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

**Product range overview D series service units, metal design**

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Product range overview D series service units, metal design

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Product range overview D series service units, metal design

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#### Individual devices

| 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

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#### Page/Internet
9 | 13 | 17 | 21 | 25 | 29 | 33

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Service units LFR-K/LFRS-K, D series, metal design

Product range overview
Service units LFR-K/LFRS-K, D series, metal design

Peripherals overview

Mounting attachments and accessories

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<td>6</td>
<td>Plug socket</td>
<td>49</td>
</tr>
<tr>
<td></td>
<td>MSSD-EB</td>
<td></td>
</tr>
<tr>
<td>-</td>
<td>Filter cartridge</td>
<td>48</td>
</tr>
<tr>
<td></td>
<td>LFP</td>
<td></td>
</tr>
</tbody>
</table>

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

Range of accessories
Peripherals pages of the individual devices
# Service units LFR-K/LFRS-K, D series, metal design

## Type codes

<table>
<thead>
<tr>
<th>Basic function</th>
<th>LFR</th>
<th>Service unit</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>LFRS</td>
<td>Service unit, lockable</td>
</tr>
</tbody>
</table>

## Pneumatic connection

<table>
<thead>
<tr>
<th>Thread G</th>
<th>1/8</th>
<th>1/4</th>
<th>3/8</th>
<th>1/2</th>
<th>3/4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/8</td>
<td>G1/8</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1/4</td>
<td>G1/4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3/8</td>
<td>G3/8</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1/2</td>
<td>G1/2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3/4</td>
<td>G3/4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Series

| D | Series |

## Function (MAXI size only)

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

## Size

<table>
<thead>
<tr>
<th>MINI</th>
<th>Grid dimension for individual device 40 mm (without connecting plates)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MIDI</td>
<td>Grid dimension for individual device 55 mm (without connecting plates)</td>
</tr>
<tr>
<td>MAXI</td>
<td>Grid dimension for individual device 66 mm (without connecting plates)</td>
</tr>
</tbody>
</table>

## Options for service unit combinations

<table>
<thead>
<tr>
<th>KA</th>
<th>Filter regulator, branching module</th>
</tr>
</thead>
<tbody>
<tr>
<td>KB</td>
<td>On-off valve manually actuated, filter regulator, branching module</td>
</tr>
<tr>
<td>KC</td>
<td>On-off valve manually actuated, filter regulator</td>
</tr>
<tr>
<td>KD</td>
<td>Filter regulator, on-off valve solenoid actuated, 24 V DC, soft-start valve pneumatically actuated</td>
</tr>
<tr>
<td>KE</td>
<td>Filter regulator, branching module with pressure switch</td>
</tr>
<tr>
<td>KF</td>
<td>On-off valve manually actuated, filter regulator, branching module with pressure switch</td>
</tr>
<tr>
<td>KS</td>
<td>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</td>
</tr>
</tbody>
</table>

## Condensate drain

<table>
<thead>
<tr>
<th>A</th>
<th>Fully automatic</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Turned manually</td>
</tr>
</tbody>
</table>
### Service units LFR-KA/LFRS-KA, D series, metal design

Technical data LFR-KA/LFRS-KA

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

#### General technical data

<table>
<thead>
<tr>
<th>Size</th>
<th>Mini</th>
<th>Midi</th>
<th>Maxi</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pneumatic connection 1, 2</td>
<td>G 1/4</td>
<td>G 1/4</td>
<td>G 1/4</td>
</tr>
<tr>
<td>Type of mounting</td>
<td>Via accessories</td>
<td>In-line installation</td>
<td>In-line installation</td>
</tr>
<tr>
<td>Assembly position</td>
<td>Vertical ±5°</td>
<td>Vertical ±5°</td>
<td>Vertical ±5°</td>
</tr>
<tr>
<td>Grade of filtration [μm]</td>
<td>40</td>
<td>40</td>
<td>40</td>
</tr>
<tr>
<td>Air purity class at the output</td>
<td>Compressed air in accordance with ISO 8573-1:2010 [7:8:4] (Compressed air in accordance with ISO 8573-1:2010 [6:8:4])¹</td>
<td>Inert gases</td>
<td>Inert gases</td>
</tr>
<tr>
<td>Bowl guard</td>
<td>Metal bowl guard</td>
<td>Metal bowl guard</td>
<td>Metal bowl guard</td>
</tr>
<tr>
<td>Condensate drain</td>
<td>Manual rotary</td>
<td>Fully automatic</td>
<td>Fully automatic</td>
</tr>
<tr>
<td>Actuator lock</td>
<td>Rotary knob with detent</td>
<td>Rotary knob with integrated lock</td>
<td>Rotary knob with integrated lock</td>
</tr>
<tr>
<td>Pressure regulation range [bar]</td>
<td>0.5 ... 12</td>
<td>0.2 ... 12</td>
<td>0.2 ... 12</td>
</tr>
<tr>
<td>Max. hysteresis [bar]</td>
<td>0.15</td>
<td>0.15</td>
<td>0.25</td>
</tr>
<tr>
<td>Pressure indication</td>
<td>Via pressure gauge</td>
<td>Via pressure gauge</td>
<td>Via pressure gauge</td>
</tr>
<tr>
<td>Max. condensate volume [cm³]</td>
<td>22</td>
<td>43</td>
<td>80 (43)²</td>
</tr>
</tbody>
</table>

¹ For the LFR-…-D-DI.
² Note: This product conforms to ISO 1179-1 and to ISO 228-1

#### Standard nominal flow rate qₘₐₜ [l/min]

<table>
<thead>
<tr>
<th>Connection</th>
<th>Mini</th>
<th>Midi</th>
<th>Maxi</th>
</tr>
</thead>
<tbody>
<tr>
<td>G 1/4</td>
<td>G 1/4</td>
<td>G 1/4</td>
<td>G 1/4</td>
</tr>
<tr>
<td>In main flow direction 1 → 2</td>
<td>720</td>
<td>1,140</td>
<td>1,850</td>
</tr>
</tbody>
</table>

¹ Measured at p₁ = 10 bar, p₂ = 6 bar and Δp = 1 bar.
² For the LFR-…-D-DI.
³ 125 l/min must be available for the fully automatic condensate drain to close correctly.

For unlubricated compressed air supply

Three branch connections are available

New filter cartridges ➔ 48
Service units LFR-KA/LFRS-KA, D series, metal design

Technical data LFR-KA/LFRS-KA

<table>
<thead>
<tr>
<th>Operating and environmental conditions</th>
<th>Manual rotary</th>
<th>Fully automatic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Condensate drain</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating pressure [bar]</td>
<td>1 ... 16</td>
<td>2 ... 12</td>
</tr>
<tr>
<td>Operating medium</td>
<td>Compressed air in accordance with ISO 8573-1:2010[–:–:–]</td>
<td>Inert gases</td>
</tr>
<tr>
<td>Ambient temperature [°C]</td>
<td>–10 ... +60</td>
<td></td>
</tr>
<tr>
<td>Temperature of medium [°C]</td>
<td>–10 ... +60</td>
<td></td>
</tr>
<tr>
<td>Corrosion resistance class CRC1)</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Maritime classification</td>
<td>See certificate (only LFR)2)</td>
<td></td>
</tr>
</tbody>
</table>

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.

2) Additional information www.festo.com/sp ➔ Certificates.

<table>
<thead>
<tr>
<th>Weight [g]</th>
<th>Mini</th>
<th>Midi</th>
<th>Maxi</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LFR</td>
<td>800</td>
<td>1,800</td>
<td>2,400 (2,600)</td>
</tr>
<tr>
<td>LFRS</td>
<td>900</td>
<td>2,040</td>
<td>2,500</td>
</tr>
</tbody>
</table>

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

### Technical data LFR-KA/LFRS-KA

**Dimensions**

LFR/LFRS-...-KA

![Dimensions diagram](image-url)

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

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

[Download CAD data](www.festo.com)
### Ordering data

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

<table>
<thead>
<tr>
<th>Size</th>
<th>Connection</th>
<th>Condensate drain turned manually</th>
<th>Condensate drain fully automatic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mini</td>
<td>G 1/8</td>
<td>185707 LFR-1/8-D-MINI-KA</td>
<td>185708 LFR-1/8-D-MINI-KA-A</td>
</tr>
<tr>
<td></td>
<td>G 1/4</td>
<td>185709 LFR-1/4-D-MINI-KA</td>
<td>185710 LFR-1/4-D-MINI-KA-A</td>
</tr>
<tr>
<td>Midi</td>
<td>G 1/4</td>
<td>185711 LFR-1/4-D-MIDI-KA</td>
<td>185712 LFR-1/4-D-MIDI-KA-A</td>
</tr>
<tr>
<td></td>
<td>G 1/2</td>
<td>185715 LFR-1/2-D-MIDI-KA</td>
<td>185716 LFR-1/2-D-MIDI-KA-A</td>
</tr>
<tr>
<td>Maxi</td>
<td>G 1/2</td>
<td>186039 LFR-1/2-D-MAXI-KA</td>
<td>186040 LFR-1/2-D-MAXI-KA-A</td>
</tr>
<tr>
<td></td>
<td>G 3/4</td>
<td>185717 LFR-3/4-D-MAXI-KA</td>
<td>185718 LFR-3/4-D-MAXI-KA-A</td>
</tr>
</tbody>
</table>

**Directly actuated pressure regulator with integrated return flow function**

<table>
<thead>
<tr>
<th>Size</th>
<th>Connection</th>
<th>Condensate drain turned manually</th>
<th>Condensate drain fully automatic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maxi</td>
<td>G 1/2</td>
<td>192440 LFR-1/2-D-DI-MAXI-KA</td>
<td>192454 LFR-1/2-D-DI-MAXI-KA-A</td>
</tr>
<tr>
<td></td>
<td>G 3/4</td>
<td>192447 LFR-3/4-D-DI-MAXI-KA</td>
<td>192461 LFR-3/4-D-DI-MAXI-KA-A</td>
</tr>
</tbody>
</table>

**Ordering data**

**Rotary knob with integrated lock, pressure gauge with outer scale in bar and inner scale in psi**

<table>
<thead>
<tr>
<th>Size</th>
<th>Connection</th>
<th>Condensate drain turned manually</th>
<th>Condensate drain fully automatic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mini</td>
<td>G 1/8</td>
<td>195008 LFRS-1/8-D-MINI-KA</td>
<td>195009 LFRS-1/8-D-MINI-KA-A</td>
</tr>
<tr>
<td></td>
<td>G 1/4</td>
<td>195022 LFRS-1/4-D-MINI-KA</td>
<td>195023 LFRS-1/4-D-MINI-KA-A</td>
</tr>
<tr>
<td>Midi</td>
<td>G 1/4</td>
<td>195036 LFRS-1/4-D-MIDI-KA</td>
<td>195037 LFRS-1/4-D-MIDI-KA-A</td>
</tr>
<tr>
<td></td>
<td>G 3/8</td>
<td>195050 LFRS-3/8-D-MIDI-KA</td>
<td>195051 LFRS-3/8-D-MIDI-KA-A</td>
</tr>
<tr>
<td></td>
<td>G 1/2</td>
<td>195064 LFRS-1/2-D-MIDI-KA</td>
<td>195065 LFRS-1/2-D-MIDI-KA-A</td>
</tr>
<tr>
<td>Maxi</td>
<td>G 1/2</td>
<td>195078 LFRS-1/2-D-MAXI-KA</td>
<td>195079 LFRS-1/2-D-MAXI-KA-A</td>
</tr>
<tr>
<td></td>
<td>G 3/4</td>
<td>195092 LFRS-3/4-D-MAXI-KA</td>
<td>195093 LFRS-3/4-D-MAXI-KA-A</td>
</tr>
</tbody>
</table>
Service units LFR-KB/LFRS-KB, D series, metal design

<table>
<thead>
<tr>
<th>LFR/LFRS-...-MINI/MIDI-KB</th>
<th>With condensate drain manual rotary</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>LFR/LFRS-...-MAXI-KB</th>
<th>With condensate drain manual rotary</th>
</tr>
</thead>
</table>

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

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
New filter cartridges ➔ 48

### General technical data

<table>
<thead>
<tr>
<th>Size</th>
<th>Mini</th>
<th>Midi</th>
<th>Maxi</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pneumatic connection 1, 2</td>
<td>G⁷/₈</td>
<td>G⁵/₄</td>
<td>G⁵/₄</td>
</tr>
<tr>
<td>Type of mounting</td>
<td>Via accessories</td>
<td>In-line installation</td>
<td></td>
</tr>
<tr>
<td>Assembly position</td>
<td>Vertical ±5°</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grade of Filtration [μm]</td>
<td>40</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Air purity class at the output</td>
<td>Compressed air in accordance with ISO 8573-1:2010 [7:8:4] (Compressed air in accordance with ISO 8573-1:2010 [6:8:4])¹</td>
<td>Inert gases</td>
<td></td>
</tr>
<tr>
<td>Bowl guard</td>
<td>Metal bowl guard</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Condensate drain</td>
<td>Manual rotary</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Actuator lock</td>
<td>Rotary knob with detent</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pressure regulation range [bar]</td>
<td>0.5 ... 12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max. hysteresis [bar]</td>
<td>0.2</td>
<td>0.2</td>
<td>0.25</td>
</tr>
<tr>
<td>Pressure indication</td>
<td>Via pressure gauge</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max. condensate volume [cm³]</td>
<td>22</td>
<td>43</td>
<td>80 (43)²</td>
</tr>
</tbody>
</table>

¹) For the LFR/LFRS-...-D-DL.
²) Note: This product conforms to ISO 1179-1 and to ISO 228-1

### Standard nominal flow rate qₙₙ [l/min]

<table>
<thead>
<tr>
<th>Connection</th>
<th>Mini</th>
<th>Midi</th>
<th>Maxi</th>
</tr>
</thead>
<tbody>
<tr>
<td>In main flow direction 1 → 2</td>
<td>G⁷/₈</td>
<td>G⁵/₄</td>
<td>G⁵/₄</td>
</tr>
<tr>
<td></td>
<td>700</td>
<td>1,050</td>
<td>1,720</td>
</tr>
<tr>
<td></td>
<td>2,420</td>
<td>2,920</td>
<td>8,000 (5,400)²</td>
</tr>
</tbody>
</table>

¹) Measured at p₁ = 10 bar, p₂ = 6 bar and Δp = 1 bar.
²) For the LFR/LFRS-...-D-DL.
³) 125 l/min must be available for the fully automatic condensate drain to close correctly.
## Service units LFR-KB/LFRS-KB, D series, metal design

Technical data LFR-KB/LFRS-KB

### Operating and environmental conditions

<table>
<thead>
<tr>
<th>Condensate drain</th>
<th>Manual rotary</th>
<th>Fully automatic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manual</td>
<td>1 … 16</td>
<td>2 … 12</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Operating pressure [bar]</th>
<th>Manual</th>
<th>Fully automatic</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 … 16</td>
<td></td>
<td>2 … 12</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Operating medium</th>
<th>Manual</th>
<th>Fully automatic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compressed air</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ambient temperature [°C]</th>
<th>Manual</th>
<th>Fully automatic</th>
</tr>
</thead>
<tbody>
<tr>
<td>–10 … +60</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Temperature of medium [°C]</th>
<th>Manual</th>
<th>Fully automatic</th>
</tr>
</thead>
<tbody>
<tr>
<td>–10 … +60</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Corrosion resistance class CRC</th>
<th>Manual</th>
<th>Fully automatic</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
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<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Maritime classification</th>
<th>Manual</th>
<th>Fully automatic</th>
</tr>
</thead>
<tbody>
<tr>
<td>See certificate (only LFR)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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.

2) Additional information [www.festo.com/sp](http://www.festo.com/sp) Certificates.

### Weight [g]

<table>
<thead>
<tr>
<th>Size</th>
<th>Mini</th>
<th>Midi</th>
<th>Maxi</th>
</tr>
</thead>
<tbody>
<tr>
<td>LFR</td>
<td>1,000</td>
<td>2,200</td>
<td>3,300 (3,500)¹</td>
</tr>
<tr>
<td>LFRS</td>
<td>1,100</td>
<td>2,440</td>
<td>3,400 (3,740)¹</td>
</tr>
</tbody>
</table>

1) For the LFR/LFRS-…-D-DL

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

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

![Graph](image)

Primary pressure $p_1 = 10$ bar
## Service units LFR-KB/LFRS-KB, D series, metal design

### Technical data LFR-KB/LFRS-KB

#### Dimensions

| Type          | B7 | B8 | D1 | H1 | H2 | H3 | L1 | L2 | L3 | L4 | L5 | L6 | L7 | L8 | L9 | L10 | T1 | T2 |
|---------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Mini         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 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) |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Midi         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 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) |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Maxi         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 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/LFRS-...-D-DI-MAXI-KB (A) | 275 | 105 | 135 |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

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

Download CAD data ➔ [www.festo.com](http://www.festo.com)
### Service units LFR-KB/LFRS-KB, D series, metal design

**Technical data LFR-KB/LFRS-KB**

#### Ordering data

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

<table>
<thead>
<tr>
<th>Size</th>
<th>Connection</th>
<th>Condensate drain</th>
<th>Condensate drain</th>
<th>Part No.</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>turned manually</td>
<td>fully automatic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mini</td>
<td>G 1/8</td>
<td>185719 LFR-1/8-D-MINI-KB</td>
<td>185720 LFR-1/8-D-MINI-KB-A</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>G 1/4</td>
<td>185721 LFR-1/4-D-MINI-KB</td>
<td>185722 LFR-1/4-D-MINI-KB-A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Midi</td>
<td>G 1/4</td>
<td>185723 LFR-1/4-D-MIDI-KB</td>
<td>185724 LFR-1/4-D-MIDI-KB-A</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>G 3/8</td>
<td>185725 LFR-3/8-D-MIDI-KB</td>
<td>185726 LFR-3/8-D-MIDI-KB-A</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>G 1/2</td>
<td>185727 LFR-1/2-D-MIDI-KB</td>
<td>185728 LFR-1/2-D-MIDI-KB-A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maxi</td>
<td>G 1/2</td>
<td>186041 LFR-1/2-D-MAXI-KB</td>
<td>186042 LFR-1/2-D-MAXI-KB-A</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>G 3/4</td>
<td>185729 LFR-3/4-D-MAXI-KB</td>
<td>185730 LFR-3/4-D-MAXI-KB-A</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Directly actuated pressure regulator with integrated return flow function**

| Maxi   | G 1/2      | 192441 LFR-1/2-D-DI-MAXI-KB | 192455 LFR-1/2-D-DI-MAXI-KB-A |          |        |
|        | G 3/4      | 192448 LFR-3/4-D-DI-MAXI-KB | 192462 LFR-3/4-D-DI-MAXI-KB-A |          |        |

<table>
<thead>
<tr>
<th>Size</th>
<th>Connection</th>
<th>Condensate drain</th>
<th>Condensate drain</th>
<th>Part No.</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>turned manually</td>
<td>fully automatic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mini</td>
<td>G 1/8</td>
<td>195010 LFRS-1/8-D-MINI-KB</td>
<td>195011 LFRS-1/8-D-MINI-KB-A</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>G 1/4</td>
<td>195024 LFRS-1/4-D-MINI-KB</td>
<td>195025 LFRS-1/4-D-MINI-KB-A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Midi</td>
<td>G 1/4</td>
<td>195038 LFRS-1/4-D-MIDI-KB</td>
<td>195039 LFRS-1/4-D-MIDI-KB-A</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>G 3/8</td>
<td>195052 LFRS-3/8-D-MIDI-KB</td>
<td>195053 LFRS-3/8-D-MIDI-KB-A</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>G 1/2</td>
<td>195066 LFRS-1/2-D-MIDI-KB</td>
<td>195067 LFRS-1/2-D-MIDI-KB-A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maxi</td>
<td>G 1/2</td>
<td>195080 LFRS-1/2-D-MAXI-KB</td>
<td>195081 LFRS-1/2-D-MAXI-KB-A</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>G 3/4</td>
<td>195094 LFRS-3/4-D-MAXI-KB</td>
<td>195095 LFRS-3/4-D-MAXI-KB-A</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Maxi   | G 1/2      | 195178 LFRS-1/2-D-DI-MAXI-KB |          |          |
|        | G 3/4      | 195192 LFRS-3/4-D-DI-MAXI-KB |          |          |
Service units LFR-KC/LFRS-KC, D series, metal design

Technical data 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

- For un lubricated 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
- New filter cartridges ➔ 48

General technical data

<table>
<thead>
<tr>
<th>Size</th>
<th>Mini</th>
<th>Midi</th>
<th>Maxi</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pneumatic connection 1, 2</td>
<td>G1/4</td>
<td>G1/4</td>
<td>G1/4</td>
</tr>
<tr>
<td>Type of mounting</td>
<td>Via accessories</td>
<td>In-line installation</td>
<td></td>
</tr>
<tr>
<td>Assembly position</td>
<td>Vertical ±5°</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grade of filtration [μm]</td>
<td>40</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Air purity class at the output</td>
<td>Compressed air in accordance with ISO 8573-1:2010 [7:8:4] (Compressed air in accordance with ISO 8573-1:2010 [6:8:4])¹</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bowl guard</td>
<td>Metal bowl guard</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Condensate drain</td>
<td>Manual rotary</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Actuator lock</td>
<td>Rotary knob with detent</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pressure regulation range [bar]</td>
<td>0.5 ... 12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max. hysteresis [bar]</td>
<td>0.2</td>
<td>0.2</td>
<td>0.2</td>
</tr>
<tr>
<td>Pressure indication</td>
<td>Via pressure gauge</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max. condensate volume [cm³]</td>
<td>22</td>
<td>43</td>
<td>80 (43)²</td>
</tr>
</tbody>
</table>

¹ For the LFR/LFRS-…-D-DI.
² Note: This product conforms to ISO 1179-1 and to ISO 228-1

Standard nominal flow rate qₐₙ(³) [l/min]

<table>
<thead>
<tr>
<th>Connection</th>
<th>Mini</th>
<th>Midi</th>
<th>Maxi</th>
</tr>
</thead>
<tbody>
<tr>
<td>G1/4</td>
<td>G1/4</td>
<td>G1/4</td>
<td>G1/4</td>
</tr>
<tr>
<td>In main flow direction 1 —→ 2</td>
<td>750</td>
<td>1,150</td>
<td>1,900</td>
</tr>
</tbody>
</table>

¹ Measured at p₁ = 10 bar, p₂ = 6 bar and Δp = 1 bar.
² For the LFR/LFRS-…-D-DI.
³ 125 l/min must be available for the fully automatic condensate drain to close correctly.
Service units LFR-KC/LFRS-KC, D series, metal design

Technical data LFR-KC/LFRS-KC

### Operating and environmental conditions

<table>
<thead>
<tr>
<th>Condensate drain</th>
<th>Manual rotary</th>
<th>Fully automatic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Condensate drain</td>
<td>Manual rotary</td>
<td>Fully automatic</td>
</tr>
<tr>
<td>Operating pressure</td>
<td>[bar]</td>
<td>[bar]</td>
</tr>
<tr>
<td>Operating medium</td>
<td>[°C]</td>
<td>[°C]</td>
</tr>
<tr>
<td>Ambient temperature</td>
<td>[°C]</td>
<td>[°C]</td>
</tr>
<tr>
<td>Temperature of medium</td>
<td>[°C]</td>
<td>[°C]</td>
</tr>
<tr>
<td>Corrosion resistance class CRC</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Maritime classification</td>
<td>See certificate (only LFR)</td>
<td></td>
</tr>
</tbody>
</table>

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.

2) Additional information www.festo.com/sp Certificates.

### Weight [g]

<table>
<thead>
<tr>
<th>Size</th>
<th>Mini</th>
<th>Midi</th>
<th>Maxi</th>
</tr>
</thead>
<tbody>
<tr>
<td>LFR</td>
<td>700</td>
<td>1,600</td>
<td>2,300 (2,600)</td>
</tr>
<tr>
<td>LFRS</td>
<td>1,000</td>
<td>1,840</td>
<td>2,400 (2,840)</td>
</tr>
</tbody>
</table>

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

### Materials

Materials Technical data of the individual devices

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

### Graph

Primary pressure p1 = 10 bar
### Service units LFR-KC/LFRS-KC, D series, metal design

#### Technical data LFR-KC/LFRS-KC

**Dimensions**

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

*Note: This product conforms to ISO 1179-1 and to ISO 228-1*
## Technical data LFR-KC/LFRS-KC

### Ordering data

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

<table>
<thead>
<tr>
<th>Size</th>
<th>Connection</th>
<th>Condensate drain</th>
<th>Condensate drain</th>
<th>Part No.</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>turned manually</td>
<td>fully automatic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mini</td>
<td>G 1/16</td>
<td>185731 LFR-1/8-D-MINI-KC</td>
<td>185732 LFR-1/8-D-MINI-KC-A</td>
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<td></td>
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<tr>
<td></td>
<td>G 1/16</td>
<td>185733 LFR-1/4-D-MINI-KC</td>
<td>185734 LFR-1/4-D-MINI-KC-A</td>
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<td></td>
</tr>
<tr>
<td>Midi</td>
<td>G 1/4</td>
<td>185735 LFR-1/8-D-MIDI-KC</td>
<td>185736 LFR-1/8-D-MIDI-KC-A</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>G 1/4</td>
<td>185737 LFR-3/8-D-MIDI-KC</td>
<td>185738 LFR-3/8-D-MIDI-KC-A</td>
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<tr>
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<td>G 1/2</td>
<td>185739 LFR-1/2-D-MIDI-KC</td>
<td>185740 LFR-1/2-D-MIDI-KC-A</td>
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</tr>
<tr>
<td>Maxi</td>
<td>G 1/2</td>
<td>186043 LFR-1/2-D-MAXI-KC</td>
<td>186044 LFR-1/2-D-MAXI-KC-A</td>
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<tr>
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<td>G 3/4</td>
<td>185741 LFR-3/4-D-MAXI-KC</td>
<td>185742 LFR-3/4-D-MAXI-KC-A</td>
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<td></td>
</tr>
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</table>

**Directly actuated pressure regulator with integrated return flow function**

| Maxi  | G 1/2      | 192442 LFR-1/2-D-DI-MAXI-KC | 192456 LFR-1/2-D-DI-MAXI-KC-A |          |          |

### Ordering data

**Rotary knob with integrated lock, pressure gauge with outer scale in bar and inner scale in psi**

<table>
<thead>
<tr>
<th>Size</th>
<th>Connection</th>
<th>Condensate drain</th>
<th>Condensate drain</th>
<th>Part No.</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>turned manually</td>
<td>fully automatic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mini</td>
<td>G 1/16</td>
<td>195012 LFRS-1/8-D-MINI-KC</td>
<td>195013 LFRS-1/8-D-MINI-KC-A</td>
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<tr>
<td></td>
<td>G 1/16</td>
<td>195026 LFRS-1/4-D-MINI-KC</td>
<td>195027 LFRS-1/4-D-MINI-KC-A</td>
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<tr>
<td>Midi</td>
<td>G 1/4</td>
<td>195040 LFRS-1/8-D-MIDI-KC</td>
<td>195041 LFRS-1/8-D-MIDI-KC-A</td>
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<tr>
<td></td>
<td>G 1/4</td>
<td>195054 LFRS-3/8-D-MIDI-KC</td>
<td>195055 LFRS-3/8-D-MIDI-KC-A</td>
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<td></td>
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<tr>
<td></td>
<td>G 1/2</td>
<td>195068 LFRS-1/2-D-MIDI-KC</td>
<td>195069 LFRS-1/2-D-MIDI-KC-A</td>
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<tr>
<td>Maxi</td>
<td>G 1/2</td>
<td>195082 LFRS-1/2-D-MAXI-KC</td>
<td>195083 LFRS-1/2-D-MAXI-KC-A</td>
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<tr>
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<td>G 3/4</td>
<td>195096 LFRS-3/4-D-MAXI-KC</td>
<td>195097 LFRS-3/4-D-MAXI-KC-A</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Directly actuated pressure regulator with integrated return flow function**

| Maxi  | G 1/2      | 195180 LFRS-1/2-D-DI-MAXI-KC |          |          |
|       | G 3/4      | –                              |          |          |

**Part No.**: Numbers in parentheses refer to the part number for the respective component.
Service units LFR-KD/LFRS-KD, D series, metal design

Technical data LFR-KD/LFRS-KD

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

For unlubricated compressed air
- Gradual pressure build-up prevents sudden, unpredictable movements
- New filter cartridges ➔ 48

<table>
<thead>
<tr>
<th>General technical data</th>
<th>Mini</th>
<th>Midi</th>
<th>Maxi</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pneumatic connection 1, 2</td>
<td>G1/8</td>
<td>G3/8</td>
<td>G3/8</td>
</tr>
<tr>
<td>Type of mounting</td>
<td>Via accessories</td>
<td>In-line installation</td>
<td></td>
</tr>
<tr>
<td>Assembly position</td>
<td>Vertical ±5°</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grade of filtration (μm)</td>
<td>40</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bowl guard</td>
<td>Metal bowl guard</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Condensate drain</td>
<td>Manual rotary</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Actuator lock</td>
<td>Rotary knob with detent</td>
<td>Rotary knob with integrated lock</td>
<td></td>
</tr>
<tr>
<td>Pressure regulation range [bar]</td>
<td>2.5</td>
<td>0.25</td>
<td>0.25</td>
</tr>
<tr>
<td>Max. hysteresis [bar]</td>
<td>0.15</td>
<td>0.25</td>
<td>0.25</td>
</tr>
<tr>
<td>Pressure indication</td>
<td>Via pressure gauge</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max. condensate volume [cm³]</td>
<td>22</td>
<td>43</td>
<td>80 (43)¹²</td>
</tr>
</tbody>
</table>

¹) For the LFR-…-D-DI.
²) Note: This product conforms to ISO 1179-1 and to ISO 228:1

<table>
<thead>
<tr>
<th>Standard nominal flow rate qₜₜ⁠¹ [l/min]</th>
<th>Mini</th>
<th>Midi</th>
<th>Maxi</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connection</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>G1/8</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>In main flow direction 1 → 2</td>
<td>595</td>
<td>730</td>
<td>1,440</td>
</tr>
</tbody>
</table>

¹) Measured at p₁ = 10 bar, p₂ = 6 bar and Δp = 1 bar.
²) For the LFR-…-D-DI.
³) 125 l/min must be available for the fully automatic condensate drain to close correctly.

Www.festo.com
## Service units LFR-KD/LFRS-KD, D series, metal design

### Technical data LFR-KD/LFRS-KD

#### Operating and environmental conditions

<table>
<thead>
<tr>
<th>Condensate drain</th>
<th>Manual rotary</th>
<th>Fully automatic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating pressure [bar]</td>
<td>3 ... 16</td>
<td>3 ... 12</td>
</tr>
<tr>
<td>Operating medium</td>
<td>Compressed air in accordance with ISO 8573-1:2010 [–:–:–] Inert gases</td>
<td></td>
</tr>
<tr>
<td>Ambient temperature [°C]</td>
<td>–10 ... +60</td>
<td></td>
</tr>
<tr>
<td>Temperature of medium [°C]</td>
<td>–10 ... +60</td>
<td></td>
</tr>
<tr>
<td>Corrosion resistance class CRC</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Maritime classification</td>
<td>See certificate (only LFR)2)</td>
<td></td>
</tr>
</tbody>
</table>

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.

2) Additional information www.festo.com/sp → Certificates.

### Weight [g]

<table>
<thead>
<tr>
<th>Size</th>
<th>Mini</th>
<th>Midi</th>
<th>Maxi</th>
</tr>
</thead>
<tbody>
<tr>
<td>LFR</td>
<td>900</td>
<td>2,100</td>
<td>3,100 (3,300)1)</td>
</tr>
<tr>
<td>LFRS</td>
<td>1,000</td>
<td>2,340</td>
<td>3,200</td>
</tr>
</tbody>
</table>

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

---

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

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

[Graph showing qn (l/min) vs. p2 (bar)]

- Primary pressure p1 = 10 bar
Service units LFR-KD/LFRS-KD, D series, metal design

Technical data LFR-KD/LFRS-KD

Dimensions

LFR/LFRS…-KD

Download CAD data ➔ www.festo.com

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

Note: This product conforms to ISO 1179-1 and to ISO 228-1
## Service units LFR-KD/LFRS-KD, D series, metal design

### Ordering data

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

<table>
<thead>
<tr>
<th>Size</th>
<th>Connection</th>
<th>Condensate drain</th>
<th>Condensate drain turned manually</th>
<th>Part No.</th>
<th>Type</th>
<th>Part No.</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mini</td>
<td>G 1/8</td>
<td>185743 LFR-1/8-D-MINI-KD</td>
<td>185744 LFR-1/8-D-MINI-KD-A</td>
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<tr>
<td></td>
<td>G 1/4</td>
<td>185745 LFR-1/4-D-MINI-KD</td>
<td>185746 LFR-1/4-D-MINI-KD-A</td>
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<tr>
<td>Midi</td>
<td>G 1/4</td>
<td>185747 LFR-1/4-D-MIDI-KD</td>
<td>185748 LFR-1/4-D-MIDI-KD-A</td>
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<tr>
<td></td>
<td>G 1/2</td>
<td>185751 LFR-1/2-D-MIDI-KD</td>
<td>185752 LFR-1/2-D-MIDI-KD-A</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Maxi</td>
<td>G 1/2</td>
<td>186045 LFR-1/2-D-MAXI-KD</td>
<td>186046 LFR-1/2-D-MAXI-KD-A</td>
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<tr>
<td></td>
<td>G 3/4</td>
<td>185753 LFR-3/4-D-MAXI-KD</td>
<td>185754 LFR-3/4-D-MAXI-KD-A</td>
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</tbody>
</table>

**Directly actuated pressure regulator with integrated return flow function**

<table>
<thead>
<tr>
<th>Size</th>
<th>Connection</th>
<th>Condensate drain</th>
<th>Condensate drain turned manually</th>
<th>Part No.</th>
<th>Type</th>
<th>Part No.</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maxi</td>
<td>G 1/2</td>
<td>192443 LFR-1/2-D-DI-MAXI-KD</td>
<td>192457 LFR-1/2-D-DI-MAXI-KD-A</td>
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<tr>
<td></td>
<td>G 3/4</td>
<td>192450 LFR-3/4-D-DI-MAXI-KD</td>
<td>192464 LFR-3/4-D-DI-MAXI-KD-A</td>
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<td></td>
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</table>

### Ordering data

**Rotary knob with integrated lock, pressure gauge with outer scale in bar and inner scale in psi**

<table>
<thead>
<tr>
<th>Size</th>
<th>Connection</th>
<th>Condensate drain</th>
<th>Condensate drain turned manually</th>
<th>Part No.</th>
<th>Type</th>
<th>Part No.</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mini</td>
<td>G 1/8</td>
<td>195014 LFRS-1/8-D-MINI-KD</td>
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<tr>
<td></td>
<td>G 1/4</td>
<td>195028 LFRS-1/4-D-MINI-KD</td>
<td>195029 LFRS-1/4-D-MINI-KD-A</td>
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<tr>
<td>Midi</td>
<td>G 1/4</td>
<td>195042 LFRS-1/4-D-MIDI-KD</td>
<td>195043 LFRS-1/4-D-MIDI-KD-A</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>G 1/2</td>
<td>195070 LFRS-1/2-D-MIDI-KD</td>
<td>195071 LFRS-1/2-D-MIDI-KD-A</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Maxi</td>
<td>G 1/2</td>
<td>195084 LFRS-1/2-D-MAXI-KD</td>
<td>195085 LFRS-1/2-D-MAXI-KD-A</td>
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</tr>
<tr>
<td></td>
<td>G 3/4</td>
<td>195098 LFRS-3/4-D-MAXI-KD</td>
<td>195099 LFRS-3/4-D-MAXI-KD-A</td>
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</tr>
</tbody>
</table>
### General technical data

<table>
<thead>
<tr>
<th>Size</th>
<th>Mini</th>
<th>Midi</th>
<th>Maxi</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pneumatic connection 1, 2</td>
<td>G1/8</td>
<td>G1/4</td>
<td>G1/4</td>
</tr>
<tr>
<td>Type of mounting</td>
<td>Via accessories</td>
<td>In-line installation</td>
<td></td>
</tr>
<tr>
<td>Assembly position</td>
<td>Vertical ±5°</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grade of Filtration [μm]</td>
<td>40</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Air purity class at the output</td>
<td>Compressed air in accordance with ISO 8573-1:2010 [7:8:4] (Compressed air in accordance with ISO 8573-1:2010 [6:8:4])¹</td>
<td>Inert gases</td>
<td></td>
</tr>
<tr>
<td>Bowl guard</td>
<td>Metal bowl guard</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Condensate drain</td>
<td>Manual rotary</td>
<td>Fully automatic</td>
<td></td>
</tr>
<tr>
<td>Actuator lock</td>
<td>Rotary knob with detent</td>
<td>Rotary knob with integrated lock</td>
<td></td>
</tr>
<tr>
<td>Pressure regulation range [bar]</td>
<td>0.5 ... 12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max. hysteresis [bar]</td>
<td>0.15</td>
<td>0.15</td>
<td>0.25</td>
</tr>
<tr>
<td>Pressure indication</td>
<td>Via pressure gauge</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max. condensate volume [cm³]</td>
<td>22</td>
<td>43</td>
<td>80 (43)²</td>
</tr>
</tbody>
</table>

¹) For the LFR-…-D-DI.
²) Note: This product conforms to ISO 1179-1 and to ISO 228-1

### Standard nominal flow rate qn₁ [l/min]

<table>
<thead>
<tr>
<th>Connection</th>
<th>Mini</th>
<th>Midi</th>
<th>Maxi</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 --&gt; 2</td>
<td>G1/8</td>
<td>G1/4</td>
<td>G1/4</td>
</tr>
<tr>
<td>2 --&gt; 1</td>
<td>720</td>
<td>1,140</td>
<td>1,850</td>
</tr>
</tbody>
</table>

¹) Measured at p₁ = 10 bar, p₂ = 6 bar and Δp = 1 bar.
²) For the LFR-…-D-DI.
³) 125 l/min must be available for the fully automatic condensate drain to close correctly.

---

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

For un lubricated compressed air
- Two branch connections are available
- Electrical pressure monitoring with adjustable switching pressure
- New filter cartridges ➔ 48
### Service units LFR-KE/LFRS-KE, D series, metal design

**Technical data LFR-KE/LFRS-KE**

#### Operating and environmental conditions

<table>
<thead>
<tr>
<th></th>
<th>Manual rotary</th>
<th>Fully automatic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Condensate drain</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating pressure</td>
<td>1 ... 16</td>
<td>2 ... 12</td>
</tr>
<tr>
<td>Operating medium</td>
<td>Compressed air in accordance with ISO 8573-1:2010 [–:–:–]</td>
<td>Inert gases</td>
</tr>
<tr>
<td>Ambient temperature</td>
<td>–10 ... +60</td>
<td></td>
</tr>
<tr>
<td>Temperature of medium</td>
<td>–10 ... +60</td>
<td></td>
</tr>
<tr>
<td>Corrosion resistance class CRC</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Maritime classification</td>
<td>See certificate (only LFR)</td>
<td></td>
</tr>
</tbody>
</table>

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.

2) Additional information www.festo.com/sp ➔ Certificates.

#### Weight [g]

<table>
<thead>
<tr>
<th>Size</th>
<th>Mini</th>
<th>Midi</th>
<th>Maxi</th>
</tr>
</thead>
<tbody>
<tr>
<td>LFR</td>
<td>1,000</td>
<td>2,000</td>
<td>2,400 (2,600)</td>
</tr>
<tr>
<td>LFRS</td>
<td>1,100</td>
<td>2,240</td>
<td>2,500</td>
</tr>
</tbody>
</table>

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

#### 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)**

![Standard flow rate qn as a function of the output pressure p2](image)

Primary pressure p1 = 10 bar
Service units LFR-KE/LFRS-KE, D series, metal design

Technical data LFR-KE/LFRS-KE

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

Note: This product conforms to ISO 1179-1 and to ISO 228-1
## Service units LFR-KE/LFRS-KE, D series, metal design

### Technical data LFR-KE/LFRS-KE

#### Ordering data

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

<table>
<thead>
<tr>
<th>Size</th>
<th>Connection</th>
<th>Condensate drain</th>
<th>Condensate drain</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>turned manually</td>
<td>fully automatic</td>
</tr>
<tr>
<td>Part No.</td>
<td>Type</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mini</td>
<td>G 1/4</td>
<td>185755 LFR-1/8-D-MINI-KE</td>
<td>185766 LFR-1/8-D-MINI-KE-A</td>
</tr>
<tr>
<td></td>
<td>G 1/8</td>
<td>185757 LFR-1/4-D-MINI-KE</td>
<td>185768 LFR-1/4-D-MINI-KE-A</td>
</tr>
<tr>
<td>Midi</td>
<td>G 1/8</td>
<td>185759 LFR-1/4-D-MIDI-KE</td>
<td>185769 LFR-1/4-D-MIDI-KE-A</td>
</tr>
<tr>
<td></td>
<td>G 1/16</td>
<td>185760 LFR-3/8-D-MIDI-KE</td>
<td>185770 LFR-3/8-D-MIDI-KE-A</td>
</tr>
<tr>
<td>Maxi</td>
<td>G 1/2</td>
<td>185763 LFR-1/2-D-MIDI-KE</td>
<td>185771 LFR-1/2-D-MIDI-KE-A</td>
</tr>
<tr>
<td></td>
<td>G 3/16</td>
<td>185764 LFR-3/4-D-MIDI-KE</td>
<td>185772 LFR-3/4-D-MIDI-KE-A</td>
</tr>
</tbody>
</table>

Directly actuated pressure regulator with integrated return flow function

<table>
<thead>
<tr>
<th>Size</th>
<th>Connection</th>
<th>Condensate drain</th>
<th>Condensate drain</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>turned manually</td>
<td>fully automatic</td>
</tr>
<tr>
<td>Part No.</td>
<td>Type</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maxi</td>
<td>G 1/2</td>
<td>192444 LFR-1/2-D-DI-MAXI-KE</td>
<td>192458 LFR-1/2-D-DI-MAXI-KE-A</td>
</tr>
<tr>
<td></td>
<td>G 3/16</td>
<td>192451 LFR-3/4-D-DI-MAXI-KE</td>
<td>192465 LFR-3/4-D-DI-MAXI-KE-A</td>
</tr>
</tbody>
</table>

#### Ordering data

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

<table>
<thead>
<tr>
<th>Size</th>
<th>Connection</th>
<th>Condensate drain</th>
<th>Condensate drain</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>turned manually</td>
<td>fully automatic</td>
</tr>
<tr>
<td>Part No.</td>
<td>Type</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mini</td>
<td>G 1/4</td>
<td>195016 LFRS-1/8-D-MINI-KE</td>
<td>195017 LFRS-1/8-D-MINI-KE-A</td>
</tr>
<tr>
<td></td>
<td>G 1/4</td>
<td>195020 LFRS-1/4-D-MINI-KE</td>
<td>195021 LFRS-1/4-D-MINI-KE-A</td>
</tr>
<tr>
<td>Midi</td>
<td>G 1/4</td>
<td>195044 LFRS-1/4-D-MIDI-KE</td>
<td>195045 LFRS-1/4-D-MIDI-KE-A</td>
</tr>
<tr>
<td></td>
<td>G 1/8</td>
<td>195058 LFRS-3/8-D-MIDI-KE</td>
<td>195059 LFRS-3/8-D-MIDI-KE-A</td>
</tr>
<tr>
<td>Maxi</td>
<td>G 1/2</td>
<td>195072 LFRS-1/2-D-MIDI-KE</td>
<td>195073 LFRS-1/2-D-MIDI-KE-A</td>
</tr>
<tr>
<td></td>
<td>G 3/16</td>
<td>195086 LFRS-3/4-D-MAXI-KE</td>
<td>195087 LFRS-3/4-D-MAXI-KE-A</td>
</tr>
<tr>
<td></td>
<td>G 3/16</td>
<td>195100 LFRS-3/4-D-MAXI-KE</td>
<td>195101 LFRS-3/4-D-MAXI-KE-A</td>
</tr>
</tbody>
</table>
Service units LFR-KF/LFRS-KF, D series, metal design

Technical data LFR-KF/LFRS-KF

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

- Flow rate
  700 ... 8,400 l/min
- Temperature range
  -10 ... +60 °C
- Operating pressure
  1 ... 16 bar
- www.festo.com

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

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
New filter cartridges → 48

### General technical data

<table>
<thead>
<tr>
<th>Size</th>
<th>Mini</th>
<th>Midi</th>
<th>Maxi</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pneumatic connection 1, 2</td>
<td>G1/8</td>
<td>G3/8</td>
<td>G5/8</td>
</tr>
<tr>
<td>Type of mounting</td>
<td>Via accessories</td>
<td>In-line installation</td>
<td></td>
</tr>
<tr>
<td>Assembly position</td>
<td>Vertical ±5°</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grade of filtration [μm]</td>
<td>40</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Air purity class at the output</td>
<td>Compressed air in accordance with ISO 8573-1:2010 [7:8:4] (Compressed air in accordance with ISO 8573-1:2010 [6:8:4])¹</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bowl guard</td>
<td>Metal bowl guard</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Condensate drain</td>
<td>Manual rotary</td>
<td>Fully automatic</td>
<td></td>
</tr>
<tr>
<td>Actuator lock</td>
<td>Rotary knob with detent</td>
<td>Rotary knob with integrated lock</td>
<td></td>
</tr>
<tr>
<td>Pressure regulation range [bar]</td>
<td>0.5 ... 12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max. hysteresis [bar]</td>
<td>0.2</td>
<td>0.25</td>
<td>0.3</td>
</tr>
<tr>
<td>Pressure indication</td>
<td>Via pressure gauge</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max. condensate volume [cm³]</td>
<td>22</td>
<td>43</td>
<td>80 (43)¹</td>
</tr>
</tbody>
</table>

¹ For the LFR/LFRS-…-D-DL.
² Note: This product conforms to ISO 1179-1 and to ISO 228-1

### Standard nominal flow rate qnM [1] [l/min]

<table>
<thead>
<tr>
<th>Connection</th>
<th>Mini</th>
<th>Midi</th>
<th>Maxi</th>
</tr>
</thead>
<tbody>
<tr>
<td>G¹/₈</td>
<td>G³/₈</td>
<td>G³/₈</td>
<td>G³/₈</td>
</tr>
<tr>
<td>G³/₈</td>
<td>G³/₈</td>
<td>G³/₈</td>
<td>G³/₈</td>
</tr>
<tr>
<td>G³/₈</td>
<td>G³/₈</td>
<td>G³/₈</td>
<td>G³/₈</td>
</tr>
</tbody>
</table>

In main flow direction 1 → 2

- Measured at p₁ = 10 bar, p₂ = 6 bar and Δp = 1 bar.
- For the LFR/LFRS-…-D-DL.
- For the LFR/LFRS-…-D-DL.
- 125 l/min must be available for the fully automatic condensate drain to close correctly.
Service units LFR-KF/LFRS-KF, D series, metal design

Technical data LFR-KF/LFRS-KF

<table>
<thead>
<tr>
<th>Operating and environmental conditions</th>
<th>Manual rotary</th>
<th>Fully automatic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Condensate drain</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating pressure [bar]</td>
<td>1 ... 16</td>
<td>2 ... 12</td>
</tr>
<tr>
<td>Operating medium</td>
<td>Compressed air in accordance with ISO 8573-1:2010 [–:–:–]</td>
<td></td>
</tr>
<tr>
<td>Inert gases</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ambient temperature [°C]</td>
<td>−10 ... +60</td>
<td></td>
</tr>
<tr>
<td>Temperature of medium [°C]</td>
<td>−10 ... +60</td>
<td></td>
</tr>
<tr>
<td>Corrosion resistance class CRC 1)</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Maritime classification</td>
<td>See certificate (only LFR) 2)</td>
<td></td>
</tr>
</tbody>
</table>

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.
2) Additional information www.festo.com/sp ➤ Certificates.

<table>
<thead>
<tr>
<th>Weight [g]</th>
<th>Mini</th>
<th>Midi</th>
<th>Maxi</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LFR</td>
<td>1,200</td>
<td>2,400</td>
<td>3,300 (3,500) 1)</td>
</tr>
<tr>
<td>LFRS</td>
<td>1,300</td>
<td>2,640</td>
<td>3,400 (3,740) 1)</td>
</tr>
</tbody>
</table>

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

- Note

Materials ➤ Technical data of the individual devices

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

<table>
<thead>
<tr>
<th>LFR/LFRS-1/2-D-DI-MAXI-KF(4)</th>
</tr>
</thead>
</table>

Primary pressure p1 = 10 bar
Service units LFR-KF/LFRS-KF, D series, metal design

Technical data LFR-KF/LFRS-KF

**Dimensions**

| Type               | B7 | B8 | D1 | H1 | H2 | H3 | L1 | L2 | L3 | L4 | L6 | L7 | L9 | L10 | T1 | T2 | T3 | T5 |
|--------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| **Mini**           |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 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)|    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| **Midi**           |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 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)|    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| **Maxi**           |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 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)|    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| LFR/LFRS-…-D-DI-MAXI-KF (A) |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

Note: This product conforms to ISO 1179-1 and to ISO 228-1
## Service units LFR-KF/LFRS-KF, D series, metal design

### Technical data LFR-KF/LFRS-KF

### Ordering data

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

<table>
<thead>
<tr>
<th>Size</th>
<th>Connection</th>
<th>Condensate drain</th>
<th>Condensate drain</th>
<th>Part No.</th>
<th>Type</th>
<th>Part No.</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mini</td>
<td>G 1/8</td>
<td>185767 LFR-1/8-D-MINI-KF</td>
<td>185768 LFR-1/8-D-MINI-KF-A</td>
<td>G 1/4</td>
<td>185769 LFR-1/4-D-MINI-KF</td>
<td>185770 LFR-1/4-D-MINI-KF-A</td>
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</tr>
<tr>
<td></td>
<td>G 5/16</td>
<td>185775 LFR-1/2-D-MIDI-KF</td>
<td>185776 LFR-1/2-D-MIDI-KF-A</td>
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<td>Maxi</td>
<td>G 5/2</td>
<td>186049 LFR-1/2-D-MAXI-KF</td>
<td>186050 LFR-1/2-D-MAXI-KF-A</td>
<td>G 3/4</td>
<td>185777 LFR-3/4-D-MAXI-KF</td>
<td>185778 LFR-3/4-D-MAXI-KF-A</td>
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Directly actuated pressure regulator with integrated return flow function

| Maxi | G 5/2 | 192445 LFR-1/2-D-DI-MAXI-KF | 192459 LFR-1/2-D-DI-MAXI-KF-A |
|      | G 3/4 | 192452 LFR-3/4-D-DI-MAXI-KF | 192466 LFR-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

<table>
<thead>
<tr>
<th>Size</th>
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<th>Condensate drain</th>
<th>Part No.</th>
<th>Type</th>
<th>Part No.</th>
<th>Type</th>
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</thead>
<tbody>
<tr>
<td>Mini</td>
<td>G 1/8</td>
<td>195018 LFRS-1/8-D-MINI-KF</td>
<td>195019 LFRS-1/8-D-MINI-KF-A</td>
<td>G 1/4</td>
<td>195032 LFRS-1/4-D-MINI-KF</td>
<td>195033 LFRS-1/4-D-MINI-KF-A</td>
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<tr>
<td></td>
<td>G 5/16</td>
<td>195074 LFRS-1/2-D-MIDI-KF</td>
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<td>195088 LFRS-1/2-D-MAXI-KF</td>
<td>195089 LFRS-1/2-D-MAXI-KF-A</td>
<td>G 3/4</td>
<td>195102 LFRS-3/4-D-MAXI-KF</td>
<td>195103 LFRS-3/4-D-MAXI-KF-A</td>
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</table>

Directly actuated pressure regulator with integrated return flow function

| Maxi | G 5/2 | 195186 LFRS-1/2-D-DI-MAXI-KF | 195187 LFRS-1/2-D-DI-MAXI-KF-A |
|      | G 3/4 | 195200 LFRS-3/4-D-DI-MAXI-KF | |
Service units LFR-KG/LFRS-KG, D series, metal design
Technical data LFR-KG/LFRS-KG

- Flow rate
  575 … 4,900 l/min

- Temperature range
  –10 … +60 °C

- Operating pressure
  3 … 16 bar

- www.festo.com

- For un lubricated compressed air

- To ensure safe venting of the system, an additional quick exhaust valve is necessary at the output of the service unit

- 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**

<table>
<thead>
<tr>
<th>Size</th>
<th>Mini</th>
<th>Midi</th>
<th>Maxi</th>
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</thead>
<tbody>
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<td>Mini</td>
<td>Midi</td>
<td>Maxi</td>
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<tr>
<td>Size</td>
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<td>Midi</td>
<td>Maxi</td>
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<tr>
<td>Size</td>
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<tr>
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<td>G 1/4</td>
<td>G 3/16</td>
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<tr>
<td>Type of mounting</td>
<td>Via accessories</td>
<td>In-line installation</td>
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</tr>
<tr>
<td>Assembly position</td>
<td>Vertical ±5°</td>
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<td>Grade of filtration [μm]</td>
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<td>Bowl guard</td>
<td>Metal bowl guard</td>
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<td>Condensate drain</td>
<td>Manual rotary</td>
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<tr>
<td>Actuator lock</td>
<td>Rotary knob with detent</td>
<td>Rotary knob with integrated lock</td>
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<td>Pressure regulation range [bar]</td>
<td>2.5 … 12</td>
<td>0.15</td>
<td>0.15</td>
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<tr>
<td>Max. hysteresis [bar]</td>
<td>0.25</td>
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<td>0.2</td>
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<tr>
<td>Pressure indication</td>
<td>Via pressure gauge</td>
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</tr>
<tr>
<td>Max. condensate volume [cm³]</td>
<td>22</td>
<td>43</td>
<td>80 (43)1)</td>
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</tbody>
</table>

1) Measured at p1 = 10 bar, p2 = 6 bar and Δp = 1 bar.
2) For the LFR/LFRS-…-D-DI.
3) Note: This product conforms to ISO 1179-1 and to ISO 228-1

---

**Standard nominal flow rate q_n min [l/min]**

<table>
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<tr>
<th>Connection</th>
<th>Mini</th>
<th>Midi</th>
<th>Maxi</th>
</tr>
</thead>
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<td>G 1/8</td>
<td>G 1/4</td>
<td>G 3/16</td>
<td>G 1/2</td>
</tr>
<tr>
<td>In main flow direction 1 → 2</td>
<td>575</td>
<td>715</td>
<td>1,370</td>
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</table>

1) Measured at p1 = 10 bar, p2 = 6 bar and Δp = 1 bar.
2) For the LFR/LFRS-…-D-DI.
3) 125 l/min must be available for the fully automatic condensate drain to close correctly.

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2018/05 – Subject to change

⇒ Internet: www.festo.com/catalogue/...
Service units LFR-KG/LFRS-KG, D series, metal design

Technical data LFR-KG/LFRS-KG

<table>
<thead>
<tr>
<th>Operating and environmental conditions</th>
<th>Manual rotary</th>
<th>Fully automatic</th>
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<tr>
<td>Condensate drain</td>
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</tr>
<tr>
<td>Operating pressure [bar]</td>
<td>3 ... 16</td>
<td>3 ... 12</td>
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<tr>
<td>Operating medium</td>
<td>Compressed air in accordance with ISO 8573-1:2010 [-:--:-]</td>
<td>Inert gases</td>
</tr>
<tr>
<td>Ambient temperature [°C]</td>
<td>-10 ... +60</td>
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</tr>
<tr>
<td>Temperature of medium [°C]</td>
<td>-10 ... +60</td>
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<tr>
<td>Corrosion resistance class CRC 1)</td>
<td>2</td>
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<tr>
<td>Maritime classification</td>
<td>See certificate (only LFR) 2)</td>
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</tr>
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</table>

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.

2) Additional information www.festo.com/sp ➤ Certificates.

<table>
<thead>
<tr>
<th>Weight [g]</th>
<th>Mini</th>
<th>Midi</th>
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<td>LFR</td>
<td>1,500</td>
<td>3,400</td>
<td>5,200 (5,400) 1)</td>
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<tr>
<td>LFRS</td>
<td>1,600</td>
<td>3,640</td>
<td>5,300 (5,640) 1)</td>
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</table>

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
Service units LFR-KG/LFRS-KG, D series, metal design

Technical data LFR-KG/LFRS-KG

### Dimensions

**LFR/LFRS-...-KG**

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<tr>
<th>Type</th>
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<th>B10</th>
<th>D1</th>
<th>H1</th>
<th>H2</th>
<th>H3</th>
<th>L1</th>
<th>L2</th>
<th>L3</th>
<th>L4</th>
<th>L6</th>
<th>L7</th>
<th>L9</th>
<th>L10</th>
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<td>Mini</td>
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<td>224</td>
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<td>17.5</td>
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<td>LFRS-...-D-MINI-KG (A)</td>
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<td>Midi</td>
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<td>Maxi</td>
<td>LFR-...-D-MAXI-KG (A)</td>
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<td>126</td>
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<td></td>
<td>LFRS-...-D-MAXI-KG (A)</td>
<td></td>
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<tr>
<td></td>
<td>LFR/LFRS-...-D-MAXI-KG (A)</td>
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<td>135</td>
<td>92</td>
<td>111</td>
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*Note: This product conforms to ISO 1179-1 and to ISO 228-1*
<table>
<thead>
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<th>Part No.</th>
<th>Type</th>
<th>Condensate drain</th>
<th>Part No.</th>
<th>Type</th>
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Directly actuated pressure regulator with integrated return flow function

<table>
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<tr>
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<th>Connection</th>
<th>Condensate drain</th>
<th>Part No.</th>
<th>Type</th>
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<th>Part No.</th>
<th>Type</th>
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<tbody>
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<td>192446 LFR-1/2-D-DI-MAXI-KG</td>
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<td>G 3/4</td>
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Ordering data

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<th>Part No.</th>
<th>Type</th>
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Directly actuated pressure regulator with integrated return flow function

<table>
<thead>
<tr>
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<th>Part No.</th>
<th>Type</th>
<th>Condensate drain</th>
<th>Part No.</th>
<th>Type</th>
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Service units LFR-KG/LFRS-KG, D series, metal design
Technical data LFR-KG/LFRS-KG
## Service unit combinations LFR-K, D series, polymer

Product range overview D series service units, polymer

<table>
<thead>
<tr>
<th>Type</th>
<th>Size</th>
<th>Pneumatic connection</th>
<th>Pressure regulation range [bar]</th>
<th>Grade of filtration [μm]</th>
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<td>On-off valves</td>
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### Service unit combinations LFR-K, D series, polymer

**Product range overview D series service units, polymer**

<table>
<thead>
<tr>
<th>Type</th>
<th>Size</th>
<th>Condensate drain</th>
<th>Pressure display</th>
<th>Actuator lock</th>
<th>Regulating functions</th>
<th>➔ Page/Internet</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td>Manual rotary</td>
<td>Semi-automatic</td>
<td>With pressure gauge</td>
<td>Without pressure gauge</td>
<td>Rotary knob with detent</td>
</tr>
<tr>
<td>Service units</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>FRC</td>
<td>Mini</td>
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<td>Service unit combinations</td>
<td></td>
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<tr>
<td>FRC-K</td>
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<tr>
<td>LFR-K</td>
<td>Mini</td>
<td></td>
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<td>Individual devices</td>
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<td>Filter regulators LFR</td>
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<tr>
<td>Pressure regulators LR</td>
<td>Mini</td>
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<tr>
<td>Pressure regulator combinations LRB-K</td>
<td>Mini</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>On-off valves HE</td>
<td>Mini</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

| FRC-K Mini | 40 |
| LFR-K Mini | 40 |

**Manual rotary**

**Semi-automatic**

**With pressure gauge**

**Without pressure gauge**

**Rotary knob with detent**

**With secondary venting**

**With return flow function**

**Filter regulators LFR**

**Pressure regulators LR**

**Pressure regulator combinations LRB-K**

**On-off valves HE**
## Service unit combinations LFR-K, D series, polymer

### Peripherals overview

- **Mounting components and accessories**

<table>
<thead>
<tr>
<th></th>
<th>Mounting bracket</th>
<th>Page/Internet</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>HR-D</td>
<td>hr-d</td>
</tr>
<tr>
<td>2</td>
<td>Hex nut</td>
<td>hmr-d</td>
</tr>
<tr>
<td>3</td>
<td>Padlock</td>
<td>lrvs-d</td>
</tr>
<tr>
<td></td>
<td>Filter cartridge</td>
<td></td>
</tr>
<tr>
<td></td>
<td>MS4-LFP-E</td>
<td>68</td>
</tr>
</tbody>
</table>

### Note

The range of accessories depends on the selected service unit combination. The example shows the service unit combination LFR-KB.
Service unit combinations LFR-K, D series, polymer

<table>
<thead>
<tr>
<th>Type codes</th>
<th>LFR</th>
<th>1/4</th>
<th>DB</th>
<th>7</th>
<th>MINI</th>
<th>KB</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Basic function</strong></td>
<td>LFR</td>
<td>Service unit combination</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Pneumatic connection</strong></td>
<td>1/4</td>
<td>Thread G¼</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Series</strong></td>
<td>DB</td>
<td>D series, polymer design</td>
<td></td>
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<tr>
<td><strong>Pressure regulation range</strong></td>
<td>7</td>
<td>0.5 ... 7 bar</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Size</strong></td>
<td>MINI</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Options for service unit combinations</strong></td>
<td>KB</td>
<td>Manually operated on-off valve, filter regulator and distributor module</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>KC</td>
<td>Manually operated on-off valve and filter regulator</td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>
Service unit combinations LFR-KB, D series, polymer

Technical data LFR-KB

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

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

General technical data

<table>
<thead>
<tr>
<th>Size</th>
<th>Mini</th>
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</thead>
<tbody>
<tr>
<td>Pneumatic connection 1, 2, 3</td>
<td>60/4</td>
</tr>
<tr>
<td>Design</td>
<td>On-off valve/filter regulator/distributor module</td>
</tr>
<tr>
<td>Regulator type</td>
<td>Output pressure constant, without primary pressure compensation, with return flow action, with secondary venting</td>
</tr>
<tr>
<td>Type of mounting</td>
<td>In-line installation</td>
</tr>
<tr>
<td></td>
<td>Via through-hole</td>
</tr>
<tr>
<td></td>
<td>Via mounting bracket</td>
</tr>
<tr>
<td>Mounting position</td>
<td>Vertical ±5°</td>
</tr>
<tr>
<td>Grade of filtration</td>
<td>40 [μm]</td>
</tr>
<tr>
<td>Air purity class at the output</td>
<td>Compressed air according to ISO 8573-1:2010 [7:8:4]</td>
</tr>
<tr>
<td>Condensate drain</td>
<td>Manual rotary</td>
</tr>
<tr>
<td>Actuation security</td>
<td>Rotary knob with detent</td>
</tr>
<tr>
<td></td>
<td>Padlock (optional)</td>
</tr>
<tr>
<td>Exhaust function</td>
<td>No flow control</td>
</tr>
<tr>
<td>Pressure regulation range [bar]</td>
<td>0.5 ... 7</td>
</tr>
<tr>
<td>Max. pressure hysteresis [bar]</td>
<td>0.5</td>
</tr>
<tr>
<td>Pressure indication</td>
<td>Via pressure gauge</td>
</tr>
<tr>
<td>Pressure gauge connection</td>
<td>G 1/4</td>
</tr>
<tr>
<td>Max. condensate volume [ml]</td>
<td>13</td>
</tr>
</tbody>
</table>

Flow rates [l/min]

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard nominal flow rate $q_{\text{nom}}$ [1]</td>
<td>1,900</td>
</tr>
<tr>
<td>Max. standard flow rate</td>
<td>2,500</td>
</tr>
</tbody>
</table>

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

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

**Operating and environmental conditions**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating pressure</td>
<td>[bar] 1.5 ... 10</td>
</tr>
<tr>
<td>Operating medium</td>
<td>Compressed air according to ISO 8573-1:2010 [7:9:4]</td>
</tr>
<tr>
<td>Note on operating/pilot medium</td>
<td>Lubricated operation not possible</td>
</tr>
<tr>
<td>Ambient temperature</td>
<td>[°C] –5 ... +50</td>
</tr>
<tr>
<td>Temperature of medium</td>
<td>[°C] –5 ... +50</td>
</tr>
<tr>
<td>Storage temperature</td>
<td>[°C] –5 ... +50</td>
</tr>
<tr>
<td>Corrosion resistance class CRC</td>
<td>1</td>
</tr>
</tbody>
</table>

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 mountings).

**Weight [g]**

| Service unit | 270 |

**Materials**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Housing</td>
<td>PA reinforced</td>
</tr>
<tr>
<td>Piston spool</td>
<td>POM</td>
</tr>
<tr>
<td>Bowl</td>
<td>PC</td>
</tr>
<tr>
<td>Rotary knob</td>
<td>POM</td>
</tr>
<tr>
<td>Filter</td>
<td>PE</td>
</tr>
<tr>
<td>Seals</td>
<td>NBR</td>
</tr>
<tr>
<td>On-off valve seals</td>
<td>FPM</td>
</tr>
<tr>
<td>Note on materials</td>
<td>RoHS-compliant</td>
</tr>
</tbody>
</table>

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

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

Input pressure p1 = 10 bar
Service unit combinations LFR-KB, D series, polymer

Technical data LFR-KB

Dimensions

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
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<tbody>
<tr>
<td>1</td>
<td>Barbed connector for plastic tubing PUN(H)-8x1,25</td>
</tr>
<tr>
<td>2</td>
<td>Installation dimensions</td>
</tr>
<tr>
<td>3</td>
<td>M4 socket head screw for wall mounting (2 included in the scope of delivery)</td>
</tr>
<tr>
<td>4</td>
<td>Recommended through-holes for wall mounting via socket head screws</td>
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</table>

Flow direction

<table>
<thead>
<tr>
<th>Type</th>
<th>D1</th>
<th>B1</th>
<th>B2</th>
<th>B3</th>
<th>B4</th>
<th>B5</th>
<th>B6</th>
<th>B7</th>
<th>D2</th>
<th>D3</th>
<th>D4</th>
<th>D5</th>
<th>D6</th>
</tr>
</thead>
<tbody>
<tr>
<td>LFR-1/4-DB</td>
<td>G1/4</td>
<td>108</td>
<td>78</td>
<td>47</td>
<td>78</td>
<td>44</td>
<td>34</td>
<td>5</td>
<td>32</td>
<td>M4</td>
<td>M36x1.5</td>
<td>39</td>
<td>5.6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type</th>
<th>H1</th>
<th>H2</th>
<th>H3</th>
<th>L1</th>
<th>L3 min.</th>
<th>L4</th>
<th>L6</th>
<th>L7</th>
<th>L8</th>
<th>L9</th>
<th>L10</th>
<th>T1</th>
<th>ß</th>
</tr>
</thead>
<tbody>
<tr>
<td>LFR-1/4-DB</td>
<td>40</td>
<td>20</td>
<td>10</td>
<td>189</td>
<td>60</td>
<td>113</td>
<td>66</td>
<td>42</td>
<td>17</td>
<td>11</td>
<td>2</td>
<td>9</td>
<td>14</td>
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</table>

Ordering data

<table>
<thead>
<tr>
<th>Condensate drain</th>
<th>Size</th>
<th>Connection</th>
<th>Grade of filtration 40 μm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Part No.</td>
<td>Type</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Manual rotary</th>
<th>Size</th>
<th>Connection</th>
<th>Grade of filtration 40 μm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Part No.</td>
<td>Type</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Download CAD data ➔ www.festo.com
Service unit combinations LFR-KC, D series, polymer

Technical data LFR-KC

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

- For unlubricated compressed air
- The operating pressure can be switched on or off

- New filter cartridges ➔ 48

General technical data

<table>
<thead>
<tr>
<th>General technical data</th>
<th>Mini</th>
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<tbody>
<tr>
<td>Size</td>
<td>G 3/4</td>
</tr>
<tr>
<td>Pneumatic connection 1, 2</td>
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</tr>
<tr>
<td>Design</td>
<td>On-off valve/filter regulator</td>
</tr>
<tr>
<td>Regulator type</td>
<td>Output pressure constant, without primary pressure compensation, with return flow action, with secondary venting</td>
</tr>
<tr>
<td>Type of mounting</td>
<td>In-line installation</td>
</tr>
<tr>
<td>Mounting position</td>
<td>Vertical ±5°</td>
</tr>
<tr>
<td>Grade of filtration [μm]</td>
<td>40</td>
</tr>
<tr>
<td>Air purity class at the output</td>
<td>Compressed air according to ISO 8573-1:2010 [7:8:4]</td>
</tr>
<tr>
<td>Condensate drain</td>
<td>Manual rotary</td>
</tr>
<tr>
<td>Actuation security</td>
<td>Rotary knob with detent</td>
</tr>
<tr>
<td>Exhaust function</td>
<td>No flow control</td>
</tr>
<tr>
<td>Pressure regulation range [bar]</td>
<td>0.5 ... 7</td>
</tr>
<tr>
<td>Max. Pressure hysteresis [bar]</td>
<td>0.5</td>
</tr>
<tr>
<td>Pressure indication</td>
<td>Via pressure gauge</td>
</tr>
<tr>
<td>Pressure gauge connection</td>
<td>G 1/4</td>
</tr>
<tr>
<td>Max. condensate volume [ml]</td>
<td>13</td>
</tr>
</tbody>
</table>

Flow rates [l/min]

<table>
<thead>
<tr>
<th>Flow rates [l/min]</th>
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</thead>
<tbody>
<tr>
<td>Standard nominal flow rate q_{nom}^{1)}</td>
<td>1,900</td>
</tr>
<tr>
<td>Max. standard flow rate</td>
<td>2,500</td>
</tr>
</tbody>
</table>

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.

---

1) Measured at p1 = 10 bar, p2 = 6 bar and Δp = 1 bar.
### Operating and environmental conditions

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
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<tbody>
<tr>
<td>Operating pressure [bar]</td>
<td>1.5 ... 10</td>
</tr>
<tr>
<td>Operating medium</td>
<td>Compressed air according to ISO 8573-1:2010 [7:9:4]</td>
</tr>
<tr>
<td>Note on operating/pilot medium</td>
<td>Lubricated operation not possible</td>
</tr>
<tr>
<td>Ambient temperature [°C]</td>
<td>–5 ... +50</td>
</tr>
<tr>
<td>Temperature of medium [°C]</td>
<td>–5 ... +50</td>
</tr>
<tr>
<td>Storage temperature [°C]</td>
<td>–5 ... +50</td>
</tr>
<tr>
<td>Corrosion resistance class CRC</td>
<td>1</td>
</tr>
</tbody>
</table>

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]

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<tbody>
<tr>
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<td>245</td>
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### Materials

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<td>POM</td>
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<td>Bowl</td>
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</tr>
<tr>
<td>Filter</td>
<td>PE</td>
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<tr>
<td>Seals</td>
<td>NBR</td>
</tr>
<tr>
<td>On-off valve seals</td>
<td>FPM</td>
</tr>
<tr>
<td>Note on materials</td>
<td>RoHS-compliant</td>
</tr>
</tbody>
</table>

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

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

Input pressure p1 = 10 bar
Service unit combinations LFR-KC, D series, polymer

Technical data LFR-KC

Dimensions

| Barbed connector for plastic tubing PUN(-H)-8x1,25 |
| Installation dimensions |

Type  | D1 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | D2 | D3 | D4 | D5 | D6 |
<table>
<thead>
<tr>
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<tbody>
<tr>
<td>LFR-1/4-DB</td>
<td>G1/4</td>
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<td>78</td>
<td>47</td>
<td>44</td>
<td>34</td>
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<td>52</td>
<td>M4</td>
<td>M36x1.5</td>
<td>39</td>
<td>5.6</td>
<td></td>
</tr>
</tbody>
</table>

Type  | H1 | H2 | H3 | L1 | L3 | L4 | L6 | L7 | L8 | L9 | L10 | T1 |
<table>
<thead>
<tr>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>LFR-1/4-DB</td>
<td>40</td>
<td>20</td>
<td>10</td>
<td>189</td>
<td>60</td>
<td>113</td>
<td>66</td>
<td>42</td>
<td>17</td>
<td>11</td>
<td>2</td>
<td>9</td>
</tr>
</tbody>
</table>

Ordering data

<table>
<thead>
<tr>
<th>Condensate drain</th>
<th>Size</th>
<th>Connection</th>
<th>Grade of filtration 40 μm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pressure gauge with outer scale in bar and inner scale in psi</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Manual rotary</td>
<td>Mini</td>
<td>G1/4</td>
<td>B002799 LFR-1/4-DB-7-MINI-KC</td>
</tr>
</tbody>
</table>
## Service units LFR-K/LFRS-K, D series

### Accessories

Filter cartridges, D series, metal design

<table>
<thead>
<tr>
<th>Size</th>
<th>Grade of filtration</th>
<th>Part No.</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mini</td>
<td>40 (colour: white)</td>
<td>363665</td>
<td>LFP-D-MINI-40M</td>
</tr>
<tr>
<td>Midi</td>
<td>40 (colour: white)</td>
<td>363667</td>
<td>LFP-D-MIDI-40M</td>
</tr>
<tr>
<td>Maxi</td>
<td>40 (colour: white)</td>
<td>363664</td>
<td>LFP-D-MAXI-40M</td>
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</tbody>
</table>

Filter cartridges, D series, polymer

<table>
<thead>
<tr>
<th>Size</th>
<th>Grade of filtration</th>
<th>Part No.</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mini</td>
<td>40</td>
<td>534502</td>
<td>MS4-LFP-E</td>
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</tbody>
</table>
### Service units LFR-K/LFRS-K, D series

**Accessories**

#### Ordering data – Angled socket PEV

<table>
<thead>
<tr>
<th>Description</th>
<th>Operating voltage range</th>
<th>Electrical connection</th>
<th>Switching status display</th>
<th>Part No.</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>for PEV-1/4-…-OD</td>
<td>15 ... 30 V DC</td>
<td>4-pin</td>
<td>Yellow LED</td>
<td>164274</td>
<td>PEV-1/4-WD-LED-24</td>
</tr>
<tr>
<td></td>
<td>≥ 230 V AC</td>
<td>4-pin</td>
<td>Yellow LED</td>
<td>164275</td>
<td>PEV-1/4-WD-LED-230</td>
</tr>
<tr>
<td></td>
<td>≥ 180 V DC</td>
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</tbody>
</table>

#### Technical data ➔ Internet: pev-1/4

#### Ordering data – Plug socket MSSD

<table>
<thead>
<tr>
<th>Description</th>
<th>Operating voltage range</th>
<th>Electrical connection</th>
<th>Type of mounting cable connection</th>
<th>Part No.</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>for PEV-1/4-…-OD</td>
<td>≥ 250 V AC/DC</td>
<td>3-pin</td>
<td>Clamping screws</td>
<td>171157</td>
<td>MSSD-C-4P</td>
</tr>
<tr>
<td>for on-off valve HEE</td>
<td>≥ 250 V AC/DC</td>
<td>3-pin</td>
<td>Clamping screws</td>
<td>151687</td>
<td>MSSD-EB</td>
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<td></td>
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<td>4-pin</td>
<td>Insulation displacement technology</td>
<td>192745</td>
<td>MSSD-EB-S-M14</td>
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</table>

#### Technical data ➔ Internet: mssd

#### Ordering data – Plug socket with cable KMEB

<table>
<thead>
<tr>
<th>Description</th>
<th>Operating voltage range</th>
<th>Electrical connection</th>
<th>Switching status display</th>
<th>Cable length [m]</th>
<th>Part No.</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>for on-off valve HEE</td>
<td>24 V DC</td>
<td>3-pin</td>
<td>LED</td>
<td>2.5</td>
<td>151688</td>
<td>KMEB-1-24-2,5-LED</td>
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<td>151689</td>
<td>KMEB-1-24-5-LED</td>
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<td>193457</td>
<td>KMEB-1-24-10-LED</td>
</tr>
<tr>
<td></td>
<td>230 V AC</td>
<td>3-pin</td>
<td>–</td>
<td>2.5</td>
<td>151690</td>
<td>KMEB-1-230AC-2,5</td>
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<tr>
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<td>5</td>
<td>151691</td>
<td>KMEB-1-230AC-5</td>
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</tbody>
</table>

#### Technical data ➔ Internet: kmeb

#### Ordering data – Illuminating seal MEB-LD

<table>
<thead>
<tr>
<th>Description</th>
<th>Operating voltage range</th>
<th>Part No.</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>for plug socket with cable KMEB and plug socket MSSD-EB</td>
<td>12 ... 24 V DC</td>
<td>151717</td>
<td>MEB-LD-12-24DC</td>
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<td>230 V DC/AC ±10%</td>
<td>151718</td>
<td>MEB-LD-230AC</td>
</tr>
</tbody>
</table>

#### Technical data ➔ Internet: meb

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2018/05 – Subject to change ➔ Internet: www.festo.com/catalogue/...