

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

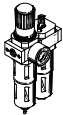
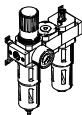
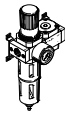
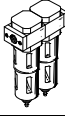
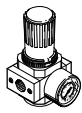
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# Service unit combinations LFR-K/LFRS-K, D series, metal design

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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<br>...                      | 0.5<br>... | 2.5<br>... | 0.01                     | 1 | 5 | 40 |
| Service units                       |                                                                                     |       |                      |    |      |      |      |      |      |    |     |     |                                 |            |            |                          |   |   |    |
| FRC/FRCS                            |    | Micro | ■                    | ■  | ■    | –    | –    | –    | –    | –  | ■   | ■   | ■                               | –          | –          | –                        | – | ■ | –  |
|                                     |                                                                                     | Mini  | –                    | –  | ■    | ■    | ■    | –    | –    | –  | –   | ■   | ■                               | –          | –          | –                        | – | ■ | ■  |
|                                     |                                                                                     | Midi  | –                    | –  | –    | ■    | ■    | ■    | ■    | –  | –   | ■   | ■                               | –          | –          | –                        | – | ■ | ■  |
|                                     |                                                                                     | Maxi  | –                    | –  | –    | –    | –    | ■    | ■    | ■  | –   | –   | ■                               | ■          | –          | –                        | – | ■ | ■  |
| Service unit combinations           |                                                                                     |       |                      |    |      |      |      |      |      |    |     |     |                                 |            |            |                          |   |   |    |
| FRC-K                               |   | Micro | –                    |    |      |      |      |      |      |    |     |     |                                 |            |            |                          |   |   |    |
|                                     |                                                                                     | Mini  | –                    | –  | ■    | ■    | –    | –    | –    | –  | –   | –   | –                               | ■          | ■          | –                        | – | – | ■  |
|                                     |                                                                                     | Midi  | –                    | –  | –    | ■    | ■    | ■    | –    | –  | –   | –   | –                               | ■          | ■          | –                        | – | – | ■  |
|                                     |                                                                                     | Maxi  | –                    | –  | –    | –    | –    | ■    | ■    | –  | –   | –   | –                               | ■          | ■          | –                        | – | – | ■  |
| LFR-K<br>LFRS-K                     |  | Micro | –                    |    |      |      |      |      |      |    |     |     |                                 |            |            |                          |   |   |    |
|                                     |                                                                                     | Mini  | –                    | –  | ■    | ■    | –    | –    | –    | –  | –   | –   | –                               | ■          | ■          | –                        | – | – | ■  |
|                                     |                                                                                     | Midi  | –                    | –  | –    | ■    | ■    | ■    | –    | –  | –   | –   | –                               | ■          | ■          | –                        | – | – | ■  |
|                                     |                                                                                     | Maxi  | –                    | –  | –    | –    | –    | ■    | ■    | –  | –   | –   | –                               | ■          | ■          | –                        | – | – | ■  |
| Individual devices                  |                                                                                     |       |                      |    |      |      |      |      |      |    |     |     |                                 |            |            |                          |   |   |    |
| Filter regulators<br>LFR/LFRS       |  | Micro | ■                    | ■  | ■    | –    | –    | –    | –    | –  | ■   | ■   | ■                               | –          | –          | –                        | – | ■ | –  |
|                                     |                                                                                     | Mini  | –                    | –  | ■    | ■    | ■    | –    | –    | –  | –   | ■   | ■                               | –          | –          | –                        | – | ■ | ■  |
|                                     |                                                                                     | Midi  | –                    | –  | –    | ■    | ■    | ■    | ■    | –  | –   | ■   | ■                               | –          | –          | –                        | – | ■ | ■  |
|                                     |                                                                                     | Maxi  | –                    | –  | –    | –    | –    | ■    | ■    | ■  | –   | –   | ■                               | ■          | –          | –                        | – | ■ | ■  |
| Filters<br>LF                       |  | Micro | ■                    | ■  | ■    | –    | –    | –    | –    | –  | ■   | ■   | –                               | –          | –          | –                        | – | ■ | –  |
|                                     |                                                                                     | Mini  | –                    | –  | ■    | ■    | ■    | –    | –    | –  | –   | –   | –                               | –          | –          | –                        | – | ■ | ■  |
|                                     |                                                                                     | Midi  | –                    | –  | –    | ■    | ■    | ■    | ■    | –  | –   | –   | –                               | –          | –          | –                        | – | ■ | ■  |
|                                     |                                                                                     | Maxi  | –                    | –  | –    | –    | –    | ■    | ■    | ■  | –   | –   | –                               | –          | –          | –                        | – | ■ | ■  |
| Fine and micro filters<br>LFMA/LFMB |  | Micro | –                    |    |      |      |      |      |      |    |     |     |                                 |            |            |                          |   |   |    |
|                                     |                                                                                     | Mini  | –                    | –  | ■    | ■    | ■    | –    | –    | –  | –   | –   | –                               | –          | ■          | ■                        | – | – |    |
|                                     |                                                                                     | Midi  | –                    | –  | –    | ■    | ■    | ■    | ■    | –  | –   | –   | –                               | –          | ■          | ■                        | – | – |    |
|                                     |                                                                                     | Maxi  | –                    | –  | –    | –    | –    | ■    | ■    | ■  | –   | –   | –                               | –          | ■          | ■                        | – | – |    |
| Active carbon filters<br>LFX        |  | Micro | –                    |    |      |      |      |      |      |    |     |     |                                 |            |            |                          |   |   |    |
|                                     |                                                                                     | Mini  | –                    | –  | ■    | ■    | ■    | –    | –    | –  | –   | –   | –                               | –          | –          | –                        | – | – |    |
|                                     |                                                                                     | Midi  | –                    | –  | –    | ■    | ■    | ■    | ■    | –  | –   | –   | –                               | –          | –          | –                        | – | – |    |
|                                     |                                                                                     | Maxi  | –                    | –  | –    | –    | –    | ■    | ■    | ■  | –   | –   | –                               | –          | –          | –                        | – | – |    |
| Filter combinations<br>LFMBA        |  | Micro | –                    |    |      |      |      |      |      |    |     |     |                                 |            |            |                          |   |   |    |
|                                     |                                                                                     | Mini  | –                    | –  | ■    | ■    | ■    | –    | –    | –  | –   | –   | –                               | –          | ■          | ■                        | – | – |    |
|                                     |                                                                                     | Midi  | –                    | –  | –    | ■    | ■    | ■    | ■    | –  | –   | –   | –                               | –          | ■          | ■                        | – | – |    |
|                                     |                                                                                     | Maxi  | –                    | –  | –    | –    | –    | ■    | ■    | ■  | –   | –   | –                               | –          | ■          | ■                        | – | – |    |
| Pressure regulators<br>LR/LRS       |  | Micro | ■                    | ■  | ■    | –    | –    | –    | –    | –  | ■   | ■   | ■                               | –          | –          | –                        | – | – |    |
|                                     |                                                                                     | Mini  | –                    | –  | ■    | ■    | ■    | –    | –    | –  | –   | ■   | ■                               | –          | –          | –                        | – | – |    |
|                                     |                                                                                     | Midi  | –                    | –  | –    | ■    | ■    | ■    | ■    | –  | –   | ■   | ■                               | –          | –          | –                        | – | – |    |
|                                     |                                                                                     | Maxi  | –                    | –  | –    | –    | –    | ■    | ■    | ■  | –   | –   | ■                               | ■          | –          | –                        | – | – |    |

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

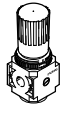
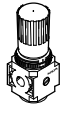
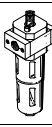
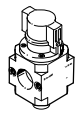
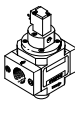
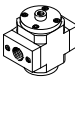
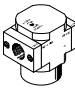
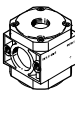
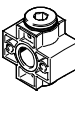
Product range overview D series service units, metal design

| Type                                | Size  | Bowl guard       |              | Condensate drain |                |                 | Pressure indication |                        | Actuator lock           |                                  | Supply voltage |          |          | Options                                                                   |                                                                        |                                 | → Page/<br>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 |                     |
| Service units                       |       |                  |              |                  |                |                 |                     |                        |                         |                                  |                |          |          |                                                                           |                                                                        |                                 |                     |
| FRC/FRCS                            | Micro | –                | ■            | ■                | ■              | –               | ■                   | ■                      | ■                       | –                                | –              | –        | –        | –                                                                         | –                                                                      | –                               | frc                 |
|                                     | Mini  | ■                | –            | ■                | –              | ■               | ■                   | ■                      | ■                       | ■                                | –              | –        | –        | –                                                                         | –                                                                      | –                               |                     |
|                                     | Midi  | ■                | –            | ■                | –              | ■               | ■                   | ■                      | ■                       | ■                                | –              | –        | –        | –                                                                         | –                                                                      | –                               |                     |
|                                     | Maxi  | ■                | –            | ■                | –              | ■               | ■                   | ■                      | ■                       | ■                                | –              | –        | –        | ■                                                                         | ■                                                                      | –                               |                     |
| Service unit combinations           |       |                  |              |                  |                |                 |                     |                        |                         |                                  |                |          |          |                                                                           |                                                                        |                                 |                     |
| FRC-K                               | Micro | –                |              |                  |                |                 |                     |                        |                         |                                  |                |          |          |                                                                           |                                                                        |                                 | frc                 |
|                                     | Mini  | ■                | –            | ■                | –              | ■               | ■                   | –                      | ■                       | –                                | ■              | –        | –        | –                                                                         | –                                                                      | –                               |                     |
|                                     | Midi  | ■                | –            | ■                | –              | ■               | ■                   | –                      | ■                       | –                                | ■              | –        | –        | –                                                                         | –                                                                      | –                               |                     |
|                                     | Maxi  | ■                | –            | ■                | –              | ■               | ■                   | –                      | ■                       | –                                | ■              | –        | –        | ■                                                                         | ■                                                                      | –                               |                     |
| LFR-K<br>LFRS-K                     | Micro | –                |              |                  |                |                 |                     |                        |                         |                                  |                |          |          |                                                                           |                                                                        |                                 | 6                   |
|                                     | Mini  | ■                | –            | ■                | –              | ■               | ■                   | –                      | ■                       | ■                                | ■              | –        | –        | –                                                                         | –                                                                      | –                               |                     |
|                                     | Midi  | ■                | –            | ■                | –              | ■               | ■                   | –                      | ■                       | ■                                | ■              | –        | –        | –                                                                         | –                                                                      | –                               |                     |
|                                     | Maxi  | ■                | –            | ■                | –              | ■               | ■                   | –                      | ■                       | ■                                | ■              | –        | –        | ■                                                                         | ■                                                                      | –                               |                     |
| Individual devices                  |       |                  |              |                  |                |                 |                     |                        |                         |                                  |                |          |          |                                                                           |                                                                        |                                 |                     |
| Filter regulators<br>LFR/LFRS       | Micro | –                | ■            | ■                | ■              | –               | ■                   | ■                      | ■                       | –                                | –              | –        | –        | –                                                                         | –                                                                      | –                               | lfr                 |
|                                     | Mini  | ■                | –            | ■                | –              | ■               | ■                   | ■                      | ■                       | ■                                | –              | –        | –        | –                                                                         | –                                                                      | –                               |                     |
|                                     | Midi  | ■                | –            | ■                | –              | ■               | ■                   | ■                      | ■                       | ■                                | –              | –        | –        | –                                                                         | –                                                                      | –                               |                     |
|                                     | Maxi  | ■                | –            | ■                | –              | ■               | ■                   | ■                      | ■                       | ■                                | –              | –        | –        | ■                                                                         | ■                                                                      | –                               |                     |
| Filters<br>LF                       | Micro | –                | ■            | ■                | ■              | –               | –                   | –                      | –                       | –                                | –              | –        | –        | –                                                                         | –                                                                      | –                               | lf                  |
|                                     | Mini  | ■                | –            | ■                | –              | ■               | –                   | –                      | –                       | –                                | –              | –        | –        | –                                                                         | –                                                                      | –                               |                     |
|                                     | Midi  | ■                | –            | ■                | –              | ■               | –                   | –                      | –                       | –                                | –              | –        | –        | –                                                                         | –                                                                      | –                               |                     |
|                                     | Maxi  | ■                | –            | ■                | –              | ■               | –                   | –                      | –                       | –                                | –              | –        | –        | –                                                                         | –                                                                      | –                               |                     |
| Fine and micro filters<br>LFMA/LFMB | Micro | –                |              |                  |                |                 |                     |                        |                         |                                  |                |          |          |                                                                           |                                                                        |                                 | lfma, lfmb          |
|                                     | Mini  | ■                | –            | ■                | –              | ■               | –                   | –                      | –                       | –                                | –              | –        | –        | –                                                                         | –                                                                      | ■                               |                     |
|                                     | Midi  | ■                | –            | ■                | –              | ■               | –                   | –                      | –                       | –                                | –              | –        | –        | –                                                                         | –                                                                      | ■                               |                     |
|                                     | Maxi  | ■                | –            | ■                | –              | ■               | –                   | –                      | –                       | –                                | –              | –        | –        | –                                                                         | –                                                                      | ■                               |                     |
| Active carbon filters<br>LFX        | Micro | –                |              |                  |                |                 |                     |                        |                         |                                  |                |          |          |                                                                           |                                                                        |                                 | lfx                 |
|                                     | Mini  | ■                | –            | –                | –              | –               | –                   | –                      | –                       | –                                | –              | –        | –        | –                                                                         | –                                                                      | –                               |                     |
|                                     | Midi  | ■                | –            | –                | –              | –               | –                   | –                      | –                       | –                                | –              | –        | –        | –                                                                         | –                                                                      | –                               |                     |
|                                     | Maxi  | ■                | –            | –                | –              | –               | –                   | –                      | –                       | –                                | –              | –        | –        | –                                                                         | –                                                                      | –                               |                     |
| Filter combinations<br>LFMBA        | Micro | –                |              |                  |                |                 |                     |                        |                         |                                  |                |          |          |                                                                           |                                                                        |                                 | lfmba               |
|                                     | Mini  | ■                | –            | ■                | –              | ■               | –                   | –                      | –                       | –                                | –              | –        | –        | –                                                                         | –                                                                      | ■                               |                     |
|                                     | Midi  | ■                | –            | ■                | –              | ■               | –                   | –                      | –                       | –                                | –              | –        | –        | –                                                                         | –                                                                      | ■                               |                     |
|                                     | Maxi  | ■                | –            | ■                | –              | ■               | –                   | –                      | –                       | –                                | –              | –        | –        | –                                                                         | –                                                                      | ■                               |                     |
| Pressure regulators<br>LR/LRS       | Micro | –                | –            | –                | –              | –               | ■                   | ■                      | ■                       | –                                | –              | –        | –        | –                                                                         | –                                                                      | –                               | lr                  |
|                                     | Mini  | –                | –            | –                | –              | –               | ■                   | ■                      | ■                       | ■                                | –              | –        | –        | ■                                                                         | –                                                                      | –                               |                     |
|                                     | Midi  | –                | –            | –                | –              | –               | ■                   | ■                      | ■                       | ■                                | –              | –        | –        | ■                                                                         | –                                                                      | –                               |                     |
|                                     | Maxi  | –                | –            | –                | –              | –               | ■                   | ■                      | ■                       | ■                                | –              | –        | –        | ■                                                                         | ■                                                                      | –                               |                     |

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

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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<br>...<br>7                 | 0.5<br>...<br>12 |
| Individual devices                       |                                                                                     |       |                      |    |      |      |      |      |      |    |     |     |                                 |                  |
| Pressure regulators<br>LRB/LRBS          |    | Micro | —                    |    |      |      |      |      |      |    |     |     |                                 |                  |
|                                          |                                                                                     | Mini  | —                    | —  | —    | ■    | —    | —    | —    | —  | —   | —   | ■                               | ■                |
|                                          |                                                                                     | Midi  | —                    | —  | —    | —    | ■    | —    | —    | —  | —   | —   | ■                               | ■                |
|                                          |                                                                                     | Maxi  | —                    |    |      |      |      |      |      |    |     |     |                                 |                  |
| Pressure regulator combinations<br>LRB-K |    | Micro | —                    |    |      |      |      |      |      |    |     |     |                                 |                  |
|                                          |                                                                                     | Mini  | —                    | —  | —    | ■    | ■    | —    | —    | —  | —   | —   | ■                               | ■                |
|                                          |                                                                                     | Midi  | —                    | —  | —    | —    | ■    | ■    | —    | —  | —   | —   | ■                               | ■                |
|                                          |                                                                                     | Maxi  | —                    |    |      |      |      |      |      |    |     |     |                                 |                  |
| Lubricators<br>LOE                       |  | Micro | ■                    | ■  | ■    | —    | —    | —    | —    | —  | ■   | ■   | —                               | —                |
|                                          |                                                                                     | Mini  | —                    | —  | ■    | ■    | ■    | —    | —    | —  | —   | —   | —                               | —                |
|                                          |                                                                                     | Midi  | —                    | —  | —    | ■    | ■    | ■    | ■    | —  | —   | —   | —                               | —                |
|                                          |                                                                                     | Maxi  | —                    | —  | —    | —    | —    | ■    | ■    | ■  | —   | —   | —                               | —                |
| On-off valves<br>HE                      |  | Micro | —                    |    |      |      |      |      |      |    |     |     |                                 |                  |
|                                          |                                                                                     | Mini  | —                    | —  | ■    | ■    | ■    | —    | —    | —  | —   | —   | —                               | —                |
|                                          |                                                                                     | Midi  | —                    | —  | —    | ■    | ■    | ■    | ■    | —  | —   | —   | —                               | —                |
|                                          |                                                                                     | Maxi  | —                    | —  | —    | —    | —    | ■    | ■    | ■  | —   | —   | —                               | —                |
| On-off valves, electrical<br>HEE         |  | Micro | —                    |    |      |      |      |      |      |    |     |     |                                 |                  |
|                                          |                                                                                     | Mini  | —                    | —  | ■    | ■    | ■    | —    | —    | —  | —   | —   | —                               | —                |
|                                          |                                                                                     | Midi  | —                    | —  | —    | ■    | ■    | ■    | ■    | —  | —   | —   | —                               | —                |
|                                          |                                                                                     | Maxi  | —                    | —  | —    | —    | —    | ■    | ■    | ■  | —   | —   | —                               | —                |
| On-off valves, pneumatic<br>HEP          |  | Micro | —                    |    |      |      |      |      |      |    |     |     |                                 |                  |
|                                          |                                                                                     | Mini  | —                    | —  | ■    | ■    | ■    | —    | —    | —  | —   | —   | —                               | —                |
|                                          |                                                                                     | Midi  | —                    | —  | —    | ■    | ■    | ■    | ■    | —  | —   | —   | —                               | —                |
|                                          |                                                                                     | Maxi  | —                    | —  | —    | —    | —    | ■    | ■    | ■  | —   | —   | —                               | —                |
| Soft-start valves<br>HEL                 |  | Micro | —                    |    |      |      |      |      |      |    |     |     |                                 |                  |
|                                          |                                                                                     | Mini  | —                    | —  | ■    | ■    | ■    | —    | —    | —  | —   | —   | —                               | —                |
|                                          |                                                                                     | Midi  | —                    | —  | —    | ■    | ■    | ■    | ■    | —  | —   | —   | —                               | —                |
|                                          |                                                                                     | Maxi  | —                    | —  | —    | —    | —    | ■    | ■    | ■  | —   | —   | —                               | —                |
| Membrane air dryers<br>LDM1              |  | Micro | —                    |    |      |      |      |      |      |    |     |     |                                 |                  |
|                                          |                                                                                     | Mini  | —                    |    |      |      |      |      |      |    |     |     |                                 |                  |
|                                          |                                                                                     | Midi  | —                    |    |      |      |      |      |      |    |     |     |                                 |                  |
|                                          |                                                                                     | Maxi  | —                    | —  | —    | —    | —    | ■    | ■    | ■  | —   | —   | —                               | —                |
| Branching modules<br>FRM                 |  | Micro | —                    |    |      |      |      |      |      |    |     |     |                                 |                  |
|                                          |                                                                                     | Mini  | —                    | —  | ■    | ■    | ■    | —    | —    | —  | —   | —   | —                               | —                |
|                                          |                                                                                     | Midi  | —                    | —  | —    | ■    | ■    | ■    | ■    | —  | —   | —   | —                               | —                |
|                                          |                                                                                     | Maxi  | —                    | —  | —    | —    | —    | ■    | ■    | ■  | —   | —   | —                               | —                |
| Distributor block<br>FRZ                 |  | Micro | —                    | —  | —    | —    | —    | —    | —    | —  | —   | —   | —                               |                  |
|                                          |                                                                                     | Mini  | —                    | —  | —    | —    | —    | —    | —    | —  | —   | —   | —                               | —                |
|                                          |                                                                                     | Midi  | —                    | —  | —    | —    | —    | —    | —    | —  | —   | —   | —                               | —                |
|                                          |                                                                                     | Maxi  | —                    | —  | —    | —    | —    | —    | —    | —  | —   | —   | —                               | —                |

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

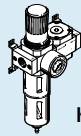
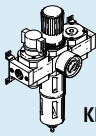
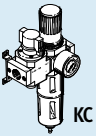
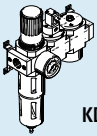
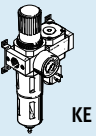
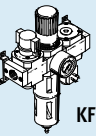
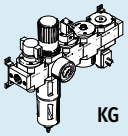
Product range overview D series service units, metal design

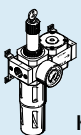
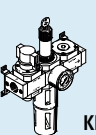
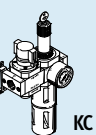
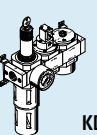
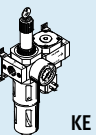
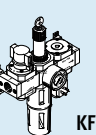
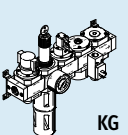
| Type                                            | Size  | Bowl guard       |              | Pressure indication |                        | Actuator lock           |                                  | Supply voltage |          |          | Options             |                 | → Page/<br>Internet |
|-------------------------------------------------|-------|------------------|--------------|---------------------|------------------------|-------------------------|----------------------------------|----------------|----------|----------|---------------------|-----------------|---------------------|
|                                                 |       | 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 |                     |
| Individual devices                              |       |                  |              |                     |                        |                         |                                  |                |          |          |                     |                 |                     |
| Pressure regulators<br><b>LRB/LRBS</b>          | Micro | -                |              |                     |                        |                         |                                  |                |          |          |                     |                 | lrb                 |
|                                                 | Mini  | -                | -            | -                   | ■                      | ■                       | ■                                | -              | -        | -        | -                   | -               |                     |
|                                                 | Midi  | -                | -            | -                   | ■                      | ■                       | ■                                | -              | -        | -        | -                   | -               |                     |
|                                                 | Maxi  | -                | -            |                     |                        |                         |                                  |                |          |          |                     |                 |                     |
| Pressure regulator combinations<br><b>LRB-K</b> | Micro | -                |              |                     |                        |                         |                                  |                |          |          |                     |                 | lrb                 |
|                                                 | Mini  | -                | -            | -                   | ■                      | ■                       | -                                | -              | -        | -        | -                   | -               |                     |
|                                                 | Midi  | -                | -            | -                   | ■                      | ■                       | -                                | -              | -        | -        | -                   | -               |                     |
|                                                 | Maxi  | -                | -            |                     |                        |                         |                                  |                |          |          |                     |                 |                     |
|                                                 |       |                  |              |                     |                        |                         |                                  |                |          |          |                     |                 |                     |
| Lubricators<br><b>LOE</b>                       | Micro | -                | ■            | -                   | ■                      | -                       | -                                | -              | -        | -        | -                   | -               | loe                 |
|                                                 | Mini  | ■                | -            | -                   | ■                      | -                       | -                                | -              | -        | -        | -                   | -               |                     |
|                                                 | Midi  | ■                | -            | -                   | ■                      | -                       | -                                | -              | -        | -        | -                   | -               |                     |
|                                                 | Maxi  | ■                | -            | -                   | ■                      | -                       | -                                | -              | -        | -        | -                   | -               |                     |
|                                                 |       |                  |              |                     |                        |                         |                                  |                |          |          |                     |                 |                     |
| On-off valves<br><b>HE</b>                      | Micro | -                |              |                     |                        |                         |                                  |                |          |          |                     |                 | he                  |
|                                                 | Mini  | -                | -            | -                   | ■                      | ■                       | -                                | -              | -        | -        | -                   | -               |                     |
|                                                 | Midi  | -                | -            | -                   | ■                      | ■                       | -                                | -              | -        | -        | -                   | -               |                     |
|                                                 | Maxi  | -                | -            | -                   | ■                      | ■                       | -                                | -              | -        | -        | -                   | -               |                     |
| On-off valves, electrical<br><b>HEE</b>         | Micro | -                |              |                     |                        |                         |                                  |                |          |          |                     |                 | hee                 |
|                                                 | Mini  | -                | -            | -                   | ■                      | -                       | -                                | ■              | ■        | ■        | -                   | -               |                     |
|                                                 | Midi  | -                | -            | -                   | ■                      | -                       | -                                | ■              | ■        | ■        | -                   | -               |                     |
|                                                 | Maxi  | -                | -            | -                   | ■                      | -                       | -                                | ■              | ■        | ■        | -                   | -               |                     |
| On-off valves, pneumatic<br><b>HEP</b>          | Micro | -                |              |                     |                        |                         |                                  |                |          |          |                     |                 | hep                 |
|                                                 | Mini  | -                | -            | -                   | ■                      | -                       | -                                | -              | -        | -        | -                   | -               |                     |
|                                                 | Midi  | -                | -            | -                   | ■                      | -                       | -                                | -              | -        | -        | -                   | -               |                     |
|                                                 | Maxi  | -                | -            | -                   | ■                      | -                       | -                                | -              | -        | -        | -                   | -               |                     |
| Soft-start valves<br><b>HEL</b>                 | Micro | -                |              |                     |                        |                         |                                  |                |          |          |                     |                 | hel                 |
|                                                 | Mini  | -                | -            | -                   | ■                      | -                       | -                                | -              | -        | -        | -                   | -               |                     |
|                                                 | Midi  | -                | -            | -                   | ■                      | -                       | -                                | -              | -        | -        | -                   | -               |                     |
|                                                 | Maxi  | -                | -            | -                   | ■                      | -                       | -                                | -              | -        | -        | -                   | -               |                     |
|                                                 |       |                  |              |                     |                        |                         |                                  |                |          |          |                     |                 |                     |
| Membrane air dryers<br><b>LDM1</b>              | Micro | -                |              |                     |                        |                         |                                  |                |          |          |                     |                 | ldm1                |
|                                                 | Mini  | -                |              |                     |                        |                         |                                  |                |          |          |                     |                 |                     |
|                                                 | Midi  | -                |              |                     |                        |                         |                                  |                |          |          |                     |                 |                     |
|                                                 | Maxi  | ■                | -            | -                   | ■                      | -                       | -                                | -              | -        | -        | -                   | -               |                     |
|                                                 |       |                  |              |                     |                        |                         |                                  |                |          |          |                     |                 |                     |
| Branching modules<br><b>FRM</b>                 | Micro | -                |              |                     |                        |                         |                                  |                |          |          |                     |                 | frm                 |
|                                                 | Mini  | -                | -            | -                   | ■                      | -                       | -                                | -              | -        | -        | ■                   | ■               |                     |
|                                                 | Midi  | -                | -            | -                   | ■                      | -                       | -                                | -              | -        | -        | ■                   | ■               |                     |
|                                                 | Maxi  | -                | -            | -                   | ■                      | -                       | -                                | -              | -        | -        | ■                   | ■               |                     |
| Distributor block<br><b>FRZ</b>                 | Micro | -                | -            | -                   | ■                      | -                       | -                                | -              | -        | -        | -                   | -               | frz                 |
|                                                 | Mini  | -                | -            | -                   | ■                      | -                       | -                                | -              | -        | -        | -                   | -               |                     |
|                                                 | Midi  | -                | -            | -                   | ■                      | -                       | -                                | -              | -        | -        | -                   | -               |                     |
|                                                 | Maxi  | -                | -            | -                   | ■                      | -                       | -                                | -              | -        | -        | -                   | -               |                     |

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

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Product range overview

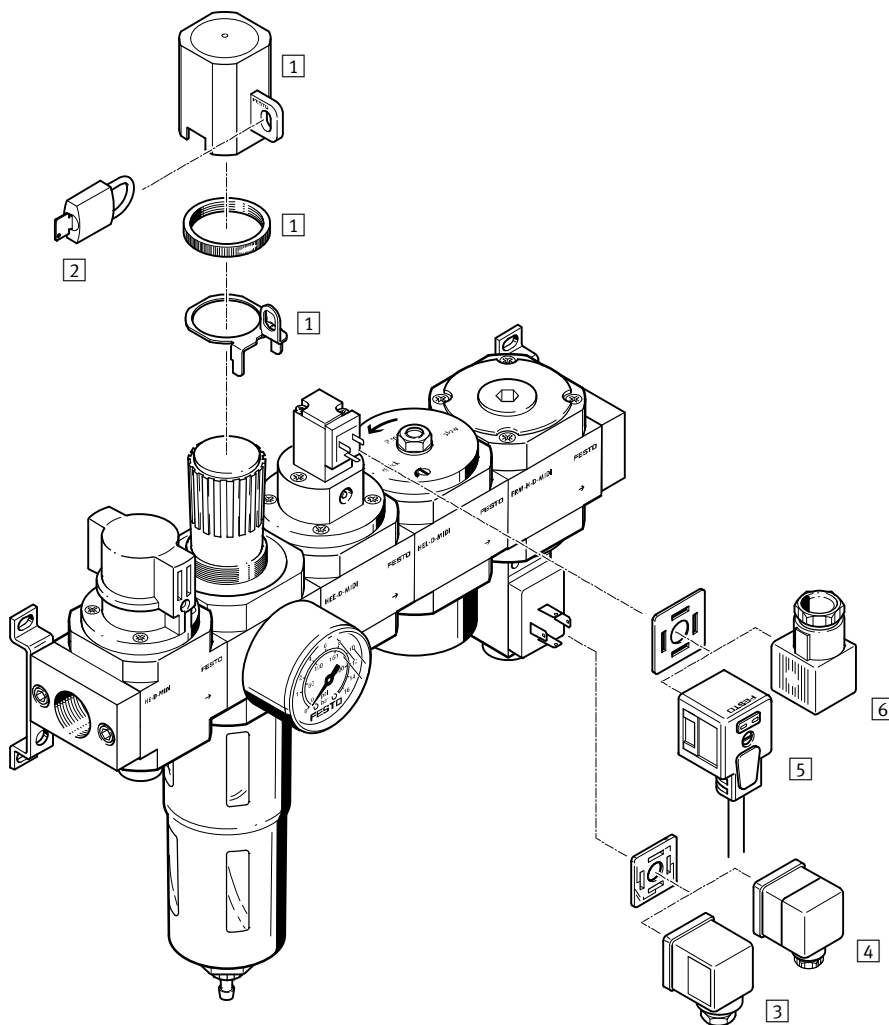
| LFR<br>Rotary knob with detent          |  KA |  KB |  KC |  KD |  KE |  KF |  KG |
|-----------------------------------------|--------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
| <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<br>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

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 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/<br>Internet |
|--------------------------------------|--------------------------------------|---------------------|
| 1                                    | Regulator lock<br>LRVS               | lrvs-d              |
| 2                                    | Padlock<br>LRVS                      | lrvs-d              |
| 3                                    | Plug socket<br>MSSD-C                | 49                  |
| 4                                    | Angled plug socket<br>PEV-...-WD-LED | 49                  |
| 5                                    | Plug socket with cable<br>KMEB-1     | 49                  |
| 6                                    | Plug socket<br>MSSD-EB               | 49                  |
| -                                    | Filter cartridge<br>LFP              | 48                  |

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

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Type codes

|                                              |                                                                                                                                                                           |     |   |     |   |   |   |    |   |      |   |    |   |   |
|----------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|---|-----|---|---|---|----|---|------|---|----|---|---|
|                                              |                                                                                                                                                                           | LFR | – | 1/2 | – | D | – | DI | – | MAXI | – | KA | – | A |
| <b>Basic function</b>                        |                                                                                                                                                                           |     |   |     |   |   |   |    |   |      |   |    |   |   |
| LFR                                          | Service unit combination                                                                                                                                                  |     |   |     |   |   |   |    |   |      |   |    |   |   |
| LFRS                                         | Service unit combination, lockable                                                                                                                                        |     |   |     |   |   |   |    |   |      |   |    |   |   |
| <b>Pneumatic connection</b>                  |                                                                                                                                                                           |     |   |     |   |   |   |    |   |      |   |    |   |   |
| 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                                                                                                                                                               |     |   |     |   |   |   |    |   |      |   |    |   |   |
| <b>Series</b>                                |                                                                                                                                                                           |     |   |     |   |   |   |    |   |      |   |    |   |   |
| D                                            | Series                                                                                                                                                                    |     |   |     |   |   |   |    |   |      |   |    |   |   |
| <b>Function (MAXI size only)</b>             |                                                                                                                                                                           |     |   |     |   |   |   |    |   |      |   |    |   |   |
| DI                                           | Directly actuated pressure regulator with integrated return flow function                                                                                                 |     |   |     |   |   |   |    |   |      |   |    |   |   |
| <b>Size</b>                                  |                                                                                                                                                                           |     |   |     |   |   |   |    |   |      |   |    |   |   |
| 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)                                                                                                    |     |   |     |   |   |   |    |   |      |   |    |   |   |
| <b>Options for service unit combinations</b> |                                                                                                                                                                           |     |   |     |   |   |   |    |   |      |   |    |   |   |
| 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 |     |   |     |   |   |   |    |   |      |   |    |   |   |
| <b>Condensate drain</b>                      |                                                                                                                                                                           |     |   |     |   |   |   |    |   |      |   |    |   |   |
|                                              | Turned manually                                                                                                                                                           |     |   |     |   |   |   |    |   |      |   |    |   |   |
| A                                            | Fully automatic                                                                                                                                                           |     |   |     |   |   |   |    |   |      |   |    |   |   |

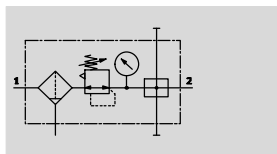


# Service unit combinations LFR-KA/LFRS-KA, D series, metal design

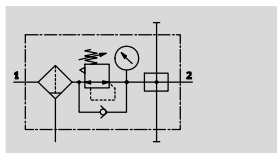
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Technical data combination LFR-KA/LFRS-KA

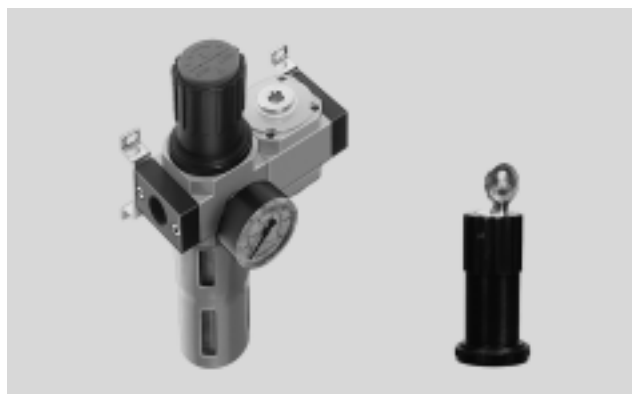
LFR/LFRS-...-MINI/MIDI-KA  
With condensate drain  
manual rotary



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
- [www.festo.com](http://www.festo.com)



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

- For unlubricated compressed air supply
- Three branch connections are available
- 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 $[\mu\text{m}]$       | 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                                                                                                                          |                 |                 |                 |                 |                       |                 |
| Max. hysteresis [bar]                     | 0.15                                                                                                                                | 0.15            | 0.25            | 0.2             | 0.2             | 0.2                   | 0.3             |
| 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                     | 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  $p_1 = 10$  bar,  $p_2 = 6$  bar and  $\Delta p = 1$  bar.

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

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

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

FESTO

Technical data combination LFR-KA/LFRS-KA

| Operating and environmental conditions       |                                                           |                 |
|----------------------------------------------|-----------------------------------------------------------|-----------------|
| Condensate drain                             | Manual rotary                                             | Fully automatic |
| Operating pressure [bar]                     | 1 ... 16                                                  | 2 ... 12        |
| 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                                                         |                 |
| Maritime classification                      | See certificate (only LFR) <sup>2)</sup>                  |                 |

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

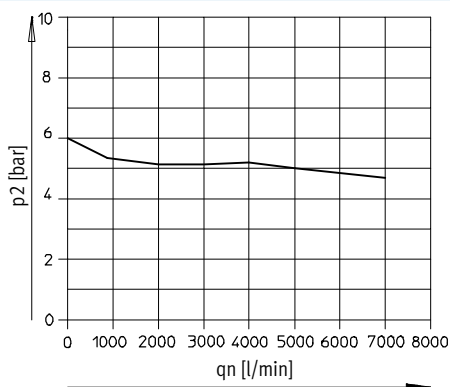
1) For the LFR-...-D-DI.

-  - Note

Materials → Technical data of the individual devices

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

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



Primary pressure  $p_1 = 10$  bar

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

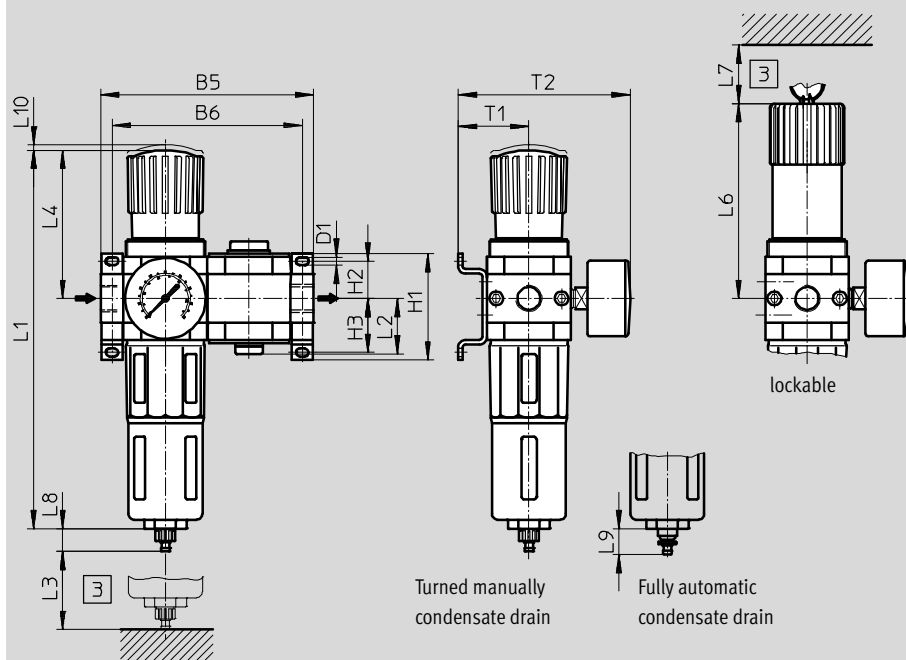
FESTO

Technical data combination LFR-KA/LFRS-KA

## Dimensions

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

LFR/LFRS-...-KA



3 Installation dimensions

→ Flow direction

| Type                     | B5  | B6  | D1  | H1 | H2   | H3   | L1  | L2   | L3 | L4  | L6  | L7 | L8 | L9 | L10 | T1 | T2  |
|--------------------------|-----|-----|-----|----|------|------|-----|------|----|-----|-----|----|----|----|-----|----|-----|
| Mini                     |     |     |     |    |      |      |     |      |    |     |     |    |    |    |     |    |     |
| 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)   |     |     |     |    |      |      |     |      |    |     |     |    |    |    |     |    |     |
|                          |     |     |     |    |      |      |     |      |    |     |     |    |    |    |     |    |     |
| Midi                     |     |     |     |    |      |      |     |      |    |     |     |    |    |    |     |    |     |
| 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)   |     |     |     |    |      |      |     |      |    |     |     |    |    |    |     |    |     |
|                          |     |     |     |    |      |      |     |      |    |     |     |    |    |    |     |    |     |
| Maxi                     |     |     |     |    |      |      |     |      |    |     |     |    |    |    |     |    |     |
| 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)   |     |     |     |    |      |      |     |      |    |     |     |    |    |    |     |    |     |
| LFR-...-D-DI-MAXI-KA (A) |     |     |     |    |      |      | 275 |      |    | 105 | 135 |    |    |    |     |    |     |

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

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

**FESTO**

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<br>turned manually |                                  | Condensate drain<br>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 |

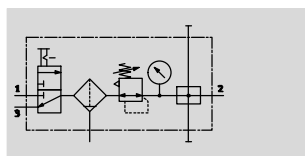
| Ordering data                                                                                   |                 |                                     |                                |                                     |                                  |
|-------------------------------------------------------------------------------------------------|-----------------|-------------------------------------|--------------------------------|-------------------------------------|----------------------------------|
| Rotary knob with integrated lock, pressure gauge with outer scale in bar and inner scale in psi |                 |                                     |                                |                                     |                                  |
| Size                                                                                            | Connection      | Condensate drain<br>turned manually |                                | Condensate drain<br>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

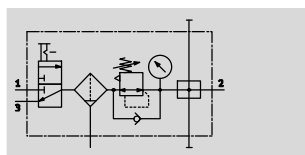
FESTO

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
- [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 $\frac{1}{8}$                                                                                                                                    | 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<br>In-line installation                                                                                                            |                 |                 |                 |                 |                       |                 |
| Assembly position                         | Vertical $\pm 5^\circ$                                                                                                                             |                 |                 |                 |                 |                       |                 |
| Grade of filtration $[\mu\text{m}]$       | 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><br>Inert gases |                 |                 |                 |                 |                       |                 |
| Bowl guard                                | Metal bowl guard                                                                                                                                   |                 |                 |                 |                 |                       |                 |
| Condensate drain                          | Manual rotary<br>Fully automatic                                                                                                                   |                 |                 |                 |                 |                       |                 |
| Actuator lock                             | Rotary knob with detent<br>Rotary knob with integrated lock                                                                                        |                 |                 |                 |                 |                       |                 |
| Pressure regulation range [bar]           | 0.5 ... 12                                                                                                                                         |                 |                 |                 |                 |                       |                 |
| Max. hysteresis [bar]                     | 0.2                                                                                                                                                | 0.2             | 0.25            | 0.35            | 0.35            | 0.1                   | 0.2             |
| 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 $q_{n1}$ [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 (5,400) <sup>2)</sup> | 8,400 (7,000) <sup>2)</sup> |

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

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

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

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

FESTO

Technical data combination LFR-KB/LFRS-KB

| Operating and environmental conditions       |                                                           |                 |
|----------------------------------------------|-----------------------------------------------------------|-----------------|
| Condensate drain                             | Manual rotary                                             | Fully automatic |
| Operating pressure [bar]                     | 1 ... 16                                                  | 2 ... 12        |
| 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                                                         |                 |
| Maritime classification                      | See certificate (only LFR) <sup>2)</sup>                  |                 |

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] |       |       |                             |
|------------|-------|-------|-----------------------------|
| 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> |

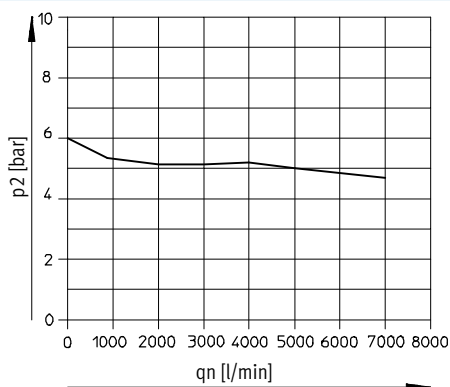
1) For the LFR/LFRS-...-D-DI.

 Note

Materials → Technical data of the individual devices

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

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



Primary pressure  $p_1 = 10$  bar

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

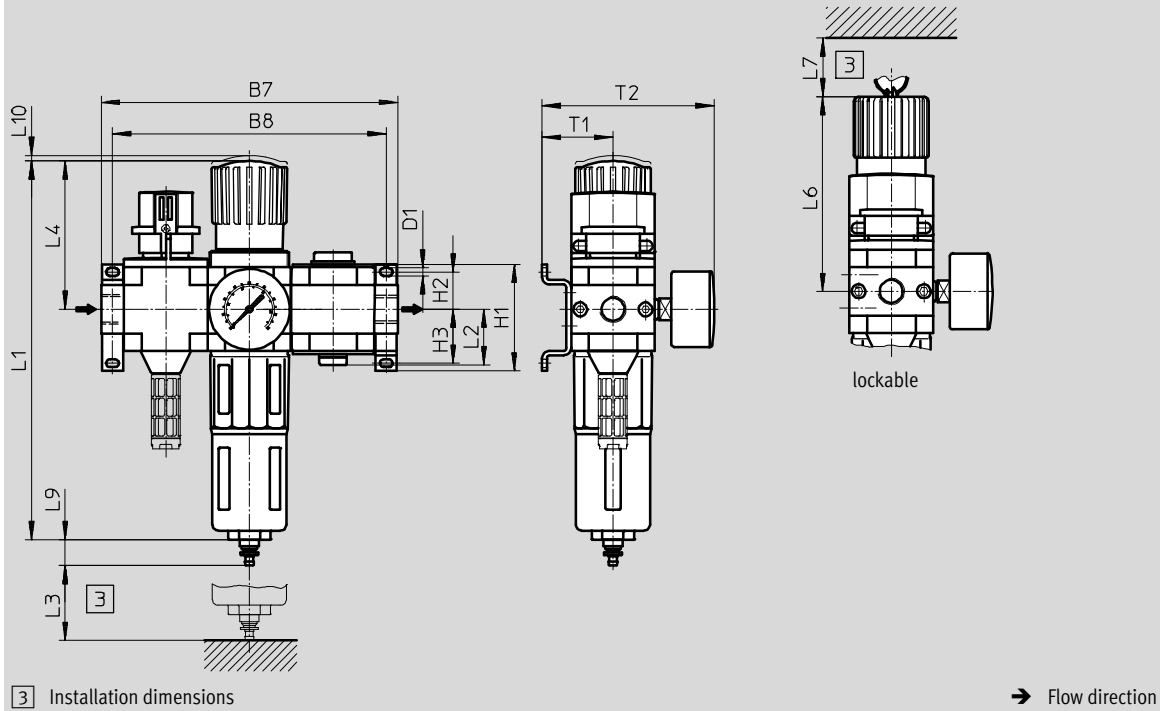
FESTO

Technical data combination LFR-KB/LFRS-KB

## Dimensions

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

LFR/LFRS-...-KB



| Type                          | B7  | B8  | D1  | H1 | H2   | H3   | L1  | L2   | L3 | L4 | L6  | L7 | 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 |     |
| LFRS-...-D-MAXI-KB (A)        |     |     |     |    |      |      |     |      |    |    |     |    |    |     |    |     |     |
| LFR/LFRS-...-D-DI-MAXI-KB (A) |     |     |     |    |      |      | 275 |      |    |    |     |    |    |     |    |     | 105 |

• 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<br>turned manually |                                  | Condensate drain<br>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<br>turned manually |                                   | Condensate drain<br>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 | –                                   |                                  |

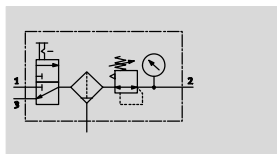


# Service unit combinations LFR-KC/LFRS-KC, D series, metal design

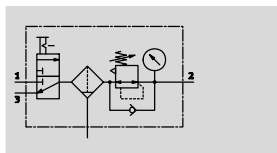
FESTO

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



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

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



- 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                 | G1/8                                                                                                                                | G1/4 | G1/4 | G3/8 | G1/2 | G1/2                  | G3/4 |
| 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                                                                                                                          |      |      |      |      |                       |      |
| Max. hysteresis [bar]                     | 0.2                                                                                                                                 | 0.2  | 0.2  | 0.2  | 0.2  | 0.2                   | 0.2  |
| 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                        |                             |
|                                                  | G1/8 | G1/4  | G1/4  | G3/8  | G1/2  | G1/2                        | G3/4                        |
| 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<sub>1</sub> = 10 bar, p<sub>2</sub> = 6 bar and Δp = 1 bar.

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

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

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

FESTO

Technical data combination LFR-KC/LFRS-KC

| Operating and environmental conditions       |                                                           |                 |
|----------------------------------------------|-----------------------------------------------------------|-----------------|
| Condensate drain                             | Manual rotary                                             | Fully automatic |
| Operating pressure [bar]                     | 1 ... 16                                                  | 2 ... 12        |
| 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                                                         |                 |
| Maritime classification                      | See certificate (only LFR) <sup>2)</sup>                  |                 |

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] |       |       |                             |
|------------|-------|-------|-----------------------------|
| 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> |

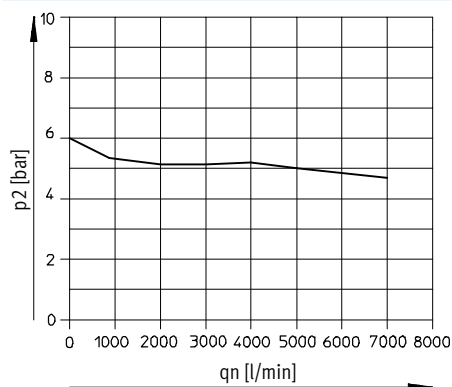
1) For the LFR/LFRS-...-D-DI.

 Note

Materials → Technical data of the individual devices

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

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



Primary pressure  $p_1 = 10$  bar

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

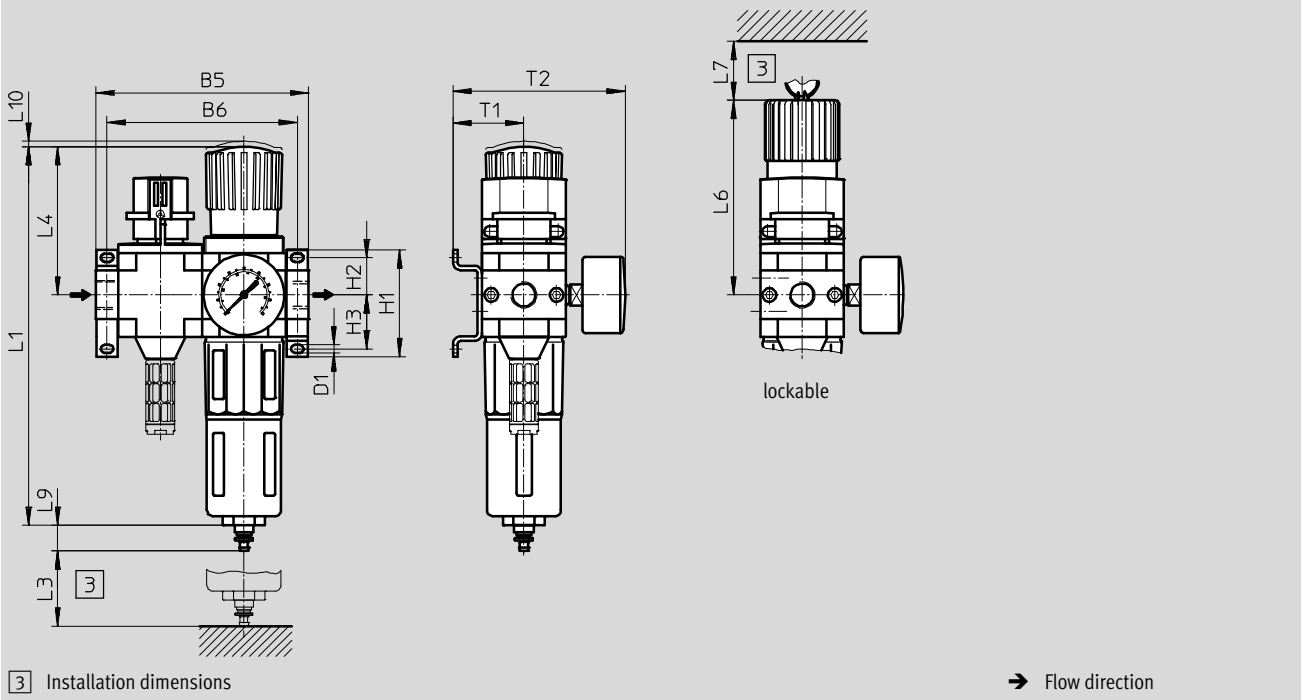
FESTO

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  |  |
|-------------------------------|-----|-----|-----|----|------|------|-----|----|-----|-----|----|----|-----|----|-----|--|
| Mini                          |     |     |     |    |      |      |     |    |     |     |    |    |     |    |     |  |
| 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)        |     |     |     |    |      |      |     |    |     |     |    |    |     |    |     |  |
|                               |     |     |     |    |      |      |     |    |     |     |    |    |     |    |     |  |
| Midi                          |     |     |     |    |      |      |     |    |     |     |    |    |     |    |     |  |
| 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)        |     |     |     |    |      |      |     |    |     |     |    |    |     |    |     |  |
|                               |     |     |     |    |      |      |     |    |     |     |    |    |     |    |     |  |
| Maxi                          |     |     |     |    |      |      |     |    |     |     |    |    |     |    |     |  |
| 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)        |     |     |     |    |      |      |     |    | 105 | 135 |    |    |     |    |     |  |
| LFR/LFRS-...-D-DI-MAXI-KC (A) |     |     |     |    |      |      | 275 |    |     |     |    |    |     |    |     |  |

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

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

**FESTO**

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<br>turned manually |                                  | Condensate drain<br>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 |

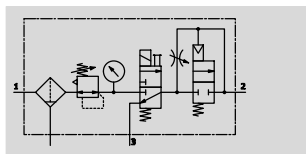
| Ordering data                                                                                   |                 |                                     |                                   |                                     |                                     |
|-------------------------------------------------------------------------------------------------|-----------------|-------------------------------------|-----------------------------------|-------------------------------------|-------------------------------------|
| Rotary knob with integrated lock, pressure gauge with outer scale in bar and inner scale in psi |                 |                                     |                                   |                                     |                                     |
| Size                                                                                            | Connection      | Condensate drain<br>turned manually |                                   | Condensate drain<br>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

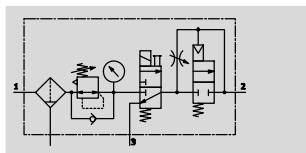
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Technical data combination LFR-KD/LFRS-KD

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

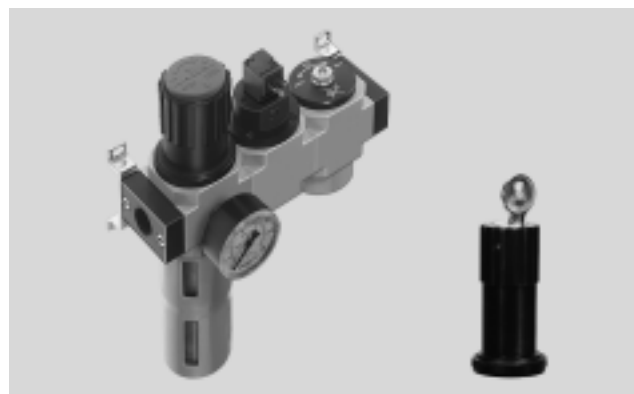


LFR/LFRS-...-MAXI-KD  
With condensate drain  
manual rotary



- 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
- - [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                 | G1/8                                                                                                                                | G1/4 | G1/4 | G3/8 | G1/2 | G1/2                  | G3/4 |
| 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]           | 2.5 ... 12                                                                                                                          |      |      |      |      |                       |      |
| Max. hysteresis [bar]                     | 0.15                                                                                                                                | 0.15 | 0.25 | 0.25 | 0.25 | 0.3                   | 0.2  |
| Pressure indication                       | Via pressure gauge                                                                                                                  |      |      |      |      |                       |      |
| Max. condensate volume [cm <sup>3</sup> ] | 22                                                                                                                                  |      | 43   |      |      | 80 (43) <sup>1)</sup> |      |

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

- - 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                        |                             |
|                                                  | G1/8 | G1/4 | G1/4  | G3/8  | G1/2  | G1/2                        | G3/4                        |
| 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, p<sub>2</sub> = 6 bar and Δp = 1 bar.

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

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

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

FESTO

Technical data combination LFR-KD/LFRS-KD

| Operating and environmental conditions       |                                                           |                 |
|----------------------------------------------|-----------------------------------------------------------|-----------------|
| Condensate drain                             | Manual rotary                                             | Fully automatic |
| Operating pressure [bar]                     | 3 ... 16                                                  | 3 ... 12        |
| 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                                                         |                 |
| Maritime classification                      | See certificate (only LFR) <sup>2)</sup>                  |                 |

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

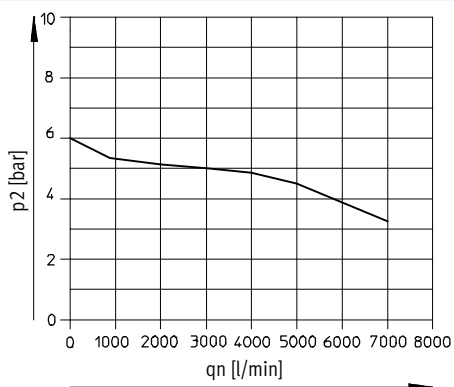
1) For the LFR-...-D-DI.

 Note

Materials → Technical data of the individual devices

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

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



Primary pressure  $p_1 = 10$  bar

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

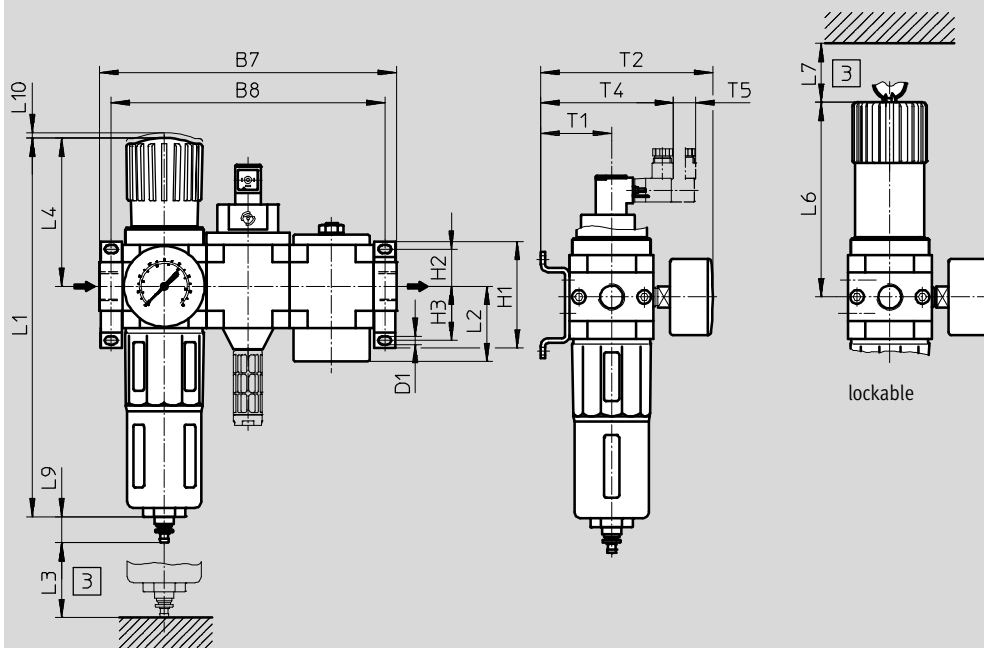
FESTO

Technical data combination LFR-KD/LFRS-KD

## Dimensions

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

LFR/LFRS-...-KD



3 Installation dimensions

→ Flow direction

| Type                     | B7  | B8  | D1  | H1 | H2   | H3   | L1  | L2   | L3 | L4  | L6  | L7 | L9 | L10 | T1 | T2  | T4 | T5 |
|--------------------------|-----|-----|-----|----|------|------|-----|------|----|-----|-----|----|----|-----|----|-----|----|----|
| Mini                     |     |     |     |    |      |      |     |      |    |     |     |    |    |     |    |     |    |    |
| 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)   |     |     |     |    |      |      |     |      |    |     |     |    |    |     |    |     |    |    |
| Midi                     |     |     |     |    |      |      |     |      |    |     |     |    |    |     |    |     |    |    |
| 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)   |     |     |     |    |      |      |     |      |    |     |     |    |    |     |    |     |    |    |
| Maxi                     |     |     |     |    |      |      |     |      |    |     |     |    |    |     |    |     |    |    |
| 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<br>turned manually |                                  | Condensate drain<br>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<br>turned manually |                                | Condensate drain<br>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 |

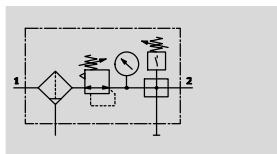


# Service unit combinations LFR-KE/LFRS-KE, D series, metal design

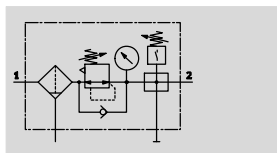
FESTO

Technical data combination LFR-KE/LFRS-KE

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

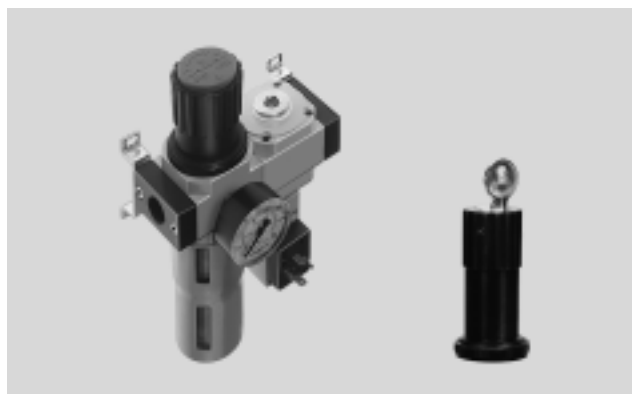


LFR/LFRS-...-MAXI-KE  
With condensate drain  
manual rotary



- 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
- - [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 $\frac{1}{8}$                                                                                                                     | 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                                                                                                                          |                 |                 |                 |                 |                       |                 |
| Max. hysteresis [bar]                     | 0.15                                                                                                                                | 0.15            | 0.25            | 0.2             | 0.2             | 0.2                   | 0.3             |
| Pressure indication                       | Via pressure gauge                                                                                                                  |                 |                 |                 |                 |                       |                 |
| Max. condensate volume [cm <sup>3</sup> ] | 22                                                                                                                                  |                 | 43              |                 |                 | 80 (43) <sup>1)</sup> |                 |

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

- - 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                     | 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  $p_1 = 10$  bar,  $p_2 = 6$  bar and  $\Delta p = 1$  bar.

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

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

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

FESTO

Technical data combination LFR-KE/LFRS-KE

| Operating and environmental conditions       |                                                           |                 |
|----------------------------------------------|-----------------------------------------------------------|-----------------|
| Condensate drain                             | Manual rotary                                             | Fully automatic |
| Operating pressure [bar]                     | 1 ... 16                                                  | 2 ... 12        |
| 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                                                         |                 |
| Maritime classification                      | See certificate (only LFR) <sup>2)</sup>                  |                 |

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

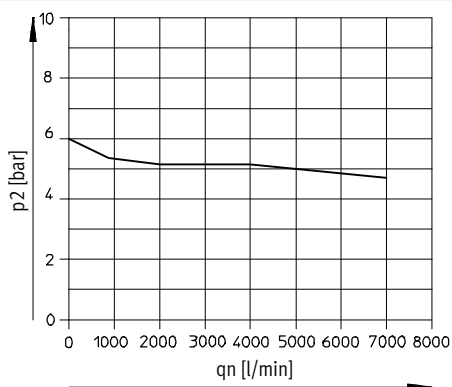
1) For the LFR-...-D-DI.

 Note

Materials → Technical data of the individual devices

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

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



Primary pressure  $p_1 = 10$  bar

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

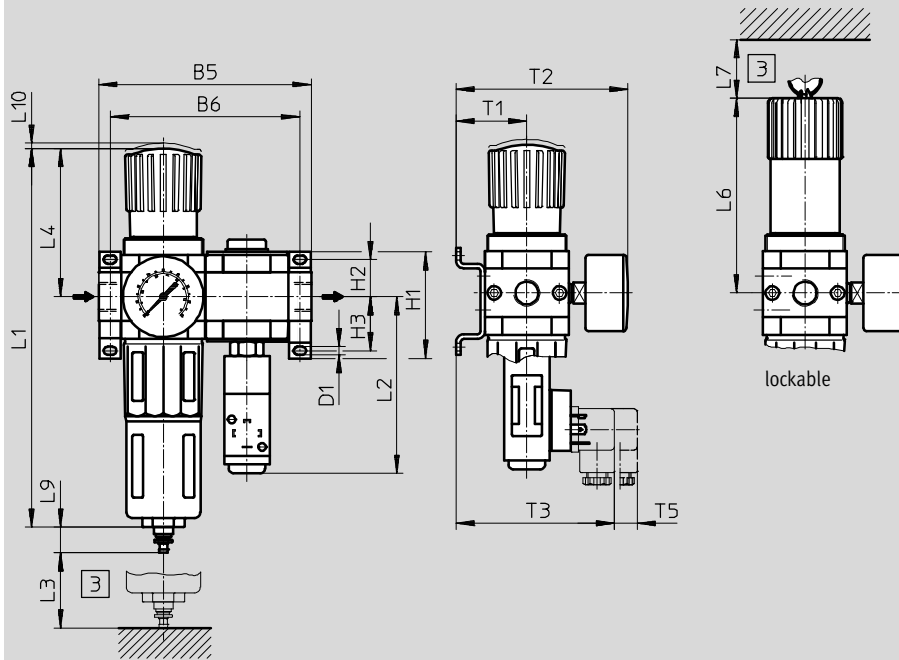
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Technical data combination LFR-KE/LFRS-KE

## Dimensions

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

LFR/LFRS-...-KE



3 Installation dimensions

→ Flow direction

| Type                      | B5  | B6  | D1  | H1 | H2   | H3   | L1  | L2  | L3 | L4  | L6  | L7 | L9 | L10 | T1 | T2  | T3  | T5 |
|---------------------------|-----|-----|-----|----|------|------|-----|-----|----|-----|-----|----|----|-----|----|-----|-----|----|
| Mini                      |     |     |     |    |      |      |     |     |    |     |     |    |    |     |    |     |     |    |
| 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)    |     |     |     |    |      |      |     |     |    |     |     |    |    |     |    |     |     |    |
|                           |     |     |     |    |      |      |     |     |    |     |     |    |    |     |    |     |     |    |
| Midi                      |     |     |     |    |      |      |     |     |    |     |     |    |    |     |    |     |     |    |
| 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)   |     |     |     |    |      |      |     |     |    |     |     |    |    |     |    |     |     |    |
|                           |     |     |     |    |      |      |     |     |    |     |     |    |    |     |    |     |     |    |
| Maxi                      |     |     |     |    |      |      |     |     |    |     |     |    |    |     |    |     |     |    |
| 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)   |     |     |     |    |      |      |     |     |    |     |     |    |    |     |    |     |     |    |
| LFR-....-D-DI-MAXI-KE (A) |     |     |     |    |      |      | 275 |     |    | 105 | 135 |    |    |     |    |     |     |    |

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

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

FESTO

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 |

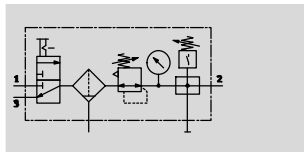
| Ordering data                                                                                   |                 |                                  |                                |                                  |                                  |
|-------------------------------------------------------------------------------------------------|-----------------|----------------------------------|--------------------------------|----------------------------------|----------------------------------|
| 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

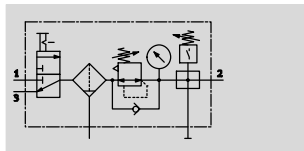
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Technical data combination LFR-KF/LFRS-KF

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

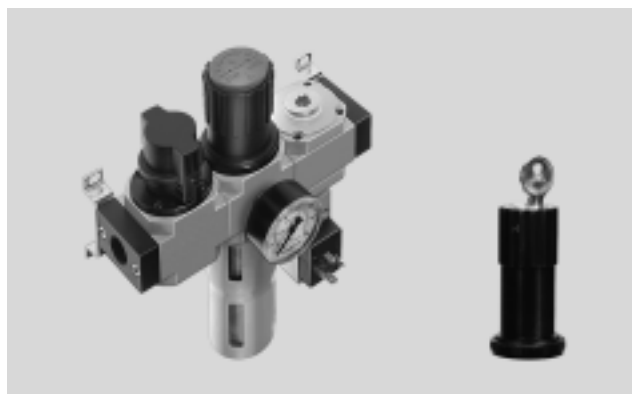


LFR/LFRS-...-MAXI-KF  
With condensate drain  
manual rotary



- 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
- [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                                                                                                                          |                 |                 |                 |                 |                       |                 |
| Max. hysteresis [bar]                     | 0.2                                                                                                                                 | 0.2             | 0.25            | 0.3             | 0.25            | 0.2                   | 0.2             |
| 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-DL.

- - 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,  $p_2 = 6$  bar and  $\Delta p = 1$  bar.

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

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

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

FESTO

Technical data combination LFR-KF/LFRS-KF

| Operating and environmental conditions       |                                                           |                 |
|----------------------------------------------|-----------------------------------------------------------|-----------------|
| Condensate drain                             | Manual rotary                                             | Fully automatic |
| Operating pressure [bar]                     | 1 ... 16                                                  | 2 ... 12        |
| 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                                                         |                 |
| Maritime classification                      | See certificate (only LFR) <sup>2)</sup>                  |                 |

- 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](http://www.festo.com/sp) → Certificates.

| 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> |

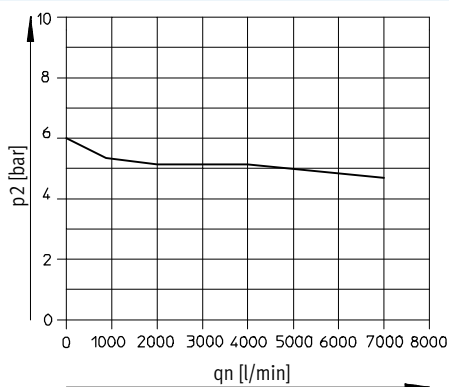
- 1) For the LFR/LFRS-...-D-DI.

 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

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

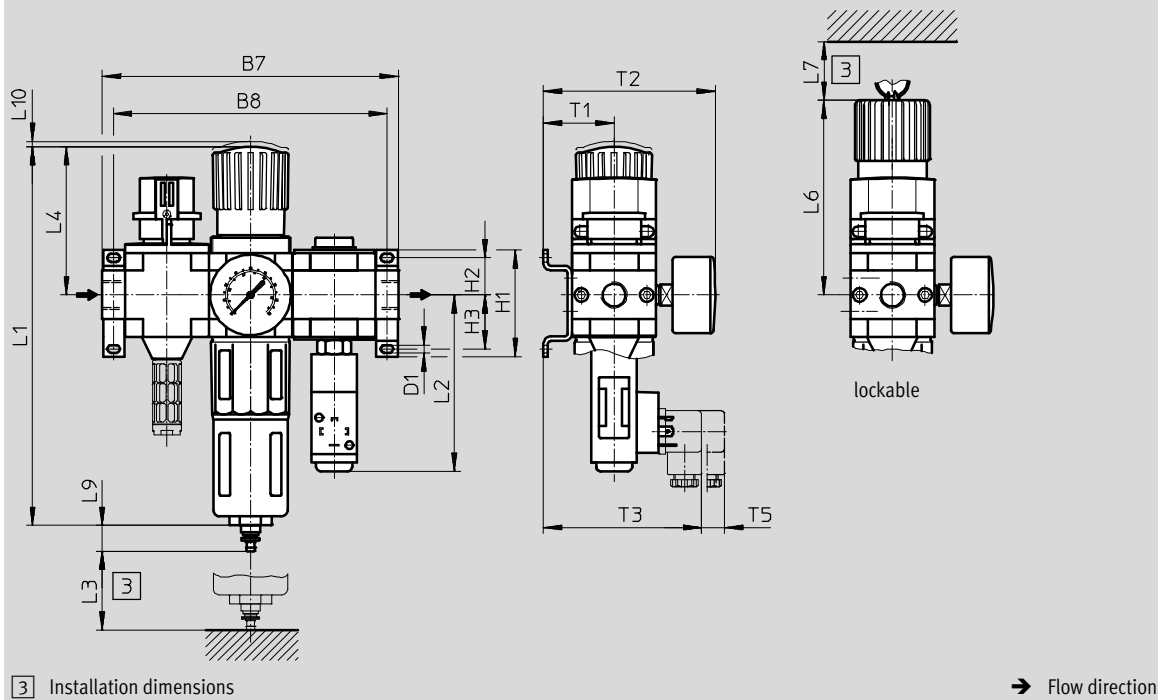
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Technical data combination LFR-KF/LFRS-KF

## 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 |
|-------------------------------|-----|-----|-----|----|------|------|-----|-----|----|-----|-----|----|----|-----|----|-----|-----|----|
| 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) |     |     |     |    |      |      | 275 |     |    | 105 | 135 |    |    |     |    |     |     |    |

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

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

FESTO

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 | –                                |                                     |

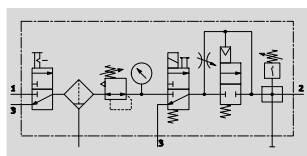


# Service unit combinations LFR-KG/LFRS-KG, D series, metal design

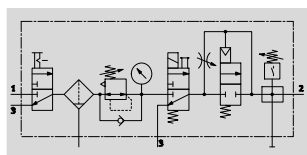
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Technical data combination LFR-KG/LFRS-KG

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

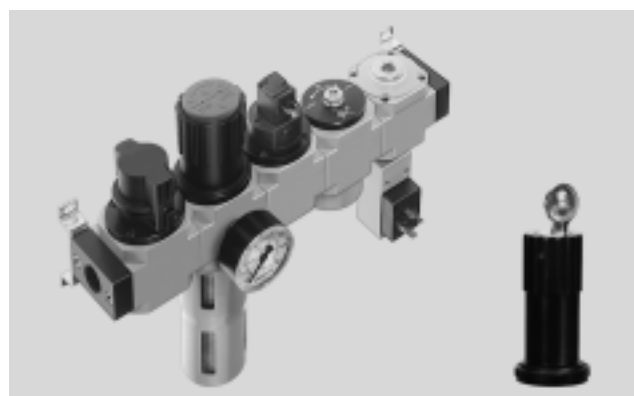


LFR/LFRS-...-MAXI-KG  
With condensate drain  
manual rotary



- 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
- - [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 $[\mu\text{m}]$       | 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                                                                                                                          |                 |                 |                 |                 |                       |                 |
| Max. hysteresis [bar]                     | 0.15                                                                                                                                | 0.15            | 0.25            | 0.2             | 0.2             | 0.25                  | 0.25            |
| 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,  $p_2 = 6$  bar and  $\Delta p = 1$  bar.

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

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

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

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Technical data LFR-KG/LFRS-KG

| Operating and environmental conditions       |                                                           |                 |
|----------------------------------------------|-----------------------------------------------------------|-----------------|
| Condensate drain                             | Manual rotary                                             | Fully automatic |
| Operating pressure [bar]                     | 3 ... 16                                                  | 3 ... 12        |
| 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                                                         |                 |
| Maritime classification                      | See certificate (only LFR) <sup>2)</sup>                  |                 |

- 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] |       |       |                             |
|------------|-------|-------|-----------------------------|
| 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> |

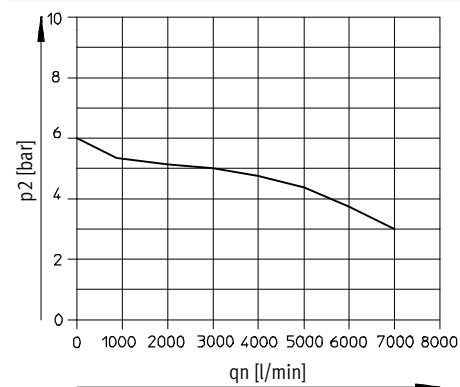
- 1) For the LFR/LFRS-...-D-DI.

 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

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

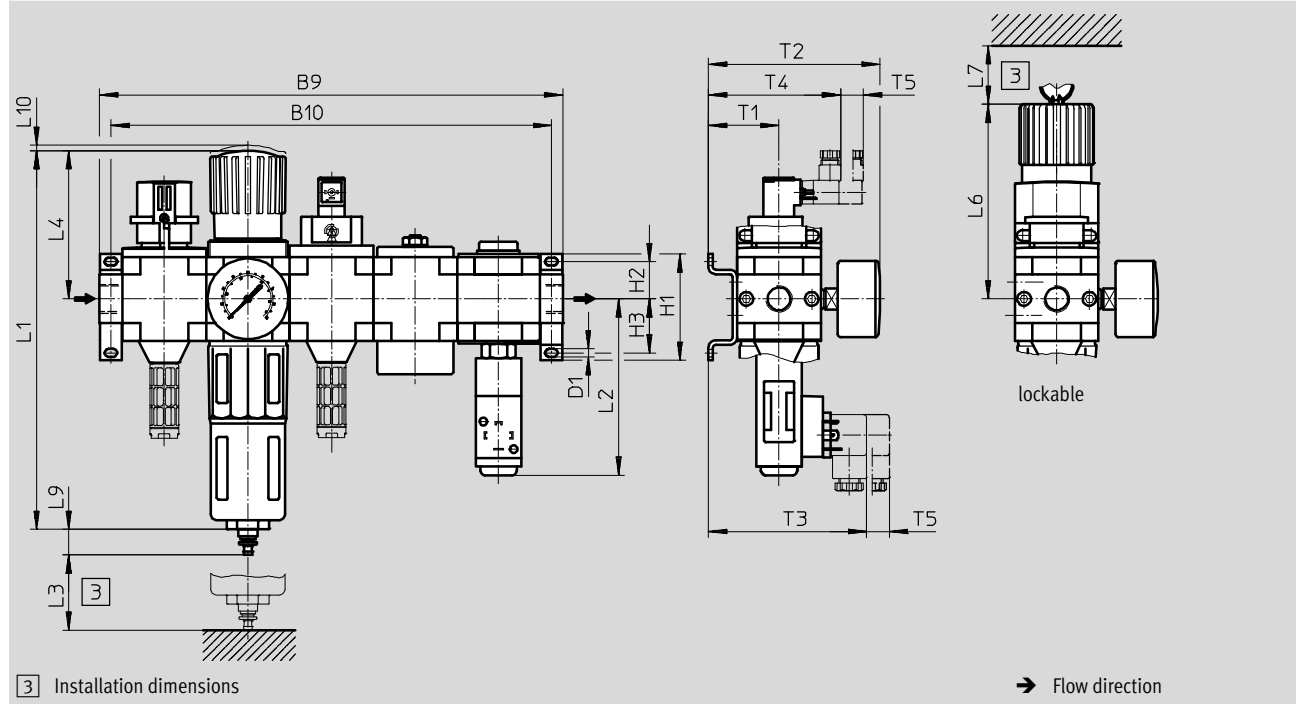
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Technical data LFR-KG/LFRS-KG

## 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 |
|-------------------------------|-----|-----|-----|----|------|------|-----|-----|----|-----|-----|----|----|-----|----|-----|-----|----|----|
| Mini                          |     |     |     |    |      |      |     |     |    |     |     |    |    |     |    |     |     |    |    |
| 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)        |     |     |     |    |      |      |     |     |    |     |     |    |    |     |    |     |     |    |    |
|                               |     |     |     |    |      |      |     |     |    |     |     |    |    |     |    |     |     |    |    |
| Midi                          |     |     |     |    |      |      |     |     |    |     |     |    |    |     |    |     |     |    |    |
| 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)        |     |     |     |    |      |      |     |     |    |     |     |    |    |     |    |     |     |    |    |
|                               |     |     |     |    |      |      |     |     |    |     |     |    |    |     |    |     |     |    |    |
| Maxi                          |     |     |     |    |      |      |     |     |    |     |     |    |    |     |    |     |     |    |    |
| 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)        |     |     |     |    |      |      |     |     |    |     |     |    |    |     |    |     |     |    |    |
| LFR/LFRS-...-D-DI-MAXI-KG (A) |     |     |     |    |      |      | 275 |     |    | 105 | 135 |    |    |     |    |     |     |    |    |

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

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

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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<br>turned manually |                                  | Condensate drain<br>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<br>turned manually |                                   | Condensate drain<br>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

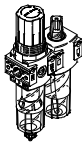
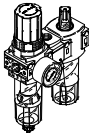
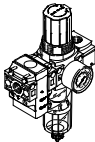
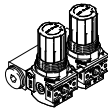
Technical data LFR-KG/LFRS-KG

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

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Product range overview D series service units, polymer

| Type                                  |                                                                                     | Size | Pneumatic connection |    | Pressure regulation range [bar] | Grade of filtration [µm] |    |
|---------------------------------------|-------------------------------------------------------------------------------------|------|----------------------|----|---------------------------------|--------------------------|----|
|                                       |                                                                                     |      | G¼                   | G½ | 0.5 ... 7                       | 5                        | 40 |
| Service units                         |                                                                                     |      |                      |    |                                 |                          |    |
| FRC                                   |    | Mini | ■                    | –  | ■                               | ■                        | ■  |
| Service unit combinations             |                                                                                     |      |                      |    |                                 |                          |    |
| FRC-K                                 |   | Mini | ■                    | –  | ■                               | –                        | ■  |
| LFR-K                                 |  | Mini | ■                    | –  | ■                               | –                        | ■  |
| Individual devices                    |                                                                                     |      |                      |    |                                 |                          |    |
| 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

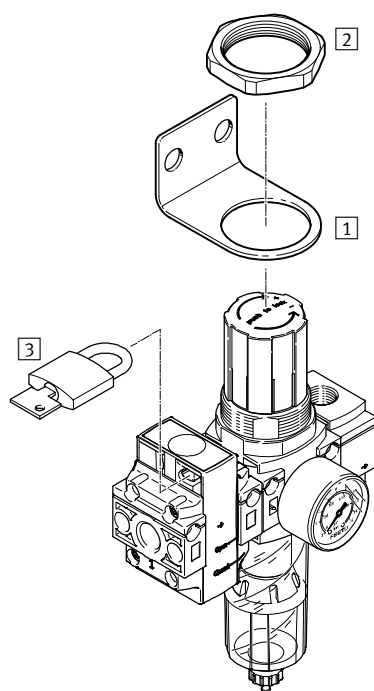
Product range overview D series service units, polymer

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

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

Peripherals overview

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-  - 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<br>HR-D      | hr-d            |
| 2 | Hex nut<br>HMR                | hmr-d           |
| 3 | Padlock<br>LRVS               | lrvs-d          |
| - | Filter cartridge<br>MS4-LFP-E | 48              |



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

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Type codes

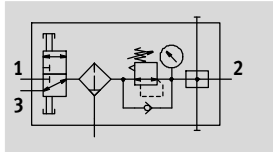
|                                              |                                                                         |     |   |     |   |    |   |   |   |      |   |    |
|----------------------------------------------|-------------------------------------------------------------------------|-----|---|-----|---|----|---|---|---|------|---|----|
|                                              |                                                                         | LFR | – | 1/4 | – | DB | – | 7 | – | MINI | – | KB |
| <b>Basic function</b>                        |                                                                         |     |   |     |   |    |   |   |   |      |   |    |
| LFR                                          | Service unit combination                                                |     |   |     |   |    |   |   |   |      |   |    |
| <b>Pneumatic connection</b>                  |                                                                         |     |   |     |   |    |   |   |   |      |   |    |
| 1/4                                          | Thread G1/4                                                             |     |   |     |   |    |   |   |   |      |   |    |
| <b>Series</b>                                |                                                                         |     |   |     |   |    |   |   |   |      |   |    |
| DB                                           | D series, polymer design                                                |     |   |     |   |    |   |   |   |      |   |    |
| <b>Pressure regulation range</b>             |                                                                         |     |   |     |   |    |   |   |   |      |   |    |
| 7                                            | 0.5 ... 7 bar                                                           |     |   |     |   |    |   |   |   |      |   |    |
| <b>Size</b>                                  |                                                                         |     |   |     |   |    |   |   |   |      |   |    |
| MINI                                         |                                                                         |     |   |     |   |    |   |   |   |      |   |    |
| <b>Options for service unit combinations</b> |                                                                         |     |   |     |   |    |   |   |   |      |   |    |
| KB                                           | Manually operated on-off valve, filter regulator and distributor module |     |   |     |   |    |   |   |   |      |   |    |
| KC                                           | Manually operated on-off valve and filter regulator                     |     |   |     |   |    |   |   |   |      |   |    |

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

FESTO

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



- 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<br>Via through-hole<br>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<br>Padlock (optional)                                                                    |
| Exhaust function                | No flow control                                                                                                  |
| Pressure regulation range [bar] | 0.5 ... 7                                                                                                        |
| Max. pressure hysteresis [bar]  | 0.5                                                                                                              |
| 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  $p_1 = 10$  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

FESTO

Technical data – LFR-KB combination

| Operating and environmental conditions       |       |                                                     |
|----------------------------------------------|-------|-----------------------------------------------------|
| Operating pressure                           | [bar] | 1.5 ... 10                                          |
| 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

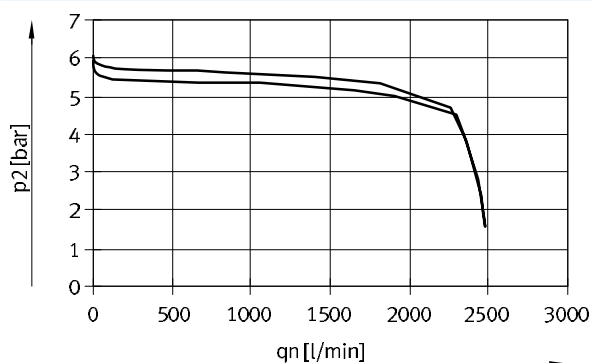
Low corrosion stress. For dry indoor applications or transport and storage protection. Also applies to parts behind covers, in the non-visible interior area, and parts which are covered in the application (e.g. drive trunnions).

| 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

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

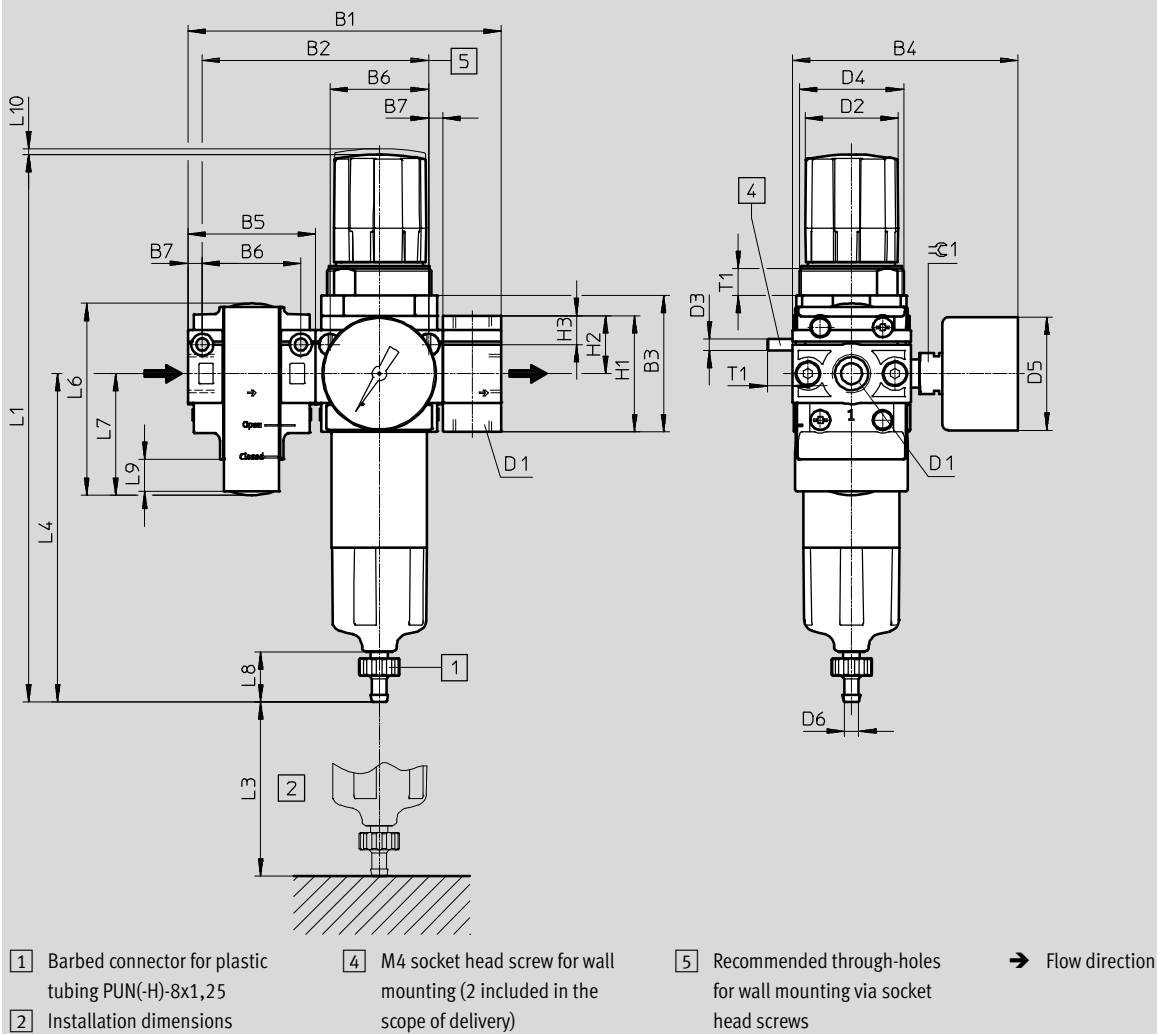
Technical data – LFR-KB combination

FESTO

## Dimensions

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

Mini



| Type       | D1   | B1  | B2 | B3 | B4 | B5 | B6 | B7 | D2<br>Ø | D3 | D4      | D5<br>Ø | D6<br>Ø |
|------------|------|-----|----|----|----|----|----|----|---------|----|---------|---------|---------|
| 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<br>min. | L4  | L6 | L7 | L8 | L9 | L10 | T1 | ±1 |
|------------|----|----|----|-----|------------|-----|----|----|----|----|-----|----|----|
| LFR-1/4-DB | 40 | 20 | 10 | 189 | 60         | 113 | 66 | 42 | 17 | 11 | 2   | 9  | 14 |

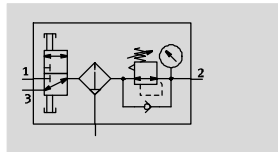
| Ordering data                                                 |      |            |                                        |
|---------------------------------------------------------------|------|------------|----------------------------------------|
| Condensate drain                                              | Size | Connection | Grade of filtration 40 µm              |
|                                                               |      |            | Part No.    Type                       |
| Pressure gauge with outer scale in bar and inner scale in psi |      |            |                                        |
| Manual rotary                                                 | Mini | G1/4       | <b>8002798    LFR-1/4-DB-7-MINI-KB</b> |

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

FESTO

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



- 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<br>Via through-hole<br>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<br>Padlock (optional)                                                                    |
| Exhaust function                | No flow control                                                                                                  |
| Pressure regulation range [bar] | 0.5 ... 7                                                                                                        |
| Max. pressure hysteresis [bar]  | 0.5                                                                                                              |
| 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  $p_1 = 10$  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-KC, D series, polymer

FESTO

Technical data – LFR-KC combination

| Operating and environmental conditions       |       |                                                     |
|----------------------------------------------|-------|-----------------------------------------------------|
| Operating pressure                           | [bar] | 1.5 ... 10                                          |
| 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

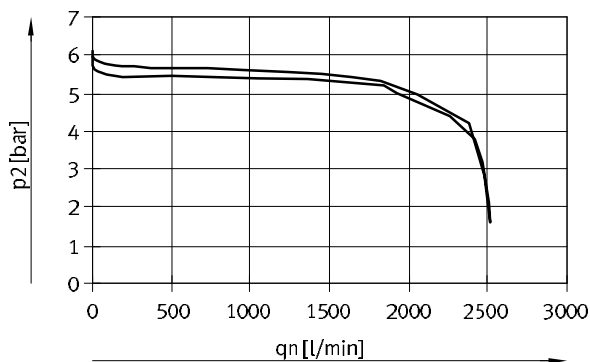
Low corrosion stress. For dry indoor applications or transport and storage protection. Also applies to parts behind covers, in the non-visible interior area, and parts which are covered in the application (e.g. drive trunnions).

| 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



Input pressure  $p_1 = 10$  bar

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

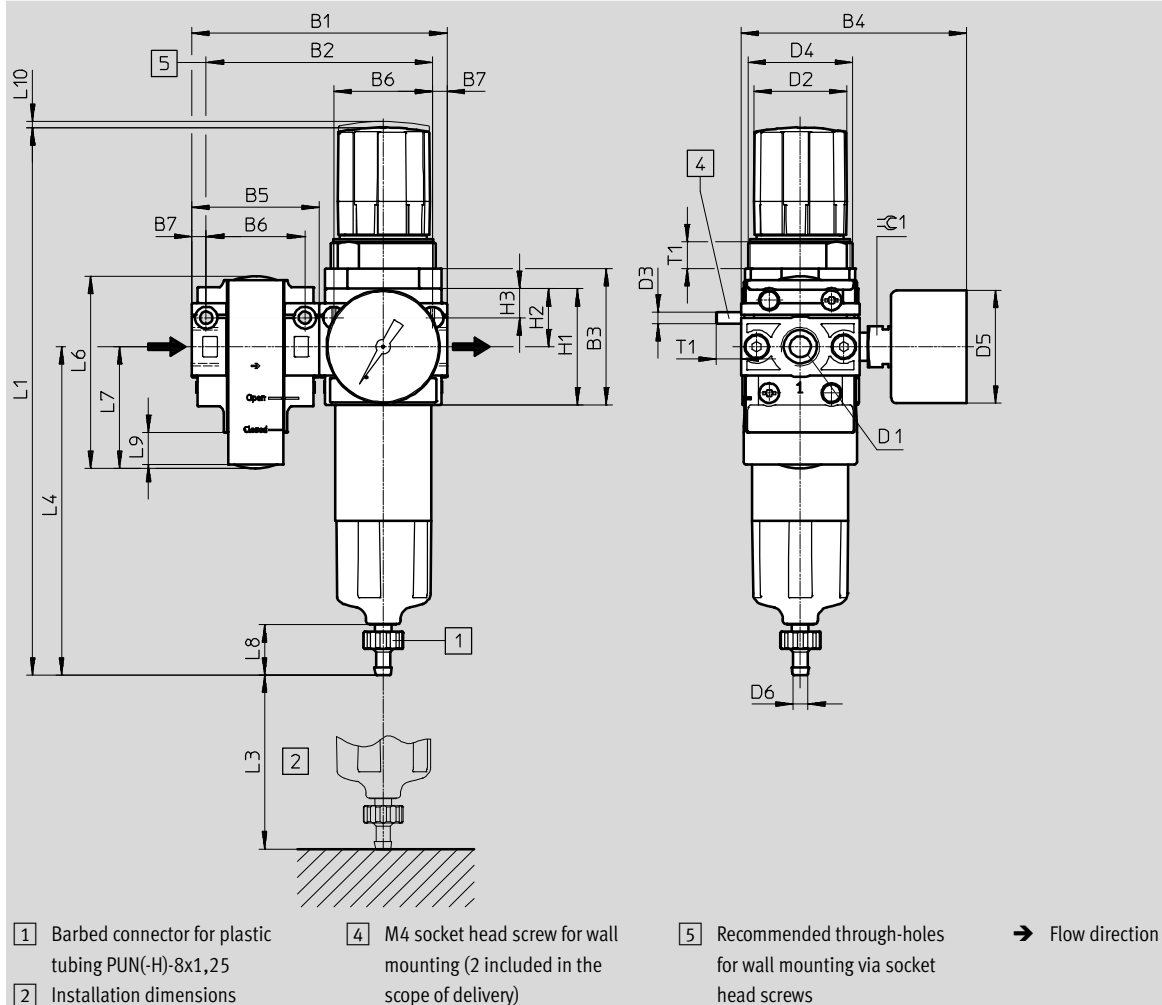
FESTO

Technical data – LFR-KC combination

## Dimensions

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

Mini



| Type       | D1   | B1 | B2 | B3 | B4 | B5 | B6 | B7 | D2<br>Ø | D3 | D4      | D5<br>Ø | D6<br>Ø |
|------------|------|----|----|----|----|----|----|----|---------|----|---------|---------|---------|
| 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<br>min. | L4  | L6 | L7 | L8 | L9 | L10 | T1 | ≈ 1 |
|------------|----|----|----|-----|------------|-----|----|----|----|----|-----|----|-----|
| LFR-1/4-DB | 40 | 20 | 10 | 189 | 60         | 113 | 66 | 42 | 17 | 11 | 2   | 9  | 14  |

## Ordering data

| Condensate drain                                              | Size | Connection | Grade of filtration 40 µm           |
|---------------------------------------------------------------|------|------------|-------------------------------------|
|                                                               |      |            | Part No.    Type                    |
| Pressure gauge with outer scale in bar and inner scale in psi |      |            |                                     |
| Manual rotary                                                 | Mini | G1/4       | <b>8002799</b> LFR-1/4-DB-7-MINI-KC |

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

Accessories

**FESTO**

Filter cartridges, D series, metal design



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



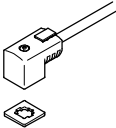
## Service unit combinations LFR-K/LFRS-K, D series

**FESTO**

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              | 4-pin                 | Yellow LED               | <b>164275</b>                      | <b>PEV-1/4-WD-LED-230</b> |
|                                                                                   |                    | ≤ 180 V DC              |                       |                          |                                    |                           |

| 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>   |