	Inert gases						
Bowl guard	Metal bowl guard						
Condensate drain	Manual rotary						
	Fully automatic						
Actuator lock	Rotary knob with detent						
	Rotary knob with integrated lock						
Pressure regulation range [bar]	0.5 ... 12 (0.05 ... 1.2 MPa)						
Max. hysteresis [bar]	0.15 (0.015 MPa)	0.15 (0.015 MPa)	0.25 (0.025 MPa)	0.2 (0.02 MPa)	0.2 (0.02 MPa)	0.2 (0.02 MPa)	0.3 (0.03 MPa)
Pressure indication	Via pressure gauge						
Max. condensate volume [cm <sup>3</sup> ]	22		43			80 (43) <sup>1)</sup>	

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

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

Standard nominal flow rate $q_{nN}^{1)}$ [l/min]							
Connection	Mini		Midi			Maxi	
	G <sup>1</sup> / <sub>8</sub>	G <sup>1</sup> / <sub>4</sub>	G <sup>1</sup> / <sub>4</sub>	G <sup>3</sup> / <sub>8</sub>	G <sup>1</sup> / <sub>2</sub>	G <sup>1</sup> / <sub>2</sub>	G <sup>3</sup> / <sub>4</sub>
In main flow direction 1 → 2	720	1,140	1,850	2,620	3,050	9,200 (5,000) <sup>2)</sup>	9,400 (6,000) <sup>2)</sup>

1) Measured at p<sub>1</sub> = 10 bar (1 MPa), p<sub>2</sub> = 6 bar (0.6 MPa) and Δp = 1 bar (0.1 MPa).

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

# Service unit combinations LFR-KE/LFRS-KE, D series, metal design


Technical data combination LFR-KE/LFRS-KE

Operating and environmental conditions		
Condensate drain	Manual rotary	Fully automatic
Operating pressure [bar]	1 ... 16 (0.1 ... 1.6 MPa)	2 ... 12 (0.2 ... 1.2 MPa)
Operating medium	Compressed air in accordance with 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	
Certification	Germanischer Lloyd	

1) Corrosion resistance class CRC 2 to Festo standard FN 940070  
 Moderate corrosion stress. Indoor applications in which condensation may occur. External visible parts with primarily decorative requirements for the surface and which are in direct contact with the ambient atmosphere typical for industrial applications.

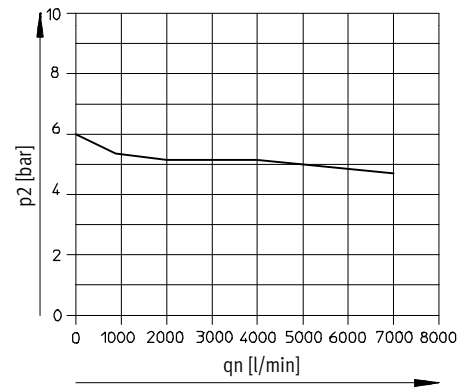
Weight [g]			
Size	Mini	Midi	Maxi
LFR	1,000	2,000	2,400 (2,600) <sup>1)</sup>
LFRS	1,100	2,240	2,500

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

 - Note  
 Materials → Technical data of the individual devices

## Standard flow rate qn as a function of the output pressure p2

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



Primary pressure p1 = 10 bar (1 MPa)

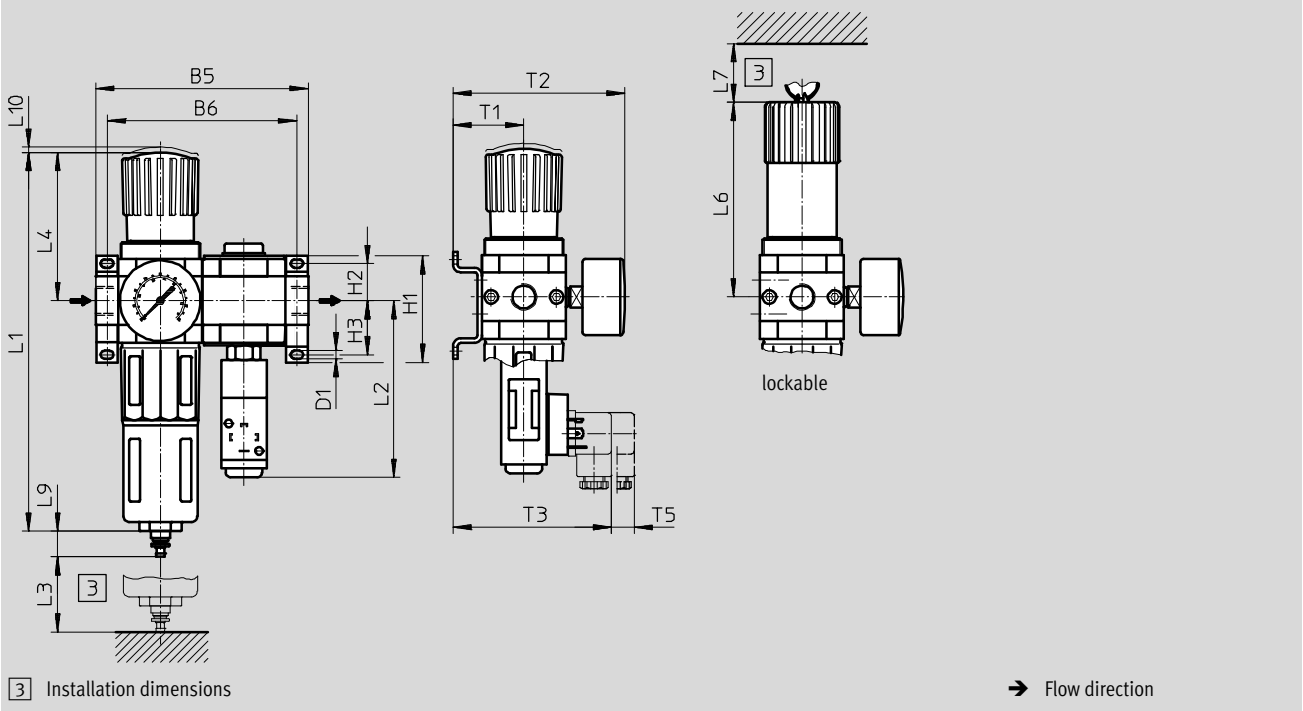
# Service unit combinations LFR-KE/LFRS-KE, D series, metal design

Technical data combination LFR-KE/LFRS-KE

**Dimensions**

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

LFR/LFRS-...-KE



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
LFRS-...-D-MINI-KE (A)																		
<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
LFRS-...-D-MIDI-KE (A)																		
<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
LFRS-...-D-MAXI-KE (A)							275			105	135							
LFR-...-D-DI-MAXI-KE (A)																		

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

## Service unit combinations LFR-KE/LFRS-KE, D series, metal design

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Technical data combination LFR-KE/LFRS-KE

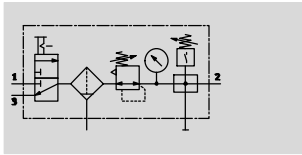
Ordering data					
Rotary knob with detent, pressure gauge with outer scale in bar and inner scale in psi					
Size	Connection	Condensate drain turned manually		Condensate drain fully automatic	
		Part No.	Type	Part No.	Type
Mini	G $\frac{1}{8}$	185755	LFR- $\frac{1}{8}$ -D-MINI-KE	185756	LFR- $\frac{1}{8}$ -D-MINI-KE-A
	G $\frac{1}{4}$	185757	LFR- $\frac{1}{4}$ -D-MINI-KE	185758	LFR- $\frac{1}{4}$ -D-MINI-KE-A
Midi	G $\frac{1}{4}$	185759	LFR- $\frac{1}{4}$ -D-MIDI-KE	185760	LFR- $\frac{1}{4}$ -D-MIDI-KE-A
	G $\frac{3}{8}$	185761	LFR- $\frac{3}{8}$ -D-MIDI-KE	185762	LFR- $\frac{3}{8}$ -D-MIDI-KE-A
	G $\frac{1}{2}$	185763	LFR- $\frac{1}{2}$ -D-MIDI-KE	185764	LFR- $\frac{1}{2}$ -D-MIDI-KE-A
Maxi	G $\frac{1}{2}$	186047	LFR- $\frac{1}{2}$ -D-MAXI-KE	186048	LFR- $\frac{1}{2}$ -D-MAXI-KE-A
	G $\frac{3}{4}$	185765	LFR- $\frac{3}{4}$ -D-MAXI-KE	185766	LFR- $\frac{3}{4}$ -D-MAXI-KE-A
Directly actuated pressure regulator with integrated return flow function					
Maxi	G $\frac{1}{2}$	192444	LFR- $\frac{1}{2}$ -D-DI-MAXI-KE	192458	LFR- $\frac{1}{2}$ -D-DI-MAXI-KE-A
	G $\frac{3}{4}$	192451	LFR- $\frac{3}{4}$ -D-DI-MAXI-KE	192465	LFR- $\frac{3}{4}$ -D-DI-MAXI-KE-A

Ordering data					
Rotary knob with integrated lock, pressure gauge with outer scale in bar and inner scale in psi					
Size	Connection	Condensate drain turned manually		Condensate drain fully automatic	
		Part No.	Type	Part No.	Type
Mini	G $\frac{1}{8}$	195016	LFRS- $\frac{1}{8}$ -D-MINI-KE	195017	LFRS- $\frac{1}{8}$ -D-MINI-KE-A
	G $\frac{1}{4}$	195030	LFRS- $\frac{1}{4}$ -D-MINI-KE	195031	LFRS- $\frac{1}{4}$ -D-MINI-KE-A
Midi	G $\frac{1}{4}$	195044	LFRS- $\frac{1}{4}$ -D-MIDI-KE	195045	LFRS- $\frac{1}{4}$ -D-MIDI-KE-A
	G $\frac{3}{8}$	195058	LFRS- $\frac{3}{8}$ -D-MIDI-KE	195059	LFRS- $\frac{3}{8}$ -D-MIDI-KE-A
	G $\frac{1}{2}$	195072	LFRS- $\frac{1}{2}$ -D-MIDI-KE	195073	LFRS- $\frac{1}{2}$ -D-MIDI-KE-A
Maxi	G $\frac{1}{2}$	195086	LFRS- $\frac{1}{2}$ -D-MAXI-KE	195087	LFRS- $\frac{1}{2}$ -D-MAXI-KE-A
	G $\frac{3}{4}$	195100	LFRS- $\frac{3}{4}$ -D-MAXI-KE	195101	LFRS- $\frac{3}{4}$ -D-MAXI-KE-A

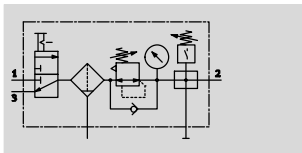
# Service unit combinations LFR-KF/LFRS-KF, D series, metal design

Technical data combination LFR-KF/LFRS-KF

LFR/LFRS-...-MINI/MIDI-KF  
With condensate drain  
manual rotary

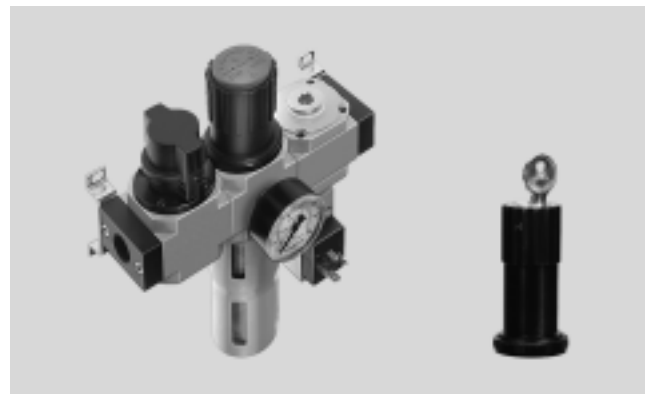


LFR/LFRS-...-MAXI-KF  
With condensate drain  
manual rotary



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

- Flow rate  
700 ... 8,400 l/min
- Temperature range  
-10 ... +60 °C
- Operating pressure  
1 ... 16 bar (0.1 ... 1.6 MPa)
- [www.festo.com](http://www.festo.com)



- For unlubricated compressed air
- Operating pressure can be opened and closed
- Two branch connections are available
- Electrical pressure monitoring with adjustable switching pressure
- To ensure safe venting of the system, an additional quick exhaust valve is necessary at the output of the service unit combination
- New filter cartridges → 48

General technical data							
Size	Mini		Midi			Maxi	
Pneumatic connection 1, 2	G $\frac{1}{8}$	G $\frac{1}{4}$	G $\frac{1}{4}$	G $\frac{3}{8}$	G $\frac{1}{2}$	G $\frac{1}{2}$	G $\frac{3}{4}$
Type of mounting	Via accessories						
	In-line installation						
Assembly position	Vertical $\pm 5^\circ$						
Grade of filtration [µm]	40						
Air purity class at the output	Compressed air in accordance with ISO 8573-1:2010 [7:8:4] (Compressed air in accordance with ISO 8573-1:2010 [6:8:4]) <sup>1)</sup>						
	Inert gases						
Bowl guard	Metal bowl guard						
Condensate drain	Manual rotary						
	Fully automatic						
Actuator lock	Rotary knob with detent						
	Rotary knob with integrated lock						
Pressure regulation range [bar]	0.5 ... 12 (0.05 ... 1.2 MPa)						
Max. hysteresis [bar]	0.2 (0.02 MPa)	0.2 (0.02 MPa)	0.25 (0.025 MPa)	0.3 (0.03 MPa)	0.25 (0.025 MPa)	0.2 (0.02 MPa)	0.2 (0.02 MPa)
Pressure indication	Via pressure gauge						
Max. condensate volume [cm <sup>3</sup> ]	22		43			80 (43) <sup>1)</sup>	

1) For the LFR/LFRS-...-D-DI.

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

Standard nominal flow rate $q_{nN}^{(1)}$ [l/min]							
Connection	Mini		Midi			Maxi	
	G $\frac{1}{8}$	G $\frac{1}{4}$	G $\frac{1}{4}$	G $\frac{3}{8}$	G $\frac{1}{2}$	G $\frac{1}{2}$	G $\frac{3}{4}$
In main flow direction 1 → 2	700	1,050	1,720	2,420	2,920	8,000 (5,000) <sup>2)</sup>	8,400 (6,000) <sup>2)</sup>

1) Measured at  $p_1 = 10$  bar (1 MPa),  $p_2 = 6$  bar (0.6 MPa) and  $\Delta p = 1$  bar (0.1 MPa).

2) For the LFR/LFRS-...-D-DI.

# Service unit combinations LFR-KF/LFRS-KF, D series, metal design


Technical data combination LFR-KF/LFRS-KF

Operating and environmental conditions		
Condensate drain	Manual rotary	Fully automatic
Operating pressure [bar]	1 ... 16 (0.1 ... 1.6 MPa)	2 ... 12 (0.2 ... 1.2 MPa)
Operating medium	Compressed air in accordance with 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	
Certification	Germanischer Lloyd	

1) Corrosion resistance class 2 according to Festo standard 940 070  
 Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

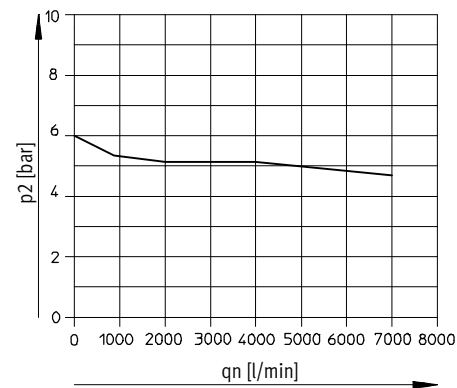
Weight [g]			
Size	Mini	Midi	Maxi
LFR	1,200	2,400	3,300 (3,500) <sup>1)</sup>
LFRS	1,300	2,640	3,400 (3,740) <sup>1)</sup>

1) For the LFR/LFRS-...-D-DI.

-  - Note  
 Materials → Technical data of the individual devices

## Standard flow rate qn as a function of the output pressure p2

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



Primary pressure p1 = 10 bar (1 MPa)

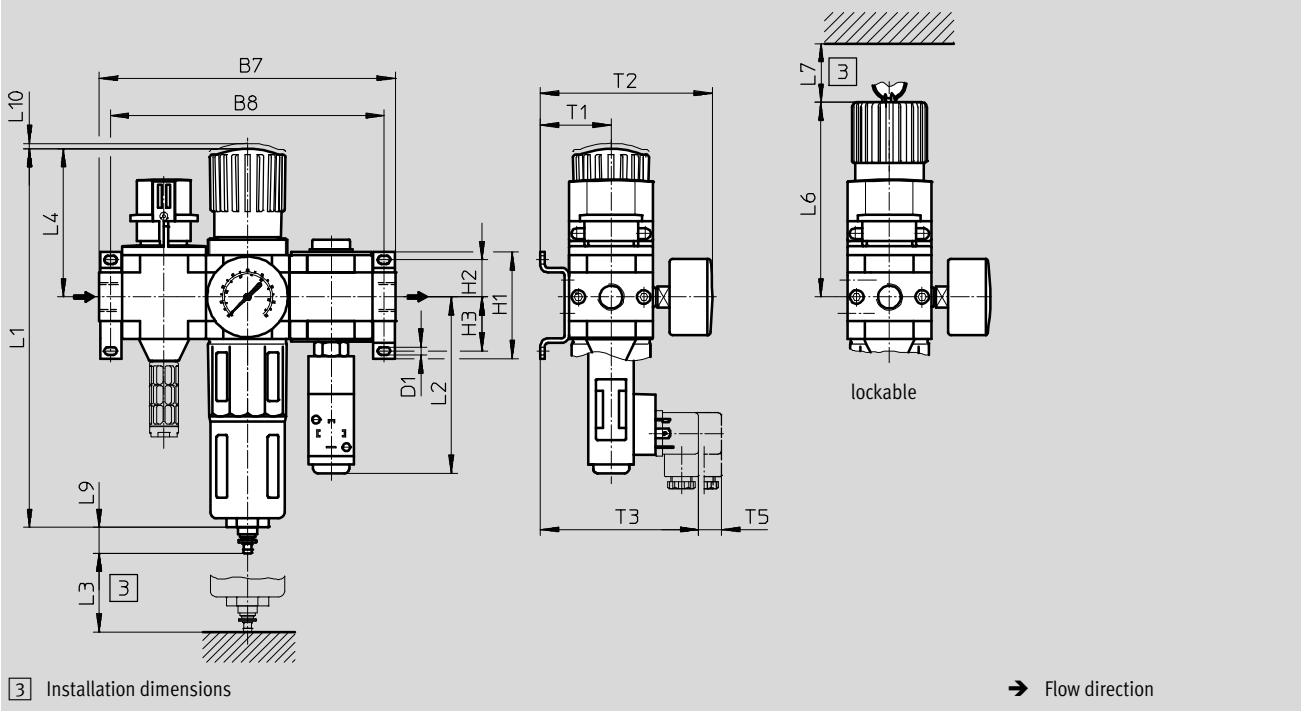
# Service unit combinations LFR-KF/LFRS-KF, D series, metal design

Technical data combination LFR-KF/LFRS-KF

**Dimensions**

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

LFR/LFRS-...-KF



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
LFRS-...-D-MINI-KF (A)																		
<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
LFRS-...-D-MIDI-KF (A)																		
<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
LFRS-...-D-MAXI-KF (A)							275			105	135							
LFR/LFRS-...-D-DI-MAXI-KF (A)																		

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

## Service unit combinations LFR-KF/LFRS-KF, D series, metal design

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Technical data combination LFR-KF/LFRS-KF

Ordering data					
Rotary knob with detent, pressure gauge with outer scale in bar and inner scale in psi					
Size	Connection	Condensate drain turned manually		Condensate drain fully automatic	
		Part No.	Type	Part No.	Type
Mini	G $\frac{1}{8}$	185767	LFR- $\frac{1}{8}$ -D-MINI-KF	185768	LFR- $\frac{1}{8}$ -D-MINI-KF-A
	G $\frac{1}{4}$	185769	LFR- $\frac{1}{4}$ -D-MINI-KF	185770	LFR- $\frac{1}{4}$ -D-MINI-KF-A
Midi	G $\frac{1}{4}$	185771	LFR- $\frac{1}{4}$ -D-MIDI-KF	185772	LFR- $\frac{1}{4}$ -D-MIDI-KF-A
	G $\frac{3}{8}$	185773	LFR- $\frac{3}{8}$ -D-MIDI-KF	185774	LFR- $\frac{3}{8}$ -D-MIDI-KF-A
	G $\frac{1}{2}$	185775	LFR- $\frac{1}{2}$ -D-MIDI-KF	185776	LFR- $\frac{1}{2}$ -D-MIDI-KF-A
Maxi	G $\frac{1}{2}$	186049	LFR- $\frac{1}{2}$ -D-MAXI-KF	186050	LFR- $\frac{1}{2}$ -D-MAXI-KF-A
	G $\frac{3}{4}$	185777	LFR- $\frac{3}{4}$ -D-MAXI-KF	185778	LFR- $\frac{3}{4}$ -D-MAXI-KF-A
Directly actuated pressure regulator with integrated return flow function					
Maxi	G $\frac{1}{2}$	192445	LFR- $\frac{1}{2}$ -D-DI-MAXI-KF	192459	LFR- $\frac{1}{2}$ -D-DI-MAXI-KF-A
	G $\frac{3}{4}$	192452	LFR- $\frac{3}{4}$ -D-DI-MAXI-KF	192466	LFR- $\frac{3}{4}$ -D-DI-MAXI-KF-A

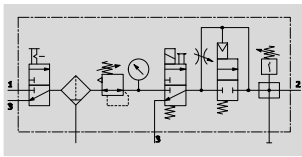
Ordering data					
Rotary knob with integrated lock, pressure gauge with outer scale in bar and inner scale in psi					
Size	Connection	Condensate drain turned manually		Condensate drain fully automatic	
		Part No.	Type	Part No.	Type
Mini	G $\frac{1}{8}$	195018	LFRS- $\frac{1}{8}$ -D-MINI-KF	195019	LFRS- $\frac{1}{8}$ -D-MINI-KF-A
	G $\frac{1}{4}$	195032	LFRS- $\frac{1}{4}$ -D-MINI-KF	195033	LFRS- $\frac{1}{4}$ -D-MINI-KF-A
Midi	G $\frac{1}{4}$	195046	LFRS- $\frac{1}{4}$ -D-MIDI-KF	195047	LFRS- $\frac{1}{4}$ -D-MIDI-KF-A
	G $\frac{3}{8}$	195060	LFRS- $\frac{3}{8}$ -D-MIDI-KF	195061	LFRS- $\frac{3}{8}$ -D-MIDI-KF-A
	G $\frac{1}{2}$	195074	LFRS- $\frac{1}{2}$ -D-MIDI-KF	195075	LFRS- $\frac{1}{2}$ -D-MIDI-KF-A
Maxi	G $\frac{1}{2}$	195088	LFRS- $\frac{1}{2}$ -D-MAXI-KF	195089	LFRS- $\frac{1}{2}$ -D-MAXI-KF-A
	G $\frac{3}{4}$	195102	LFRS- $\frac{3}{4}$ -D-MAXI-KF	195103	LFRS- $\frac{3}{4}$ -D-MAXI-KF-A
Directly actuated pressure regulator with integrated return flow function					
Maxi	G $\frac{1}{2}$	195186	LFRS- $\frac{1}{2}$ -D-DI-MAXI-KF	195187	LFRS- $\frac{1}{2}$ -D-DI-MAXI-KF-A
	G $\frac{3}{4}$	195200	LFRS- $\frac{3}{4}$ -D-DI-MAXI-KF	-	



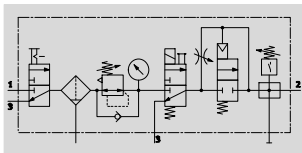
# Service unit combinations LFR-KG/LFRS-KG, D series, metal design

Technical data combination LFR-KG/LFRS-KG

LFR/LFRS-...-MINI/MIDI-KG  
With condensate drain  
manual rotary

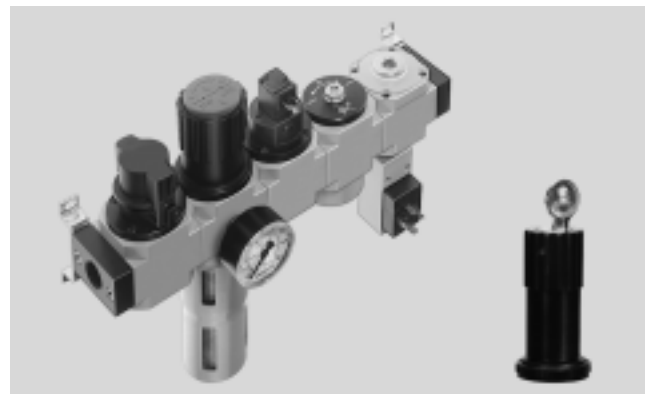


LFR/LFRS-...-MAXI-KG  
With condensate drain  
manual rotary



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

- Flow rate  
575 ... 4,900 l/min
- Temperature range  
-10 ... +60 °C
- Operating pressure  
3 ... 16 bar (0.3 ... 1.6 MPa)
- [www.festo.com](http://www.festo.com)



- For unlubricated compressed air
- To ensure safe venting of the system, an additional quick exhaust valve is necessary at the output of the service unit combination
- Two branch connections are available
- Gradual pressure build-up prevents sudden, unpredictable movements
- Electrical pressure monitoring with adjustable switching pressure
- New filter cartridges → 48

General technical data							
Size	Mini		Midi			Maxi	
Pneumatic connection 1, 2	G $\frac{1}{8}$	G $\frac{1}{4}$	G $\frac{1}{4}$	G $\frac{3}{8}$	G $\frac{1}{2}$	G $\frac{1}{2}$	G $\frac{3}{4}$
Type of mounting	Via accessories						
	In-line installation						
Assembly position	Vertical $\pm 5^\circ$						
Grade of filtration [µm]	40						
Air purity class at the output	Compressed air in accordance with ISO 8573-1:2010 [7:8:4] (Compressed air in accordance with ISO 8573-1:2010 [6:8:4]) <sup>1)</sup>						
	Inert gases						
Bowl guard	Metal bowl guard						
Condensate drain	Manual rotary						
	Fully automatic						
Actuator lock	Rotary knob with detent						
	Rotary knob with integrated lock						
Pressure regulation range [bar]	2.5 ... 12 (0.25 ... 1.2 MPa)						
Max. hysteresis [bar]	0.15 (0.015 MPa)	0.15 (0.015 MPa)	0.25 (0.025 MPa)	0.2 (0.02 MPa)	0.2 (0.02 MPa)	0.25 (0.025 MPa)	0.25 (0.025 MPa)
Pressure indication	Via pressure gauge						
Max. condensate volume [cm <sup>3</sup> ]	22		43			80 (43) <sup>1)</sup>	

1) For the LFR/LFRS-...-D-DI.  
- Note: This product conforms to ISO 1179-1 and to ISO 228-1

Standard nominal flow rate $q_{nN}^{1)}$ [l/min]							
Connection	Mini		Midi			Maxi	
	G $\frac{1}{8}$	G $\frac{1}{4}$	G $\frac{1}{4}$	G $\frac{3}{8}$	G $\frac{1}{2}$	G $\frac{1}{2}$	G $\frac{3}{4}$
In main flow direction 1 → 2	575	715	1,370	1,680	1,740	4,200 (2,500) <sup>2)</sup>	4,900 (3,000) <sup>2)</sup>

1) Measured at  $p_1 = 10$  bar (1 MPa),  $p_2 = 6$  bar (0.6 MPa) and  $\Delta p = 1$  bar (0.1 MPa).  
2) For the LFR/LFRS-...-D-DI.

# Service unit combinations LFR-KG/LFRS-KG, D series, metal design


Technical data LFR-KG/LFRS-KG

Operating and environmental conditions		
Condensate drain	Manual rotary	Fully automatic
Operating pressure [bar]	3 ... 16 (0.3 ... 1.6 MPa)	3 ... 12 (0.3 ... 1.2 MPa)
Operating medium	Compressed air in accordance with 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	
Certification	Germanischer Lloyd	

1) Corrosion resistance class CRC 2 to Festo standard FN 940070  
 Moderate corrosion stress. Indoor applications in which condensation may occur. External visible parts with primarily decorative requirements for the surface and which are in direct contact with the ambient atmosphere typical for industrial applications.

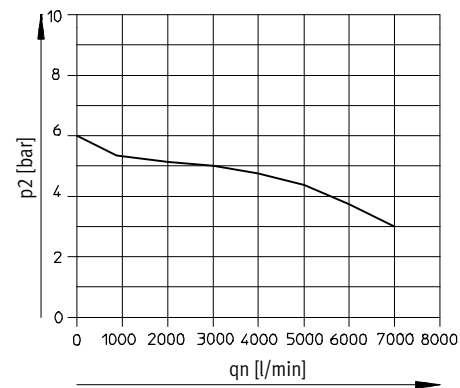
Weight [g]			
Size	Mini	Midi	Maxi
LFR	1,500	3,400	5,200 (5,400) <sup>1)</sup>
LFRS	1,600	3,640	5,300 (5,640) <sup>1)</sup>

1) For the LFR/LFRS-...-D-DI.

-  - Note  
 Materials → Technical data of the individual devices

## Standard flow rate qn as a function of the output pressure p2

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



Primary pressure p1 = 10 bar (1 MPa)

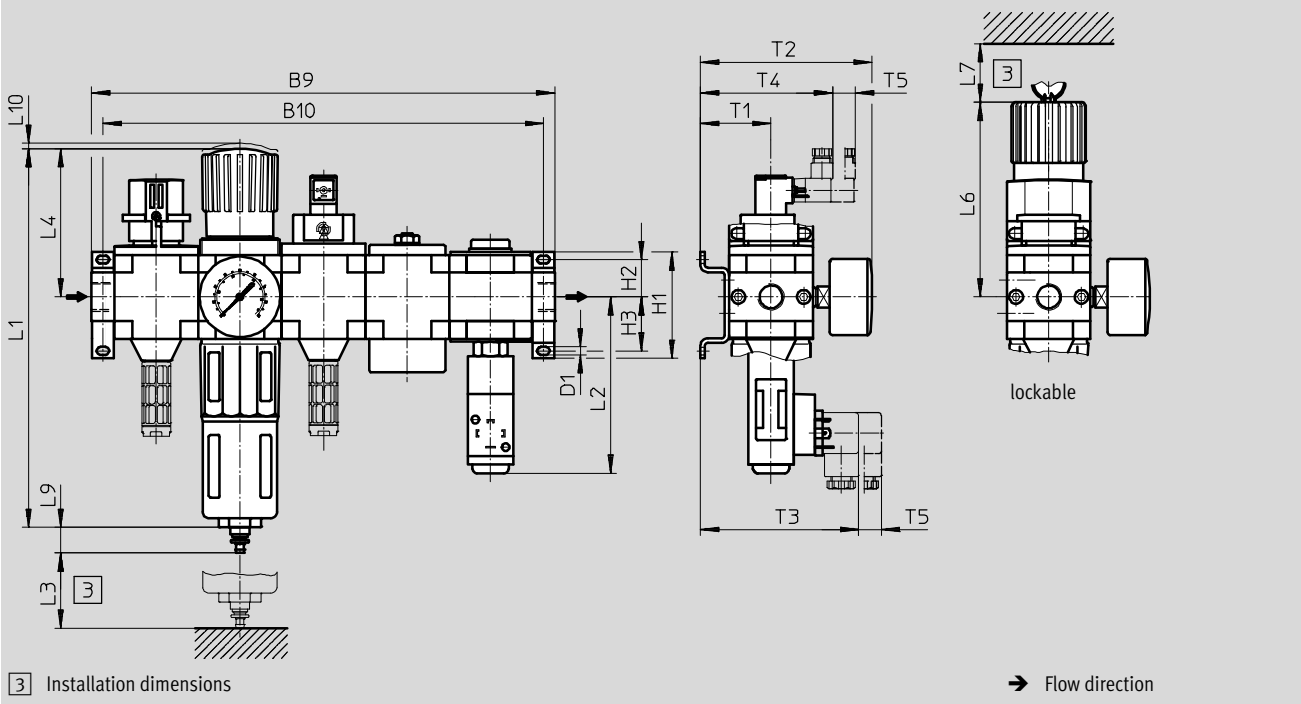
# Service unit combinations LFR-KG/LFRS-KG, D series, metal design

Technical data LFR-KG/LFRS-KG

**Dimensions**

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

LFR/LFRS-...-KG



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
LFRS-...-D-MINI-KG (A)																			
<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
LFRS-...-D-MIDI-KG (A)																			
<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
LFRS-...-D-MAXI-KG (A)							275			105	135								
LFR/LFRS-...-D-DI-MAXI-KG (A)																			

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

## Service unit combinations LFR-KG/LFRS-KG, D series, metal design

FESTO

Technical data LFR-KG/LFRS-KG

Ordering data					
Rotary knob with detent, pressure gauge with outer scale in bar and inner scale in psi					
Size	Connection	Condensate drain turned manually		Condensate drain fully automatic	
		Part No.	Type	Part No.	Type
Mini	G $\frac{1}{8}$	185779	LFR- $\frac{1}{8}$ -D-MINI-KG	185780	LFR- $\frac{1}{8}$ -D-MINI-KG-A
	G $\frac{1}{4}$	185781	LFR- $\frac{1}{4}$ -D-MINI-KG	185782	LFR- $\frac{1}{4}$ -D-MINI-KG-A
Midi	G $\frac{1}{4}$	185783	LFR- $\frac{1}{4}$ -D-MIDI-KG	185784	LFR- $\frac{1}{4}$ -D-MIDI-KG-A
	G $\frac{3}{8}$	185785	LFR- $\frac{3}{8}$ -D-MIDI-KG	185786	LFR- $\frac{3}{8}$ -D-MIDI-KG-A
	G $\frac{1}{2}$	185787	LFR- $\frac{1}{2}$ -D-MIDI-KG	185788	LFR- $\frac{1}{2}$ -D-MIDI-KG-A
Maxi	G $\frac{1}{2}$	186051	LFR- $\frac{1}{2}$ -D-MAXI-KG	186052	LFR- $\frac{1}{2}$ -D-MAXI-KG-A
	G $\frac{3}{4}$	185789	LFR- $\frac{3}{4}$ -D-MAXI-KG	185790	LFR- $\frac{3}{4}$ -D-MAXI-KG-A
Directly actuated pressure regulator with integrated return flow function					
Maxi	G $\frac{1}{2}$	192446	LFR- $\frac{1}{2}$ -D-DI-MAXI-KG	192460	LFR- $\frac{1}{2}$ -D-DI-MAXI-KG-A
	G $\frac{3}{4}$	192453	LFR- $\frac{3}{4}$ -D-DI-MAXI-KG	192467	LFR- $\frac{3}{4}$ -D-DI-MAXI-KG-A

Ordering data					
Rotary knob with integrated lock, pressure gauge with outer scale in bar and inner scale in psi					
Size	Connection	Condensate drain turned manually		Condensate drain fully automatic	
		Part No.	Type	Part No.	Type
Mini	G $\frac{1}{8}$	195020	LFRS- $\frac{1}{8}$ -D-MINI-KG	195021	LFRS- $\frac{1}{8}$ -D-MINI-KG-A
	G $\frac{1}{4}$	195034	LFRS- $\frac{1}{4}$ -D-MINI-KG	195035	LFRS- $\frac{1}{4}$ -D-MINI-KG-A
Midi	G $\frac{1}{4}$	195048	LFRS- $\frac{1}{4}$ -D-MIDI-KG	195049	LFRS- $\frac{1}{4}$ -D-MIDI-KG-A
	G $\frac{3}{8}$	195062	LFRS- $\frac{3}{8}$ -D-MIDI-KG	195063	LFRS- $\frac{3}{8}$ -D-MIDI-KG-A
	G $\frac{1}{2}$	195076	LFRS- $\frac{1}{2}$ -D-MIDI-KG	195077	LFRS- $\frac{1}{2}$ -D-MIDI-KG-A
Maxi	G $\frac{1}{2}$	195090	LFRS- $\frac{1}{2}$ -D-MAXI-KG	195091	LFRS- $\frac{1}{2}$ -D-MAXI-KG-A
	G $\frac{3}{4}$	195104	LFRS- $\frac{3}{4}$ -D-MAXI-KG	195105	LFRS- $\frac{3}{4}$ -D-MAXI-KG-A
Directly actuated pressure regulator with integrated return flow function					
Maxi	G $\frac{1}{2}$	195188	LFRS- $\frac{1}{2}$ -D-DI-MAXI-KG	195189	LFRS- $\frac{1}{2}$ -D-DI-MAXI-KG-A
	G $\frac{3}{4}$	195202	LFRS- $\frac{3}{4}$ -D-DI-MAXI-KG	195203	LFRS- $\frac{3}{4}$ -D-DI-MAXI-KG-A

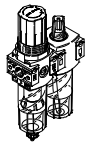
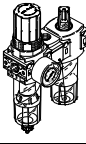
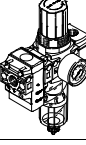
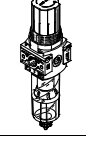

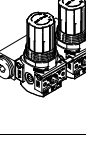
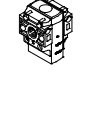
# Service unit combinations LFR-KG/LFRS-KG, D series, metal design

Technical data LFR-KG/LFRS-KG

**FESTO**

# Service unit combinations LFR-K, D series, polymer

Product range overview D series service units, polymer

Type	Size	Pneumatic connection		Pressure regulation range [bar]	Grade of filtration [µm]		
		G¼	G½		5	40	
<b>Service units</b>							
FRC		Mini	■	-	■	■	■
<b>Service unit combinations</b>							
FRC-K		Mini	■	-	■	-	■
LFR-K		Mini	■	-	■	-	■
<b>Individual devices</b>							
Filter regulators LFR		Mini	■	-	■	■	■
Pressure regulators LR		Mini	■	-	■	-	-
Pressure regulator combinations LRB-K		Mini	-	■	■	-	-
On-off valves HE		Mini	■	-	-	-	-

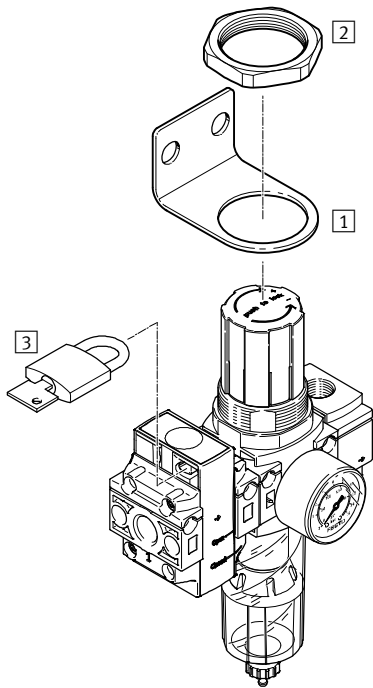
# Service unit combinations LFR-K, D series, polymer


Product range overview D series service units, polymer

Type	Size	Condensate drain		Pressure display		Actuator lock	Regulating functions		→ Page/ Internet
		Manual rotary	Semi-automatic	With pressure gauge	Without pressure gauge		With secondary venting	With return flow function	
<b>Service units</b>									
FRC	Mini	■	■	■	-	■	■	■	frc
<b>Service unit combinations</b>									
FRC-K	Mini	■	-	■	-	■	■	■	frc
LFR-K	Mini	■	-	■	-	■	■	■	40
<b>Individual devices</b>									
Filter regulators LFR	Mini	■	■	■	■	■	■	■	lfr
Pressure regulators LR	Mini	-	-	■	■	■	■	■	lr
Pressure regulator combinations LRB-K	Mini	-	-	-	■	■	■	■	lrb
On-off valves HE	Mini	-	-	-	■	-	-	-	he

# Service unit combinations LFR-K, D series, polymer

Peripherals overview



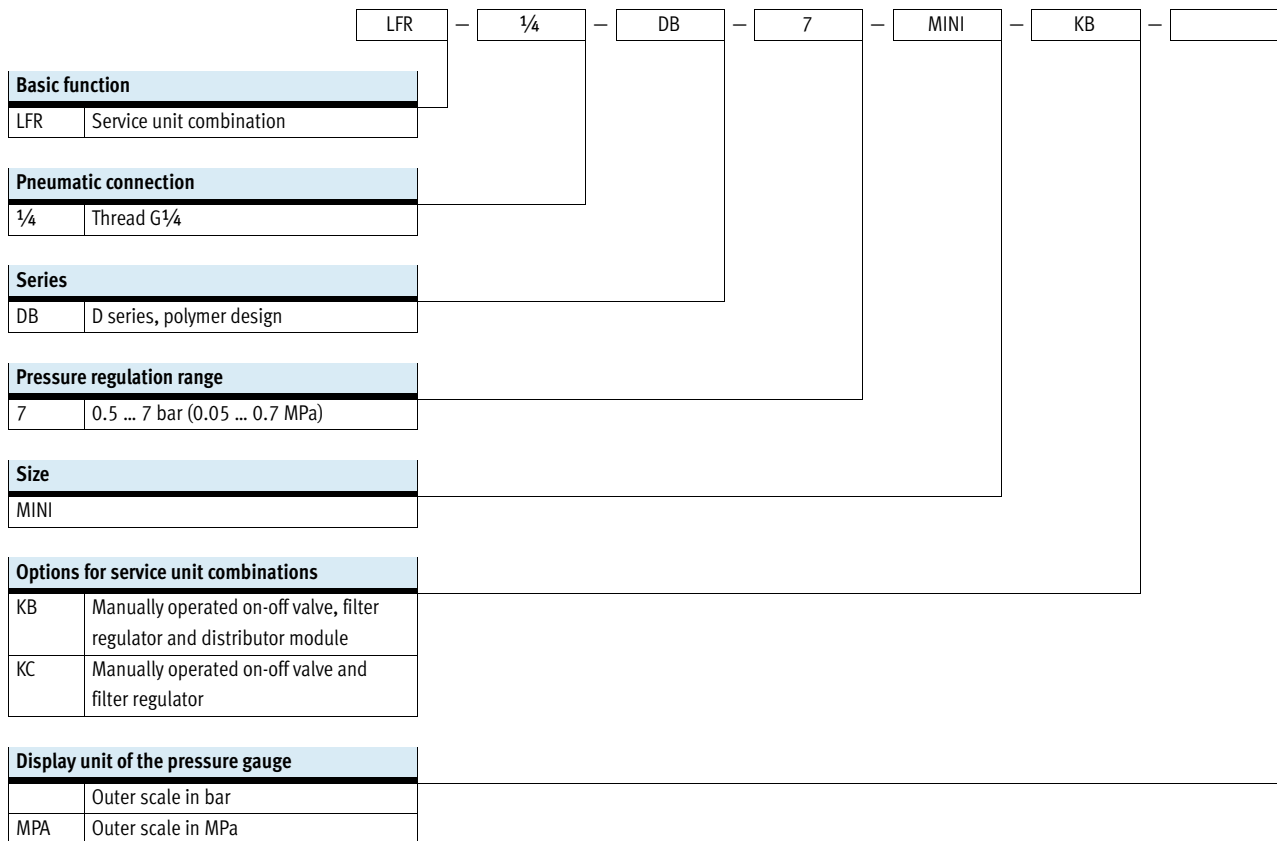
-  - Note  
 The range of accessories depends on the selected service unit combination. The example shows the service unit combination LFR-KB.

Mounting components 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



# Service unit combinations LFR-K, D series, polymer

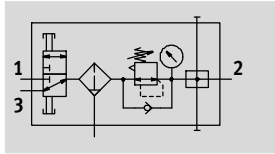
Type codes



# Service unit combinations LFR-KB, D series, polymer

Technical data – LFR-KB combination

Function



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

- - Standard nominal flow rate  
1,900 l/min
- - Temperature range  
-5 ... +50 °C
- - Operating pressure  
1.5 ... 10 bar  
(0.15 ... 1 MPa)



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

General technical data	
Size	Mini
Pneumatic connection 1, 2, 3	G $\frac{1}{4}$
Design	On-off valve/filter regulator/distributor module
Regulator type	Output pressure constant, without primary pressure compensation, with return flow action, with secondary venting
Type of mounting	In-line installation Via through-hole Via mounting bracket
Mounting position	Vertical $\pm 5^\circ$
Grade of filtration [µm]	40
Air purity class at the output	Compressed air according to ISO 8573-1:2010 [7:8:4]
Condensate drain	Manual rotary
Actuation security	Rotary knob with detent Padlock (optional)
Exhaust function	No flow control
Pressure regulation range [bar]	0.5 ... 7 (0.05 ... 0.7 MPa)
Max. pressure hysteresis [bar]	0.5 (0.05 MPa)
Pressure indication	Via pressure gauge
Pressure gauge connection	G $\frac{1}{8}$
Max. condensate volume [ml]	13

Flow rates [l/min]	
Standard nominal flow rate $q_{nN}^{1)}$	1,900
Max. standard flow rate	2,500

1) Measured at  $p_1 = 10 \text{ bar (1 MPa)}$ ,  $p_2 = 6 \text{ bar (0.6 MPa)}$  and  $\Delta p = 1 \text{ bar (0.1 MPa)}$ .

- - Note  
The design allows for slight leakage at the outlet. It improves the control response of the controller without input pressure compensation. In rare cases, however, the leakage can sporadically be up to 500 l/h.

# Service unit combinations LFR-KB, D series, polymer

Technical data – LFR-KB combination

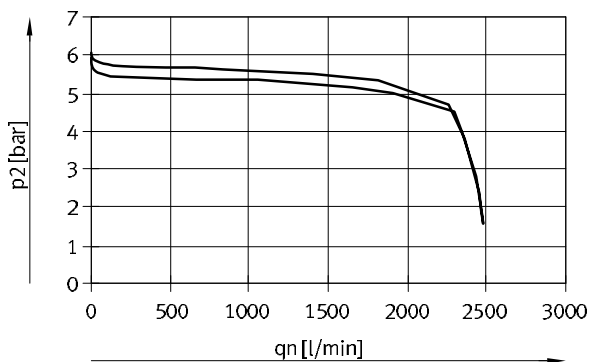
Operating and environmental conditions	
Operating pressure [bar]	1.5 ... 10 (0.15 ... 1 MPa)
Operating medium	Compressed air according to ISO 8573-1:2010 [7:9:4]
Note on operating/pilot medium	Lubricated operation not possible
Ambient temperature [°C]	-5 ... +50
Temperature of medium [°C]	-5 ... +50
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. For dry indoor applications or transport and storage protection. Also applies to parts behind covers, in the non-visible interior area, and parts which are covered in the application (e.g. drive trunnions).

Weight [g]	
Service unit	270

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

## Standard flow rate qn as a function of the output pressure p2 LFR-1/4-DB-7-MINI-KB



Input pressure p1 = 10 bar (1 MPa)

# Service unit combinations LFR-KB, D series, polymer

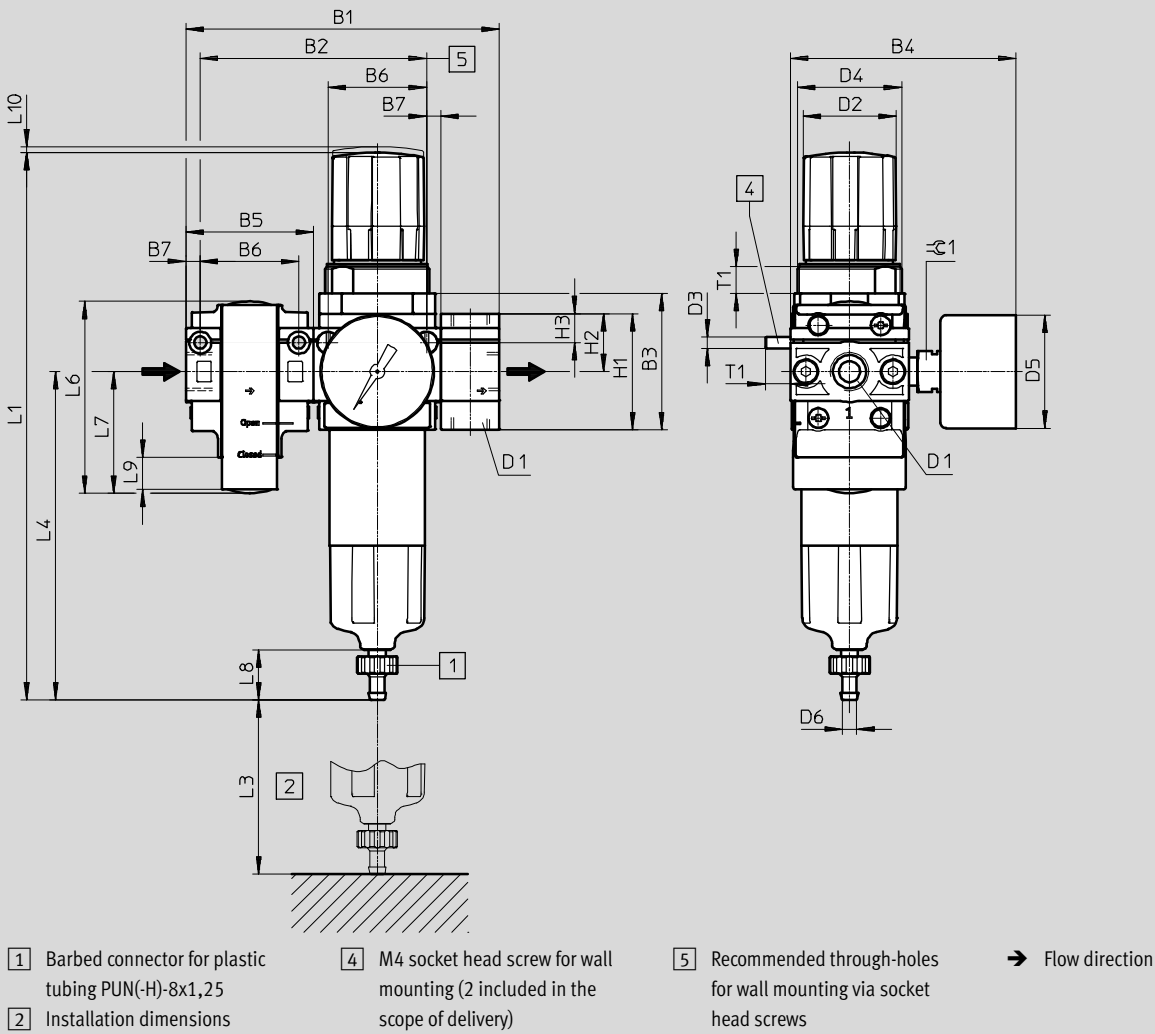
Technical data – LFR-KB combination



## Dimensions

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

Mini



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

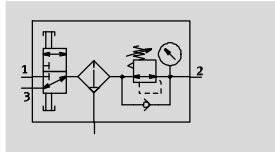
Type	H1	H2	H3	L1	L3	L4	L6	L7	L8	L9	L10	T1	C1
LFR-1/4-DB	40	20	10	189	60 min.	113	66	42	17	11	2	9	14

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 rotary	Mini	G1/4	<b>8002798 LFR-1/4-DB-7-MINI-KB</b>
Pressure gauge with outer scale in MPa and inner scale in bar			
Manual rotary	Mini	G1/4	<b>3339283 LFR-1/4-DB-7-MINI-KB-MPA</b>

# Service unit combinations LFR-KC, D series, polymer

Technical data – LFR-KC combination

Function



- Manually operated on-off valve
- Filter regulator

- - Standard nominal flow rate  
1,900 l/min
- - Temperature range  
-5 ... +50 °C
- - Operating pressure  
1.5 ... 10 bar  
(0.15 ... 1 MPa)



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

General technical data	
Size	Mini
Pneumatic connection 1, 2	G $\frac{1}{4}$
Design	On-off valve/filter regulator
Regulator type	Output pressure constant, without primary pressure compensation, with return flow action, with secondary venting
Type of mounting	In-line installation Via through-hole Via mounting bracket
Mounting position	Vertical $\pm 5^\circ$
Grade of filtration [µm]	40
Air purity class at the output	Compressed air according to ISO 8573-1:2010 [7:8:4]
Condensate drain	Manual rotary
Actuation security	Rotary knob with detent Padlock (optional)
Exhaust function	No flow control
Pressure regulation range [bar]	0.5 ... 7 (0.05 ... 0.7 MPa)
Max. pressure hysteresis [bar]	0.5 (0.05 MPa)
Pressure indication	Via pressure gauge
Pressure gauge connection	G $\frac{1}{8}$
Max. condensate volume [ml]	13

Flow rates [l/min]	
Standard nominal flow rate $q_{nN}^{1)}$	1,900
Max. standard flow rate	2,500

1) Measured at  $p_1 = 10 \text{ bar}$  (1 MPa),  $p_2 = 6 \text{ bar}$  (0.6 MPa) and  $\Delta p = 1 \text{ bar}$  (0.1 MPa).

- - Note  
The design allows for slight leakage at the outlet. It improves the control response of the controller without input pressure compensation. In rare cases, however, the leakage can sporadically be up to 500 l/h.

# Service unit combinations LFR-KC, D series, polymer

Technical data – LFR-KC combination

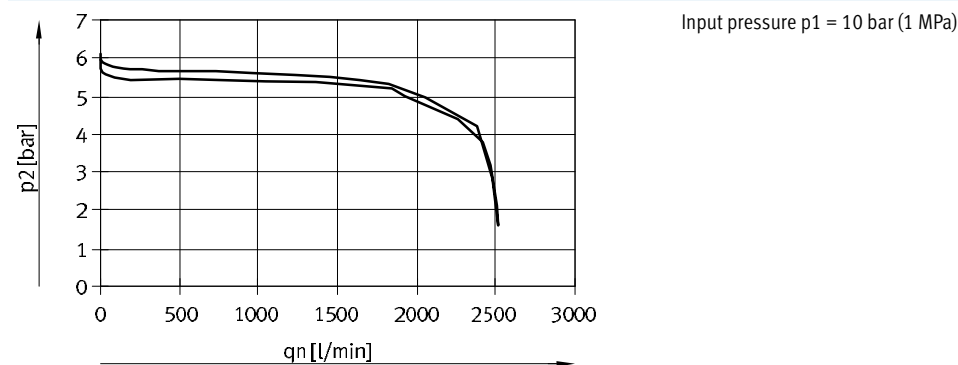
Operating and environmental conditions	
Operating pressure [bar]	1.5 ... 10 (0.15 ... 1 MPa)
Operating medium	Compressed air according to ISO 8573-1:2010 [7:9:4]
Note on operating/pilot medium	Lubricated operation not possible
Ambient temperature [°C]	-5 ... +50
Temperature of medium [°C]	-5 ... +50
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. For dry indoor applications or transport and storage protection. Also applies to parts behind covers, in the non-visible interior area, and parts which are covered in the application (e.g. drive trunnions).

Weight [g]	
Service unit	245

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

## Standard flow rate $q_n$ as a function of the output pressure $p_2$ LFR-1/4-DB-7-MINI-KC



# Service unit combinations LFR-KC, D series, polymer

Technical data – LFR-KC combination

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

Mini

1 Barbed connector for plastic tubing PUN(-H)-8x1,25  
 2 Installation dimensions  
 4 M4 socket head screw 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	≈C 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 rotary	Mini	G1/4	<b>8002799</b> LFR-1/4-DB-7-MINI-KC
Pressure gauge with outer scale in MPa and inner scale in bar			
Manual rotary	Mini	G1/4	<b>3339285</b> LFR-1/4-DB-7-MINI-KC-MPA

## Service unit combinations LFR-K/LFRS-K, D series

Accessories

Filter cartridges, D series, metal design



Ordering data			
Size	Grade of filtration [µm]	Part No.	Type
Mini	40 (colour: white)	363665	LFP-D-MINI-40M
Midi	40 (colour: white)	363667	LFP-D-MIDI-40M
Maxi	40 (colour: white)	363664	LFP-D-MAXI-40M

Filter cartridges, D series, polymer




Ordering data			
Size	Grade of filtration [µm]	Part No.	Type
Mini	40	534502	MS4-LFP-E




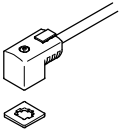
## Service unit combinations LFR-K/LFRS-K, D series


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Accessories

Ordering data – Angled socket PEV					Technical data → Internet: pev-1/4	
	Description	Operating voltage range	Electrical connection	Switching status display	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					Technical data → Internet: mssd	
	Description	Operating voltage range	Electrical connection	Type of mounting 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						Technical data → Internet: kmeb	
	Description	Operating voltage range	Electrical connection	Switching status display	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				Technical data → 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>