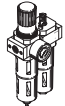
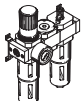
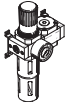
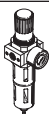


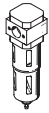
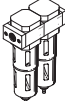
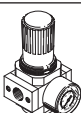


## Service units FRC, D series

**FESTO**



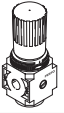
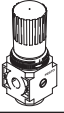
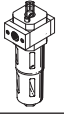
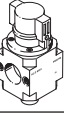
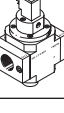
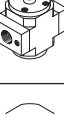


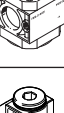

Product range overview – Service unit components, D series, metal

| Type   | Size | Pneumatic connection |    |      |      |      |      |      |    |     |     | Pressure regulation range [bar] |                  |                  | Grade of filtration [µm] |   |   |    |
|--|------|----------------------|----|------|------|------|------|------|----|-----|-----|---------------------------------|------------------|------------------|--------------------------|---|---|----|
|  |      | M5                   | M7 | G1/8 | G1/4 | G3/8 | G1/2 | G3/4 | G1 | QS4 | QS6 | 0.5<br>...<br>7                 | 0.5<br>...<br>12 | 2.5<br>...<br>12 | 0.01                     | 1 | 5 | 40 |
| <b>Service units</b>   |      |                      |    |      |      |      |      |      |    |     |     |                                 |                  |                  |                          |   |   |    |
| FRC/FRCS<br>                              | Mini | -                    | -  | ■    | ■    | ■    | -    | -    | -  | -   | -   | ■                               | ■                | -                | -                        | - | ■ | ■  |
|  | Midi | -                    | -  | -    | ■    | ■    | ■    | ■    | -  | -   | -   | ■                               | ■                | -                | -                        | - | ■ | ■  |
|  | Maxi | -                    | -  | -    | -    | -    | ■    | ■    | ■  | -   | -   | ■                               | ■                | -                | -                        | - | ■ | ■  |
| FRC-K<br>                                 | Mini | -                    | -  | ■    | ■    | -    | -    | -    | -  | -   | -   | ■                               | ■                | -                | -                        | - | - | ■  |
|  | Midi | -                    | -  | -    | ■    | ■    | ■    | -    | -  | -   | -   | ■                               | ■                | -                | -                        | - | - | ■  |
|  | Maxi | -                    | -  | -    | -    | -    | ■    | ■    | -  | -   | -   | ■                               | ■                | -                | -                        | - | - | ■  |
| LFR-K<br>                                | Mini | -                    | -  | ■    | ■    | -    | -    | -    | -  | -   | -   | ■                               | ■                | -                | -                        | - | - | ■  |
|  | Midi | -                    | -  | -    | ■    | ■    | ■    | -    | -  | -   | -   | ■                               | ■                | -                | -                        | - | - | ■  |
|  | Maxi | -                    | -  | -    | -    | -    | ■    | ■    | -  | -   | -   | ■                               | ■                | -                | -                        | - | - | ■  |
| <b>Individual devices</b>  |      |                      |    |      |      |      |      |      |    |     |     |                                 |                  |                  |                          |   |   |    |
| Filter regulators<br>LFR/LFRS<br>       | Mini | -                    | -  | ■    | ■    | ■    | -    | -    | -  | -   | -   | ■                               | ■                | -                | -                        | - | ■ | ■  |
|  | Midi | -                    | -  | -    | ■    | ■    | ■    | ■    | -  | -   | -   | ■                               | ■                | -                | -                        | - | ■ | ■  |
|  | Maxi | -                    | -  | -    | -    | -    | ■    | ■    | ■  | -   | -   | ■                               | ■                | -                | -                        | - | ■ | ■  |
| Filters<br>LF<br>                       | Mini | -                    | -  | ■    | ■    | ■    | -    | -    | -  | -   | -   | -                               | -                | -                | -                        | - | ■ | ■  |
|  | Midi | -                    | -  | -    | ■    | ■    | ■    | ■    | -  | -   | -   | -                               | -                | -                | -                        | - | ■ | ■  |
|  | Maxi | -                    | -  | -    | -    | -    | ■    | ■    | ■  | -   | -   | -                               | -                | -                | -                        | - | ■ | ■  |
| Fine and micro filters<br>LFMA/LFMB<br> | Mini | -                    | -  | ■    | ■    | ■    | -    | -    | -  | -   | -   | -                               | -                | ■                | ■                        | - | - | -  |
|  | Midi | -                    | -  | -    | ■    | ■    | ■    | ■    | -  | -   | -   | -                               | -                | ■                | ■                        | - | - | -  |
|  | Maxi | -                    | -  | -    | -    | -    | ■    | ■    | ■  | -   | -   | -                               | -                | ■                | ■                        | - | - | -  |
| Activated carbon filters<br>LFX<br>     | Mini | -                    | -  | ■    | ■    | ■    | -    | -    | -  | -   | -   | -                               | -                | -                | -                        | - | - | -  |
|  | Midi | -                    | -  | -    | ■    | ■    | ■    | ■    | -  | -   | -   | -                               | -                | -                | -                        | - | - | -  |
|  | Maxi | -                    | -  | -    | -    | -    | ■    | ■    | ■  | -   | -   | -                               | -                | -                | -                        | - | - | -  |
| Filter combinations<br>LFMBA<br>        | Mini | -                    | -  | ■    | ■    | ■    | -    | -    | -  | -   | -   | -                               | -                | ■                | ■                        | - | - | -  |
|  | Midi | -                    | -  | -    | ■    | ■    | ■    | ■    | -  | -   | -   | -                               | -                | ■                | ■                        | - | - | -  |
|  | Maxi | -                    | -  | -    | -    | -    | ■    | ■    | ■  | -   | -   | -                               | -                | ■                | ■                        | - | - | -  |
| Druckregelventile<br>LRL/LRS<br>        | Mini | -                    | -  | ■    | ■    | ■    | -    | -    | -  | -   | -   | ■                               | ■                | -                | -                        | - | - | -  |
|  | Midi | -                    | -  | -    | ■    | ■    | ■    | ■    | -  | -   | -   | ■                               | ■                | -                | -                        | - | - | -  |
|  | Maxi | -                    | -  | -    | -    | -    | ■    | ■    | ■  | -   | -   | ■                               | ■                | -                | -                        | - | - | -  |

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

| Type                                | Size | Bowl guard       |              | Condensate drain |                |                 | Pressure indicator  |                        | Actuator lock          |                                  | Supply voltage |          |          | Options   |  |                               | → Page/<br>Internet |
|-------------------------------------|------|------------------|--------------|------------------|----------------|-----------------|---------------------|------------------------|------------------------|----------------------------------|----------------|----------|----------|---|--|-------------------------------|---------------------|
|                                     |      | Metal bowl guard | Plastic bowl | Manual           | Semi-automatic | Fully automatic | With pressure gauge | Without pressure gauge | Rotary knob with latch | Rotary knob with integrated lock | 24 V DC        | 110 V AC | 230 V AC | Directly actuated pressure regulator with integrated return flow function | Pilot actuated pressure regulator with integrated return flow function | Differential pressure display |                     |
| <b>Service units</b>                |      |                  |              |                  |                |                 |                     |                        |                        |                                  |                |          |          |   |  |                               |                     |
| FRC/FRCS                            | Mini | ■                | -            | ■                | -              | ■               | ■                   | ■                      | ■                      | ■                                | -              | -        | -        | -   | -  | -                             | 6                   |
|                                     | Midi | ■                | -            | ■                | -              | ■               | ■                   | ■                      | ■                      | ■                                | -              | -        | -        | -   | -  | -                             |                     |
|                                     | Maxi | ■                | -            | ■                | -              | ■               | ■                   | ■                      | ■                      | ■                                | -              | -        | -        | ■   | ■  | -                             |                     |
| FRC-K                               | Mini | ■                | -            | ■                | -              | ■               | ■                   | -                      | ■                      | -                                | ■              | -        | -        | -   | -  | -                             | frc                 |
|                                     | Midi | ■                | -            | ■                | -              | ■               | ■                   | -                      | ■                      | -                                | ■              | -        | -        | -   | -  | -                             |                     |
|                                     | Maxi | ■                | -            | ■                | -              | ■               | ■                   | -                      | ■                      | -                                | ■              | -        | -        | ■   | ■  | -                             |                     |
| LFR-K                               | Mini | ■                | -            | ■                | -              | ■               | ■                   | -                      | ■                      | ■                                | ■              | -        | -        | -   | -  | -                             | lfr                 |
|                                     | Midi | ■                | -            | ■                | -              | ■               | ■                   | -                      | ■                      | ■                                | ■              | -        | -        | -   | -  | -                             |                     |
|                                     | Maxi | ■                | -            | ■                | -              | ■               | ■                   | -                      | ■                      | ■                                | ■              | -        | -        | ■   | ■  | -                             |                     |
| <b>Individual devices</b>           |      |                  |              |                  |                |                 |                     |                        |                        |                                  |                |          |          |   |  |                               |                     |
| Filter regulators<br>LFR/LFRS       | Mini | ■                | -            | ■                | -              | ■               | ■                   | ■                      | ■                      | ■                                | -              | -        | -        | -   | -  | -                             | lfr, lfrs           |
|                                     | Midi | ■                | -            | ■                | -              | ■               | ■                   | ■                      | ■                      | ■                                | -              | -        | -        | -   | -  | -                             |                     |
|                                     | Maxi | ■                | -            | ■                | -              | ■               | ■                   | ■                      | ■                      | ■                                | -              | -        | -        | ■   | ■  | -                             |                     |
| Filters<br>LF                       | Mini | ■                | -            | ■                | -              | ■               | -                   | -                      | -                      | -                                | -              | -        | -        | -   | -  | -                             | lf                  |
|                                     | Midi | ■                | -            | ■                | -              | ■               | -                   | -                      | -                      | -                                | -              | -        | -        | -   | -  | -                             |                     |
|                                     | Maxi | ■                | -            | ■                | -              | ■               | -                   | -                      | -                      | -                                | -              | -        | -        | -   | -  | -                             |                     |
| Fine and micro filters<br>LFMA/LFMB | Mini | ■                | -            | ■                | -              | ■               | -                   | -                      | -                      | -                                | -              | -        | -        | -   | -  | ■                             | lfma, lfmb          |
|                                     | Midi | ■                | -            | ■                | -              | ■               | -                   | -                      | -                      | -                                | -              | -        | -        | -   | -  | ■                             |                     |
|                                     | Maxi | ■                | -            | ■                | -              | ■               | -                   | -                      | -                      | -                                | -              | -        | -        | -   | -  | ■                             |                     |
| Activated carbon filters<br>LFX     | Mini | ■                | -            | -                | -              | -               | -                   | -                      | -                      | -                                | -              | -        | -        | -   | -  | -                             | lfx                 |
|                                     | Midi | ■                | -            | -                | -              | -               | -                   | -                      | -                      | -                                | -              | -        | -        | -   | -  | -                             |                     |
|                                     | Maxi | ■                | -            | -                | -              | -               | -                   | -                      | -                      | -                                | -              | -        | -        | -   | -  | -                             |                     |
| Filter combinations<br>LFMBA        | Mini | ■                | -            | ■                | -              | ■               | -                   | -                      | -                      | -                                | -              | -        | -        | -   | -  | ■                             | lfmba               |
|                                     | Midi | ■                | -            | ■                | -              | ■               | -                   | -                      | -                      | -                                | -              | -        | -        | -   | -  | ■                             |                     |
|                                     | Maxi | ■                | -            | ■                | -              | ■               | -                   | -                      | -                      | -                                | -              | -        | -        | -   | -  | ■                             |                     |
| Pressure regulators<br>LR/LRS       | Mini | -                | -            | -                | -              | -               | ■                   | ■                      | ■                      | ■                                | -              | -        | -        | ■   | -  | -                             | lr                  |
|                                     | Midi | -                | -            | -                | -              | -               | ■                   | ■                      | ■                      | ■                                | -              | -        | -        | ■   | -  | -                             |                     |
|                                     | Maxi | -                | -            | -                | -              | -               | ■                   | ■                      | ■                      | ■                                | -              | -        | -        | ■   | ■  | -                             |                     |

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

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

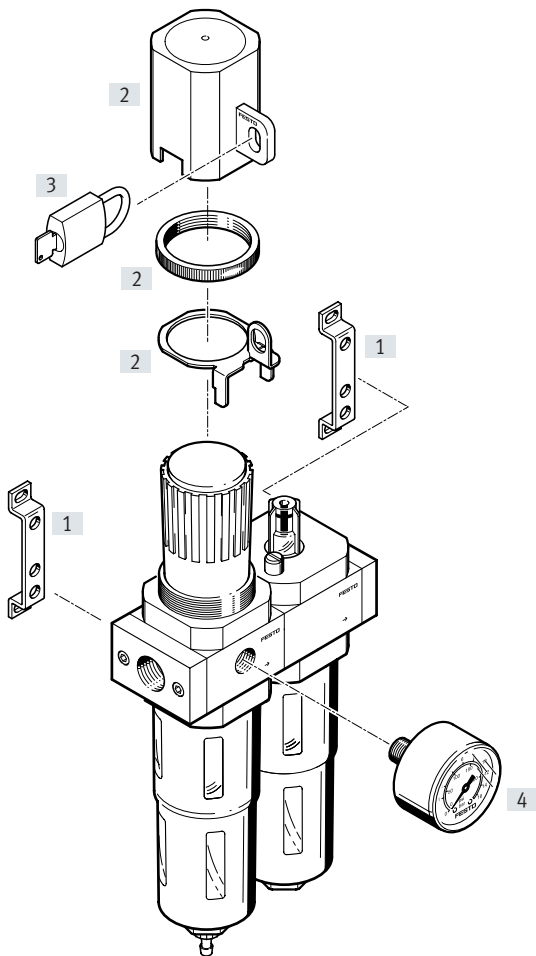
## Product range overview – Service unit components, D series, metal

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

## Peripherals overview

### Mini/Midi/Maxi

Service unit FRC



| Mounting attachments and accessories |                          | Rotary knob with latch | Rotary knob, lockable | → Page/Internet |
|--------------------------------------|--------------------------|------------------------|-----------------------|-----------------|
| [1]                                  | Mounting bracket<br>HFOE | ■                      | ■                     | hfoe-d          |
| [2]                                  | Regulator lock<br>LRVS   | ■                      | -                     | lrvs-d          |
| [3]                                  | Padlock<br>LRVS-D        | ■                      | -                     | lrvs-d          |
| [4]                                  | Pressure gauge<br>MA     | ■                      | ■                     | 26              |

## Type codes

| 001         | Series                 |
|-------------|------------------------|
| <b>FRC</b>  | Service unit           |
| <b>FRC5</b> | Service unit, lockable |

| 002        | Pneumatic connection |
|------------|----------------------|
| <b>1/8</b> | Female thread G1/8   |
| <b>1/4</b> | Female thread G1/4   |
| <b>3/8</b> | Female thread G3/8   |
| <b>1/2</b> | Female thread G1/2   |
| <b>3/4</b> | Female thread G3/4   |
| <b>1</b>   | Female thread G1     |

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

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

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

| 006      | Pressure gauge         |
|----------|------------------------|
|          | With pressure gauge    |
| <b>0</b> | Without pressure gauge |

| 007         | Size   |
|-------------|--|
| <b>MINI</b> | Grid dimension 40 mm (without connecting plates) |
| <b>MIDI</b> | Grid dimension 55 mm (without connecting plates) |
| <b>MAXI</b> | Grid dimension 66 mm (without connecting plates) |

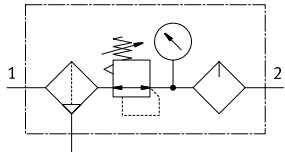
| 008      | Condensate drain  |
|----------|-------------------|
| <b>A</b> | Fully automatic   |
|          | Manually rotating |

| 009        | Display unit    |
|------------|-----------------|
|            | Bar/psi/without |
| <b>MPA</b> | MPa             |

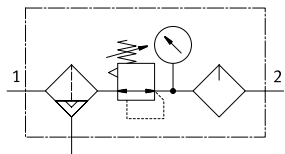
## Datasheet




### FRC

Condensate drain, manually, with pressure gauge



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



-  Flow rate  
80 ... 8700 l/min
-  Temperature range  
10 ... +60 °C
-  Operating pressure  
1 ... 16 bar  
(0.1 ... 1.6 MPa)

-  www.festo.com

- Filter, regulator and lubricator functions in a single unit
- High flow rate and highly efficient in removing contaminants
- Good regulation characteristics with minimal pressure hysteresis
- Setting values are secured by latching the rotary knob
- Two pressure gauge connections for different installation options
- Lockable rotary knob
- Two pressure regulation ranges: 0.5°... 7 bar (0.05 ... 0.7 MPa) and 0.5 ... 12 bar (0.05 ... 1.2 MPa)
- Choice of manual, semi-automatic or fully automatic condensate drain
- Choice of filter inserts 5 µm or 40 µm
- New filter cartridges → page 25

The following oils are recommended for Festo components:  
Viscosity range to ISO 3448 class VG 32  
32 mm<sup>2</sup>/s (cSt) at 40°C

- Festo special oil → page 26
- ARAL Vitam GF 32
- BP Energol HLP 32
- Esso Nuto H 32
- Mobil DTE 24
- Shell Tellus Oil DO 32

| General technical data                    |  |                        |                  |
|---|--|------------------------|------------------|
| Size                                      | Mini   | Midi                   | Maxi             |
| Pneumatic connection 1, 2 <sup>1)</sup>   | G1/8, G1/4, G3/8   | G1/4, G3/8, G1/2, G3/4 | G1/2, G3/4, G1   |
| Design                                    | Filter regulator with/without pressure gauge<br>Proportional standard mist lubricator  |                        |                  |
| Type of mounting                          | Via accessories<br>In-line installation  |                        |                  |
| Mounting position                         | Vertical ±5°   |                        |                  |
| Grade of filtration [µm]                  | 5<br>40  |                        |                  |
| Air purity class at the output            | Compressed air to ISO 8573-1:2010 [6:8:-] (grade of filtration 5 µm)<br>Compressed air to ISO 8573-1:2010 [7:8:-] (grade of filtration 40 µm)<br>Inert gases |                        |                  |
| Bowl guard                                | Metal bowl guard   |                        |                  |
| Condensate drain                          | Manual<br>Fully automatic  |                        |                  |
| Actuator lock                             | Rotary knob with latch<br>Rotary knob with integrated lock   |                        |                  |
| Pressure regulation range [bar]           | 0.5 ... 7 (0.05 ... 0.7 MPa)<br>0.5 ... 12 (0.05 ... 1.2 MPa)  |                        |                  |
| Max. pressure hysteresis [bar]            | 0.2 (0.02 MPa)   |                        | 0.4 (0.04 MPa)   |
| Pressure indication                       | With pressure gauge<br>Prepared for G1/8<br>Prepared for G1/4<br>Prepared for G1/4   |                        |                  |
| Max. condensate volume [cm <sup>3</sup> ] | 22   | 43                     | 80 <sup>2)</sup> |

1) Connecting plates with threaded connection

2) The max. condensate volume for FRC/FRCS-...-DI-MAXI is 43 cm<sup>3</sup>.

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



## Datasheet

| Standard nominal flow rate $q_{nN}^{1)}$ [l/min] |   |      |      |      |      |      |      |      |                              |                              |                              |
|--|---|------|------|------|------|------|------|------|------------------------------|------------------------------|------------------------------|
| Size   |   | Mini |      |      | Midi |      |      | Maxi |                              |                              |                              |
| Pneumatic connection 1, 2                        |   | G1/8 | G1/4 | G3/8 | G1/4 | G3/8 | G1/2 | G3/4 | G1/2                         | G3/4                         | G1                           |
| Pressure regulation range, grade of filtration   | 0.5 ... 7 bar<br>(0.05 ... 0.7 MPa),<br>40 $\mu$ m  | 800  | 1300 | 1500 | 1700 | 2000 | 2800 | 2800 | 7700<br>(4500) <sup>2)</sup> | 8500<br>(5000) <sup>2)</sup> | 8700<br>(5200) <sup>2)</sup> |
|  | 0.5 ... 12 bar<br>(0.05 ... 1.2 MPa),<br>5 $\mu$ m  | 600  | 850  | 1050 | 1300 | 1700 | 1800 | 2100 | 6800<br>(3000) <sup>2)</sup> | 7000<br>(3600) <sup>2)</sup> | 7200<br>(3800) <sup>2)</sup> |
|  | 0.5 ... 12 bar<br>(0.05 ... 1.2 MPa),<br>40 $\mu$ m | 700  | 1000 | 1200 | 1500 | 2000 | 2600 | 2600 | 7600<br>(3300) <sup>2)</sup> | 8300<br>(3800) <sup>2)</sup> | 8500<br>(4000) <sup>2)</sup> |

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

2) With FRC/FRCS-...-DI.

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

| Operating and environmental conditions       |  |  |
|--|--|--|
| Condensate drain                             | Manual   | Fully automatic  |
| Operating pressure [bar]                     | 1 ... 16 (0.1 ... 1.6 MPa)   | 2 ... 12 (0.2 ... 1.2 MPa)   |
| Operating medium                             | Compressed air to<br>ISO 8573-1:2010 [–:9:–]   | Compressed air to<br>ISO 8573-1:2010 [7:9:–]   |
|  | Inert gases  | Inert gases  |
| Note on the operating/pilot medium           | Lubricated operation possible (in which case lubricated operation will always be required) | Lubricated operation possible (in which case lubricated operation will always be required) |
| Ambient temperature [°C]                     | –10 ... +60  |  |
| Temperature of medium [°C]                   | –10 ... +60  |  |
| Storage temperature [°C]                     | –10 ... +60  |  |
| Corrosion resistance class CRC <sup>1)</sup> | 2 - Moderate corrosion stress  |  |

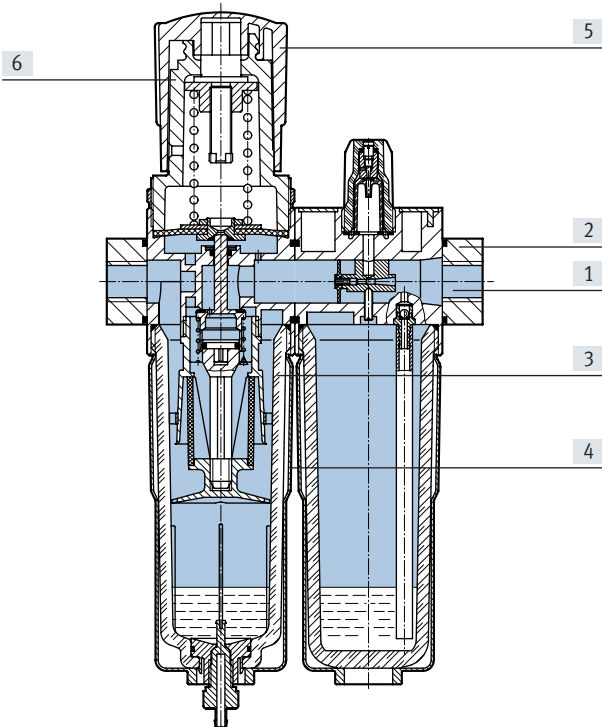
1) More information [www.festo.com/x/topic/crc](http://www.festo.com/x/topic/crc)

| Weight [g]                    |      |      |                       |               |
|-------------------------------|------|------|-----------------------|---------------|
| Size                          | Mini | Midi | Maxi                  |               |
|                               |      |      | Connection G1/2, G3/4 | Connection G1 |
| <b>With pressure gauge</b>    |      |      |                       |               |
| FRC-...                       | 660  | 1440 | 2390                  | 2520          |
| FRCS-...                      | 760  | 1680 | 2490                  | 2620          |
| <b>Without pressure gauge</b> |      |      |                       |               |
| FRC-...                       | 600  | 1350 | 2280                  | 2460          |
| FRCS-...                      | 700  | 1590 | 2380                  | 2560          |

## Datasheet

### Materials

Sectional view

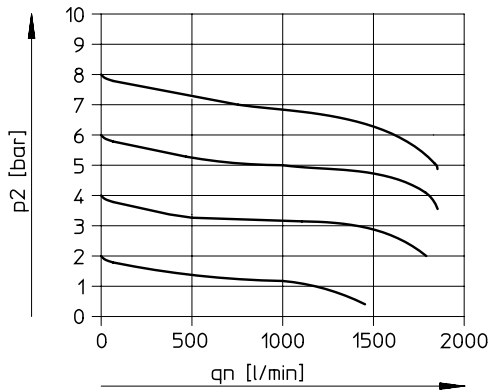


|                        |                   |                         |
|------------------------|-------------------|-------------------------|
| [1]                    | Housing           | Die-cast zinc           |
| [2]                    | Connecting plates | Die-cast zinc/aluminium |
| [3]                    | Bowl              | PC                      |
| [4]                    | Metal bowl guard  | Aluminium               |
| [5]                    | Rotary knob       | POM                     |
| [6]                    | Support           | –                       |
| –                      | Seals             | NBR                     |
| Note on materials      |                   | RoHS-compliant          |
| LABS (PWIS) conformity |                   | VDMA24364-B1/B2-L       |

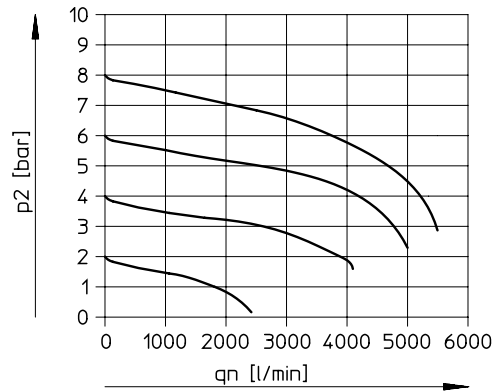
# Datasheet

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

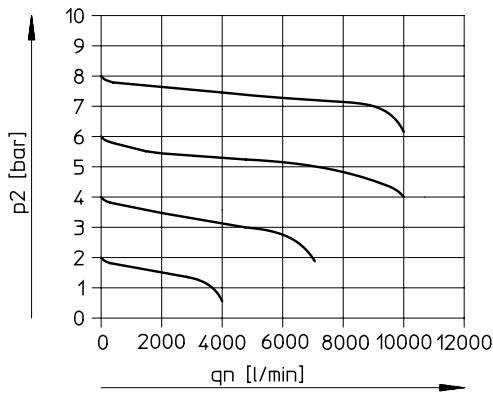
FRC-1/4-D-MINI



FRC-1/2-D-MIDI



FRC-1-D-MAXI



Primary pressure  $p_1 = 10 \text{ bar (1 MPa)}$



### Note

In order to improve the control performance, internal air consumption depending on the primary pressure is integrated into the design of the FRC/FRCS-...-MAXI.

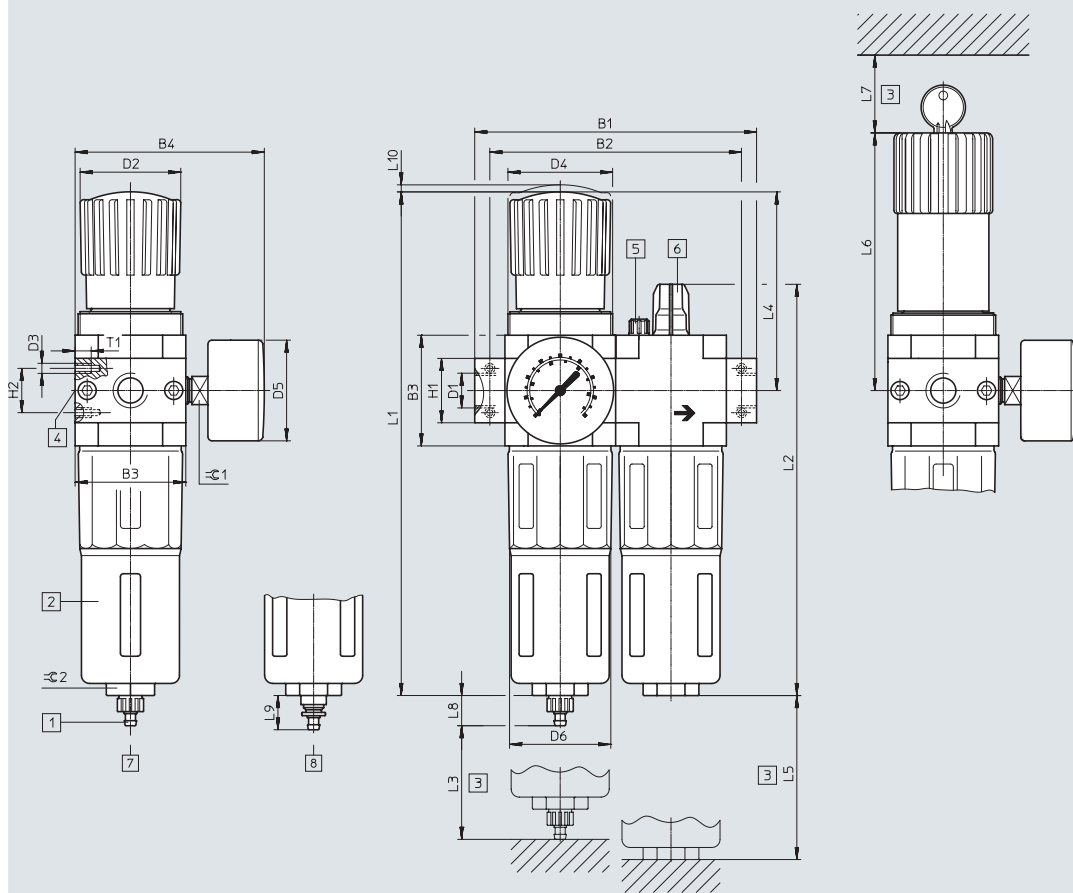
Datasheet

Dimensions

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

Mini/Midi/Maxi

Lockable



- [1] Barbed connector for plastic tubing PUN(-H)-8x1.25
  - [2] Metal bowl guard
  - [3] Installation dimension
  - [4] Second pressure gauge connection
  - [5] Bleed screw for oil reservoir
  - [6] Oil adjusting screw
  - [7] Manual Condensate drain
  - [8] Push-in connector for plastic tubing PUN-6/PAN-6
  - [9] Fully automatic condensate drain
- Flow direction

| Type           | B1  | B2  | B3 | B4  | D1   | D2<br>∅ | D3 | D4      | D5<br>∅                  | D6<br>∅ |
|----------------|-----|-----|----|-----|------|---------|----|---------|--------------------------|---------|
| <b>Mini</b>    |     |     |    |     |      |         |    |         |                          |         |
| FRC-1/8-D-MINI | 104 | 92  | 40 | 76  | G1/8 | 31      | M4 | M36x1.5 | 39                       | 38      |
| FRC-1/4-D-MINI |     |     |    |     | G1/4 |         |    |         |                          |         |
| FRC-3/8-D-MINI |     |     |    |     | G3/8 |         |    |         |                          |         |
| <b>Midi</b>    |     |     |    |     |      |         |    |         |                          |         |
| FRC-1/4-D-MIDI | 140 | 125 | 55 | 95  | G1/4 | 50      | M5 | M52x1.5 | 39<br>(49) <sup>1)</sup> | 52      |
| FRC-3/8-D-MIDI |     |     |    |     | G3/8 |         |    |         |                          |         |
| FRC-1/2-D-MIDI |     |     |    |     | G1/2 |         |    |         |                          |         |
| FRC-3/4-D-MIDI |     |     |    |     | G3/4 |         |    |         |                          |         |
| <b>Maxi</b>    |     |     |    |     |      |         |    |         |                          |         |
| FRC-1/2-D-MAXI | 162 | 146 | 66 | 106 | G1/2 | 31      | M5 | M36x1.5 | 39<br>(49) <sup>1)</sup> | 65      |
| FRC-3/4-D-MAXI |     |     |    | 106 | G3/4 |         |    | M36x1.5 |                          |         |
| FRC-1-D-MAXI   |     |     |    | 106 | G1   |         |    | M36x1.5 |                          |         |

1) Pressure gauge with outer scale in MPa and inner scale in bar  
 † Note: This product conforms to ISO 1179-1 and ISO 228-1.

## Datasheet

| Type           | H1 | H2 | L1  | L2  | L3 | L4 | L5  | L6  | L7 | L8 | L9 | L10 | T1 | ≅ 1 | ≅ 2 |
|----------------|----|----|-----|-----|----|----|-----|-----|----|----|----|-----|----|-----|-----|
| <b>Mini</b>    |    |    |     |     |    |    |     |     |    |    |    |     |    |     |     |
| FRC-1/8-D-MINI | 20 | 11 | 193 | 169 | 60 | 69 | 100 | 98  | 60 | 15 | 19 | 3   | 7  | 14  | 22  |
| FRC-1/4-D-MINI |    |    |     |     |    |    |     |     |    |    |    |     |    |     |     |
| FRC-3/8-D-MINI |    |    |     |     |    |    |     |     |    |    |    |     |    |     |     |
| <b>Midi</b>    |    |    |     |     |    |    |     |     |    |    |    |     |    |     |     |
| FRC-1/4-D-MIDI | 32 | 22 | 250 | 204 | 80 | 99 | 120 | 130 | 60 | 15 | 19 | 3   | 8  | 14  | 24  |
| FRC-3/8-D-MIDI |    |    |     |     |    |    |     |     |    |    |    |     |    |     |     |
| FRC-1/2-D-MIDI |    |    |     |     |    |    |     |     |    |    |    |     |    |     |     |
| FRC-3/4-D-MIDI |    |    |     |     |    |    |     |     |    |    |    |     |    |     |     |
| <b>Maxi</b>    |    |    |     |     |    |    |     |     |    |    |    |     |    |     |     |
| FRC-1/2-D-MAXI | 32 | 22 | 252 | 228 | 90 | 82 | 150 | 111 | 60 | 15 | 19 | 3   | 8  | 14  | 24  |
| FRC-3/4-D-MAXI | 32 |    | 252 |     |    | 82 |     | 111 |    |    |    |     |    |     |     |
| FRC-1-D-MAXI   | 40 |    | 252 |     |    | 82 |     | 111 |    |    |    |     |    |     |     |

Datasheet

**Ordering data**

Pressure regulation range 0.5 ... 12 bar (0.05 ... 1.2 MPa), rotary knob with latch, connecting plates with threaded connection

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

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

|        |                 |      |        |                     |                     |                  |                  |
|--------|-----------------|------|--------|---------------------|---------------------|------------------|------------------|
| Manual | Mini            | G1/8 | 162770 | FRC-1/8-D-5M-MINI   | 159604              | FRC-1/8-D-MINI   |                  |
|        |                 | G1/4 | 162771 | FRC-1/4-D-5M-MINI   | 159605              | FRC-1/4-D-MINI   |                  |
|        |                 | G3/8 | 162772 | FRC-3/8-D-5M-MINI   | 162734              | FRC-3/8-D-MINI   |                  |
|        | Midi            | G1/4 | 186499 | FRC-1/4-D-5M-MIDI   | 186497              | FRC-1/4-D-MIDI   |                  |
|        |                 | G3/8 | 162773 | FRC-3/8-D-5M-MIDI   | 159588              | FRC-3/8-D-MIDI   |                  |
|        |                 | G1/2 | 162774 | FRC-1/2-D-5M-MIDI   | 159590              | FRC-1/2-D-MIDI   |                  |
|        |                 | G3/4 | 162775 | FRC-3/4-D-5M-MIDI   | 162735              | FRC-3/4-D-MIDI   |                  |
|        | Maxi            | G1/2 | 186507 | FRC-1/2-D-5M-MAXI   | 186505              | FRC-1/2-D-MAXI   |                  |
|        |                 | G3/4 | 162776 | FRC-3/4-D-5M-MAXI   | 159606              | FRC-3/4-D-MAXI   |                  |
|        |                 | G1   | 162777 | FRC-1-D-5M-MAXI     | 159607              | FRC-1-D-MAXI     |                  |
|        | Fully automatic | Mini | G1/8   | 162778              | FRC-1/8-D-5M-MINI-A | 159608           | FRC-1/8-D-MINI-A |
|        |                 |      | G1/4   | 162779              | FRC-1/4-D-5M-MINI-A | 159609           | FRC-1/4-D-MINI-A |
| G3/8   |                 |      | 162780 | FRC-3/8-D-5M-MINI-A | 162736              | FRC-3/8-D-MINI-A |                  |
| Midi   |                 | G1/4 | 186502 | FRC-1/4-D-5M-MIDI-A | 186500              | FRC-1/4-D-MIDI-A |                  |
|        |                 | G3/8 | 162781 | FRC-3/8-D-5M-MIDI-A | 159589              | FRC-3/8-D-MIDI-A |                  |
|        |                 | G1/2 | 162782 | FRC-1/2-D-5M-MIDI-A | 159591              | FRC-1/2-D-MIDI-A |                  |
|        |                 | G3/4 | 162783 | FRC-3/4-D-5M-MIDI-A | 162737              | FRC-3/4-D-MIDI-A |                  |
| Maxi   |                 | G1/2 | 186510 | FRC-1/2-D-5M-MAXI-A | 186508              | FRC-1/2-D-MAXI-A |                  |
|        |                 | G3/4 | 162784 | FRC-3/4-D-5M-MAXI-A | 159610              | FRC-3/4-D-MAXI-A |                  |
|        |                 | G1   | 162785 | FRC-1-D-5M-MAXI-A   | 159611              | FRC-1-D-MAXI-A   |                  |

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

|        |                 |      |         |                         |                         |                      |                      |
|--------|-----------------|------|---------|-------------------------|-------------------------|----------------------|----------------------|
| Manual | Mini            | G1/8 | 8002352 | FRC-1/8-D-5M-MINI-MPA   | 8002266                 | FRC-1/8-D-MINI-MPA   |                      |
|        |                 | G1/4 | 8002353 | FRC-1/4-D-5M-MINI-MPA   | 8002267                 | FRC-1/4-D-MINI-MPA   |                      |
|        |                 | G3/8 | 8002354 | FRC-3/8-D-5M-MINI-MPA   | 8002332                 | FRC-3/8-D-MINI-MPA   |                      |
|        | Midi            | G1/4 | 8002380 | FRC-1/4-D-5M-MIDI-MPA   | 8002379                 | FRC-1/4-D-MIDI-MPA   |                      |
|        |                 | G3/8 | 8002355 | FRC-3/8-D-5M-MIDI-MPA   | 8002262                 | FRC-3/8-D-MIDI-MPA   |                      |
|        |                 | G1/2 | 8002356 | FRC-1/2-D-5M-MIDI-MPA   | 8002264                 | FRC-1/2-D-MIDI-MPA   |                      |
|        |                 | G3/4 | 8002357 | FRC-3/4-D-5M-MIDI-MPA   | 8002333                 | FRC-3/4-D-MIDI-MPA   |                      |
|        | Maxi            | G1/2 | 8002385 | FRC-1/2-D-5M-MAXI-MPA   | 8002384                 | FRC-1/2-D-MAXI-MPA   |                      |
|        |                 | G3/4 | 8002358 | FRC-3/4-D-5M-MAXI-MPA   | 8002268                 | FRC-3/4-D-MAXI-MPA   |                      |
|        |                 | G1   | 8002359 | FRC-1-D-5M-MAXI-MPA     | 8002269                 | FRC-1-D-MAXI-MPA     |                      |
|        | Fully automatic | Mini | G1/8    | 8002360                 | FRC-1/8-D-5M-MINI-A-MPA | 8002270              | FRC-1/8-D-MINI-A-MPA |
|        |                 |      | G1/4    | 8002361                 | FRC-1/4-D-5M-MINI-A-MPA | 8002271              | FRC-1/4-D-MINI-A-MPA |
| G3/8   |                 |      | 8002362 | FRC-3/8-D-5M-MINI-A-MPA | 8002334                 | FRC-3/8-D-MINI-A-MPA |                      |
| Midi   |                 | G1/4 | -       |                         | 8002381                 | FRC-1/4-D-MIDI-A-MPA |                      |
|        |                 | G3/8 | 8002363 | FRC-3/8-D-5M-MIDI-A-MPA | 8002263                 | FRC-3/8-D-MIDI-A-MPA |                      |
|        |                 | G1/2 | 8002364 | FRC-1/2-D-5M-MIDI-A-MPA | 8002265                 | FRC-1/2-D-MIDI-A-MPA |                      |
|        |                 | G3/4 | 8002365 | FRC-3/4-D-5M-MIDI-A-MPA | 8002335                 | FRC-3/4-D-MIDI-A-MPA |                      |
| Maxi   |                 | G1/2 | 8002387 | FRC-1/2-D-5M-MAXI-A-MPA | 8002386                 | FRC-1/2-D-MAXI-A-MPA |                      |
|        |                 | G3/4 | 8002366 | FRC-3/4-D-5M-MAXI-A-MPA | 8002272                 | FRC-3/4-D-MAXI-A-MPA |                      |
|        |                 | G1   | 8002367 | FRC-1-D-5M-MAXI-A-MPA   | 8002273                 | FRC-1-D-MAXI-A-MPA   |                      |

## Datasheet

**Ordering data**

Pressure regulation range 0.5 ... 7 bar (0.05 ... 0.7 MPa), rotary knob with latch, connecting plates with threaded connection

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

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

|                 |      |      |        |                    |
|-----------------|------|------|--------|--------------------|
| Manual          | Mini | G1/8 | 162754 | FRC-1/8-D-7-MINI   |
|                 |      | G1/4 | 162755 | FRC-1/4-D-7-MINI   |
|                 |      | G3/8 | 162756 | FRC-3/8-D-7-MINI   |
|                 | Midi | G1/4 | 186503 | FRC-1/4-D-7-MIDI   |
|                 |      | G3/8 | 162757 | FRC-3/8-D-7-MIDI   |
|                 |      | G1/2 | 162758 | FRC-1/2-D-7-MIDI   |
|                 |      | G3/4 | 162759 | FRC-3/4-D-7-MIDI   |
|                 | Maxi | G1/2 | 186511 | FRC-1/2-D-7-MAXI   |
|                 |      | G3/4 | 162760 | FRC-3/4-D-7-MAXI   |
|                 |      | G1   | 162761 | FRC-1-D-7-MAXI     |
| Fully automatic | Mini | G1/8 | 162762 | FRC-1/8-D-7-MINI-A |
|                 |      | G1/4 | 162763 | FRC-1/4-D-7-MINI-A |
|                 |      | G3/8 | 162764 | FRC-3/8-D-7-MINI-A |
|                 | Midi | G1/4 | 186504 | FRC-1/4-D-7-MIDI-A |
|                 |      | G3/8 | 162765 | FRC-3/8-D-7-MIDI-A |
|                 |      | G1/2 | 162766 | FRC-1/2-D-7-MIDI-A |
|                 |      | G3/4 | 162767 | FRC-3/4-D-7-MIDI-A |
|                 | Maxi | G1/2 | 186512 | FRC-1/2-D-7-MAXI-A |
|                 |      | G3/4 | 162768 | FRC-3/4-D-7-MAXI-A |
|                 |      | G1   | 162769 | FRC-1-D-7-MAXI-A   |

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

|        |                 |      |         |                        |
|--------|-----------------|------|---------|------------------------|
| Manual | Mini            | G1/8 | 8002336 | FRC-1/8-D-7-MINI-MPA   |
|        |                 | G1/4 | 8002337 | FRC-1/4-D-7-MINI-MPA   |
|        |                 | G3/8 | 8002338 | FRC-3/8-D-7-MINI-MPA   |
|        | Midi            | G1/4 | 8002382 | FRC-1/4-D-7-MIDI-MPA   |
|        |                 | G3/8 | 8002339 | FRC-3/8-D-7-MIDI-MPA   |
|        |                 | G1/2 | 8002340 | FRC-1/2-D-7-MIDI-MPA   |
|        |                 | G3/4 | 8002341 | FRC-3/4-D-7-MIDI-MPA   |
|        | Maxi            | G3/4 | 8002342 | FRC-3/4-D-7-MAXI-MPA   |
|        |                 | G1   | 8002343 | FRC-1-D-7-MAXI-MPA     |
|        | Fully automatic | Mini | G1/8    | 8002344                |
| G1/4   |                 |      | 8002345 | FRC-1/4-D-7-MINI-A-MPA |
| G3/8   |                 |      | 8002346 | FRC-3/8-D-7-MINI-A-MPA |
| Midi   |                 | G1/4 | 8002383 | FRC-1/4-D-7-MIDI-A-MPA |
|        |                 | G3/8 | 8002347 | FRC-3/8-D-7-MIDI-A-MPA |
|        |                 | G1/2 | 8002348 | FRC-1/2-D-7-MIDI-A-MPA |
|        |                 | G3/4 | 8002349 | FRC-3/4-D-7-MIDI-A-MPA |
| Maxi   |                 | G3/4 | 8002350 | FRC-3/4-D-7-MAXI-A-MPA |
|        |                 | G1   | 8002351 | FRC-1-D-7-MAXI-A-MPA   |

## Datasheet

### Ordering data

Pressure regulation range 0.5 ... 12 bar (0.05 ... 1.2 MPa), rotary knob with latch, connecting plates with threaded connection

| Condensate drain              | Size            | Connection | Grade of filtration 5 µm |                       | Grade of filtration 40 µm |                    |                    |
|-------------------------------|-----------------|------------|--------------------------|-----------------------|---------------------------|--------------------|--------------------|
|                               |                 |            | Part no.                 | Type                  | Part no.                  | Type               |                    |
| <b>Without pressure gauge</b> |                 |            |                          |                       |                           |                    |                    |
| Manual                        | Mini            | G1/8       | 192650                   | FRC-1/8-D-5M-O-MINI   | 162738                    | FRC-1/8-D-O-MINI   |                    |
|                               |                 | G1/4       | 192651                   | FRC-1/4-D-5M-O-MINI   | 162739                    | FRC-1/4-D-O-MINI   |                    |
|                               |                 | G3/8       | 192652                   | FRC-3/8-D-5M-O-MINI   | 162740                    | FRC-3/8-D-O-MINI   |                    |
|                               | Midi            | G1/4       | 192653                   | FRC-1/4-D-5M-O-MIDI   | 186498                    | FRC-1/4-D-O-MIDI   |                    |
|                               |                 | G3/8       | 192654                   | FRC-3/8-D-5M-O-MIDI   | 162741                    | FRC-3/8-D-O-MIDI   |                    |
|                               |                 | G1/2       | 192655                   | FRC-1/2-D-5M-O-MIDI   | 162742                    | FRC-1/2-D-O-MIDI   |                    |
|                               |                 | G3/4       | 192656                   | FRC-3/4-D-5M-O-MIDI   | 162743                    | FRC-3/4-D-O-MIDI   |                    |
|                               | Maxi            | G1/2       | 192657                   | FRC-1/2-D-5M-O-MAXI   | 186506                    | FRC-1/2-D-O-MAXI   |                    |
|                               |                 | G3/4       | 192658                   | FRC-3/4-D-5M-O-MAXI   | 162744                    | FRC-3/4-D-O-MAXI   |                    |
|                               |                 | G1         | 192659                   | FRC-1-D-5M-O-MAXI     | 162745                    | FRC-1-D-O-MAXI     |                    |
|                               | Fully automatic | Mini       | G1/8                     | 192660                | FRC-1/8-D-5M-O-MINI-A     | 162746             | FRC-1/8-D-O-MINI-A |
|                               |                 |            | G1/4                     | 192661                | FRC-1/4-D-5M-O-MINI-A     | 162747             | FRC-1/4-D-O-MINI-A |
| G3/8                          |                 |            | 192662                   | FRC-3/8-D-5M-O-MINI-A | 162748                    | FRC-3/8-D-O-MINI-A |                    |
| Midi                          |                 | G1/4       | 192663                   | FRC-1/4-D-5M-O-MIDI-A | 186501                    | FRC-1/4-D-O-MIDI-A |                    |
|                               |                 | G3/8       | 192664                   | FRC-3/8-D-5M-O-MIDI-A | 162749                    | FRC-3/8-D-O-MIDI-A |                    |
|                               |                 | G1/2       | 192665                   | FRC-1/2-D-5M-O-MIDI-A | 162750                    | FRC-1/2-D-O-MIDI-A |                    |
|                               |                 | G3/4       | 192666                   | FRC-3/4-D-5M-O-MIDI-A | 162751                    | FRC-3/4-D-O-MIDI-A |                    |
| Maxi                          |                 | G1/2       | 192667                   | FRC-1/2-D-5M-O-MAXI-A | 186509                    | FRC-1/2-D-O-MAXI-A |                    |
|                               |                 | G3/4       | 192668                   | FRC-3/4-D-5M-O-MAXI-A | 162752                    | FRC-3/4-D-O-MAXI-A |                    |
|                               |                 | G1         | 192669                   | FRC-1-D-5M-O-MAXI-A   | 162753                    | FRC-1-D-O-MAXI-A   |                    |

### Ordering data

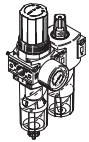
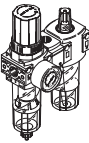
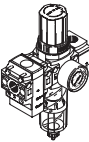
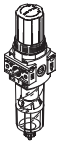
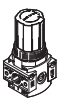
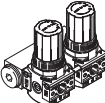

Pressure regulation range 0.5 ... 7 bar (0.05 ... 0.7 MPa), rotary knob with latch, connecting plates with threaded connection

| Condensate drain              | Size   | Connection         | Grade of filtration 40 µm |                      |
|-------------------------------|--------|--------------------|---------------------------|----------------------|
|                               |        |                    | Part no.                  | Type                 |
| <b>Without pressure gauge</b> |        |                    |                           |                      |
| Manual                        | Mini   | G1/8               | 192630                    | FRC-1/8-D-7-O-MINI   |
|                               |        | G1/4               | 192631                    | FRC-1/4-D-7-O-MINI   |
|                               |        | G3/8               | 192632                    | FRC-3/8-D-7-O-MINI   |
|                               | Midi   | G1/4               | 192633                    | FRC-1/4-D-7-O-MIDI   |
|                               |        | G3/8               | 192634                    | FRC-3/8-D-7-O-MIDI   |
|                               |        | G1/2               | 192635                    | FRC-1/2-D-7-O-MIDI   |
|                               | Maxi   | G3/4               | 192636                    | FRC-3/4-D-7-O-MIDI   |
|                               |        | G1/2               | 192637                    | FRC-1/2-D-7-O-MAXI   |
|                               |        | G3/4               | 192638                    | FRC-3/4-D-7-O-MAXI   |
| Fully automatic               | Mini   | G1/8               | 192640                    | FRC-1/8-D-7-O-MINI-A |
|                               |        | G1/4               | 192641                    | FRC-1/4-D-7-O-MINI-A |
|                               |        | G3/8               | 192642                    | FRC-3/8-D-7-O-MINI-A |
|                               | Midi   | G1/4               | 192643                    | FRC-1/4-D-7-O-MIDI-A |
|                               |        | G3/8               | 192644                    | FRC-3/8-D-7-O-MIDI-A |
|                               |        | G1/2               | 192645                    | FRC-1/2-D-7-O-MIDI-A |
|                               | Maxi   | G3/4               | 192646                    | FRC-3/4-D-7-O-MIDI-A |
|                               |        | G1/2               | 192647                    | FRC-1/2-D-7-O-MAXI-A |
|                               |        | G3/4               | 192648                    | FRC-3/4-D-7-O-MAXI-A |
| G1                            | 192649 | FRC-1-D-7-O-MAXI-A |                           |                      |



## Datasheet

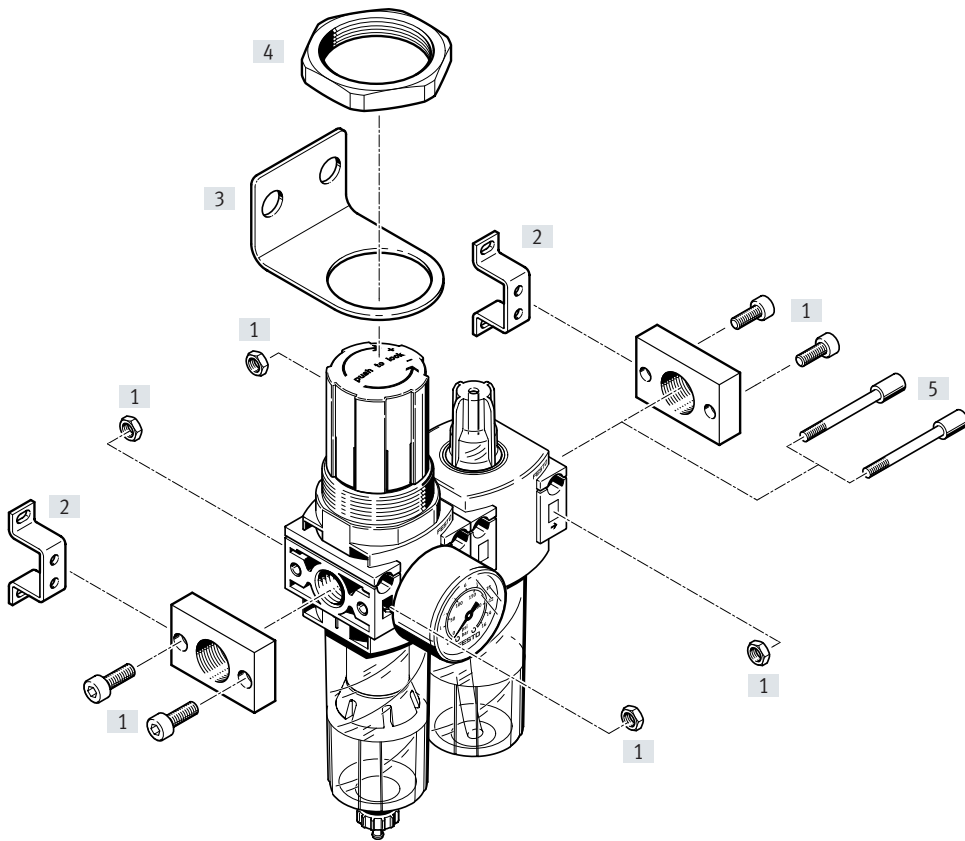
Product range overview – Service unit components, D series, polymer

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

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

| Type                                  | Size | Condensate drain |                | Pressure indication |                        | Actuator lock | Regulating functions   |                           | → Page/<br>Internet |
|---------------------------------------|------|------------------|----------------|---------------------|------------------------|---------------|------------------------|---------------------------|---------------------|
|                                       |      | Manual           | Semi-automatic | With pressure gauge | Without pressure gauge |               | Rotary knob with latch | With secondary exhausting |                     |
| <b>Service units</b>                  |      |                  |                |                     |                        |               |                        |                           |                     |
| FRC                                   | Mini | ■                | ■              | ■                   | -                      | ■             | ■                      | ■                         | 20                  |
| <b>Service unit combinations</b>      |      |                  |                |                     |                        |               |                        |                           |                     |
| FRC-K                                 | Mini | ■                | -              | ■                   | -                      | ■             | ■                      | ■                         | frc                 |
| LFR-K                                 | Mini | ■                | -              | ■                   | -                      | ■             | ■                      | ■                         | lfr                 |
| <b>Individual devices</b>             |      |                  |                |                     |                        |               |                        |                           |                     |
| Filter regulators<br>LFR              | Mini | ■                | ■              | ■                   | ■                      | ■             | ■                      | ■                         | lfr                 |
| Pressure regulators<br>LR             | Mini | -                | -              | ■                   | ■                      | ■             | ■                      | ■                         | lr                  |
| Pressure regulator manifolds<br>LRB-K | Mini | -                | -              | -                   | ■                      | ■             | ■                      | ■                         | lrb                 |
| On/off valves<br>HE                   | Mini | -                | -              | -                   | ■                      | -             | -                      | -                         | he                  |

Peripherals overview



Mounting attachments and accessories

|     |                          | → Page/Internet |
|-----|--------------------------|-----------------|
| [1] | Connection set<br>PBL    | pbl             |
| [2] | Mounting bracket<br>HFOE | hfoe-d          |
| [3] | Mounting bracket<br>HR-D | hr-d            |
| [4] | Hex nut<br>HMR           | hmr-d           |
| [5] | Threaded bolt<br>FRB     | frb-db          |

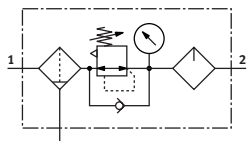
## Type codes

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

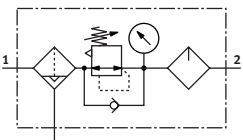
|             |  |
|-------------|--|
| 005         | Grade of filtration                              |
|             | 40 µm  |
| <b>5M</b>   | 5 µm   |
| 006         | Size   |
| <b>MINI</b> | Grid dimension 40 mm (without connecting plates) |
| 007         | Condensate drain                     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





## Datasheet

### Condensate drain, manual



### Condensate drain, semi-automatic



-  Flow rate  
400 ... 650 l/min
-  Temperature range  
-5 ... +50 °C
-  Operating pressure  
1.5 ... 10 bar  
(0.15 ... 1 MPa)
-  [www.festo.com](http://www.festo.com)



- Filter, regulator and lubricator functions in a single unit
  - High flow rate and highly efficient in removing contaminants
  - Good regulation characteristics with minimal pressure hysteresis
  - Setting values are secured by latching the rotary knob
  - Choice of manual or semi-automatic condensate drain
  - New filter cartridges → page 25
- The following oils are recommended for Festo components:  
Viscosity range to ISO 3448 class VG 32  
32 mm<sup>2</sup>/s (cSt) at 40 °C
- Festo special oil → page 26
  - ARAL Vitam GF 32
  - BP Energol HLP 32
  - Esso Nuto H 32
  - Mobil DTE 24
  - Shell Tellus Oil DO 32

| General technical data          |  |
|---------------------------------|--|
| Size                            | Mini   |
| Pneumatic connection 1, 2       | G1/4   |
| Design                          | Filter regulators/lubricators  |
| Regulator function              | With return flow function, with secondary exhaust  |
| Type of mounting                | In-line installation<br>Via through-hole<br>With mounting bracket  |
| Mounting position               | Vertical ±5°   |
| Grade of filtration [µm]        | 5<br>40  |
| Air purity class at the output  | Compressed air to ISO 8573-1:2010 [6:8:-] (grade of filtration 5 µm)<br>Compressed air to ISO 8573-1:2010 [7:8:-] (grade of filtration 40 µm)<br>Inert gases |
| Condensate drain                | Manual<br>Semi-automatic   |
| Actuator lock                   | Rotary knob with latch   |
| Pressure regulation range [bar] | 0.5 ... 7 (0.05 ... 0.7 MPa)   |
| Max. pressure hysteresis [bar]  | 0.5 (0.05 MPa)   |
| Pressure indication             | With pressure gauge  |
| Pressure gauge connection       | G1/8   |

| Standard nominal flow rate <sup>1)</sup> qnN [l/min] |       |       |
|--|-------|-------|
| Size   | Mini  |       |
| Grade of filtration                                  | 5 µm  | ≥ 550 |
|  | 40 µm | ≥ 650 |

1) Measured at p1 = 10 bar (1 MPa), p2 = 6 bar (0.6 MPa) and Δp = 1 bar (0.1 MPa).

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

## Datasheet

### Operating and environmental conditions

|  |  |
|--|--|
| Size   | Mini   |
| Operating pressure [bar]                     | 1.5 ... 10 (0.15 ... 1 MPa)                              |
| Operating medium                             | Compressed air to ISO 8573-1:2010 [-:-:-]<br>Inert gases |
| Ambient temperature [°C]                     | -5 ... +50   |
| Temperature of medium [°C]                   | -5 ... +50   |
| Storage temperature [°C]                     | -5 ... +50   |
| Corrosion resistance class CRC <sup>1)</sup> | 1 - Low corrosion stress                                 |

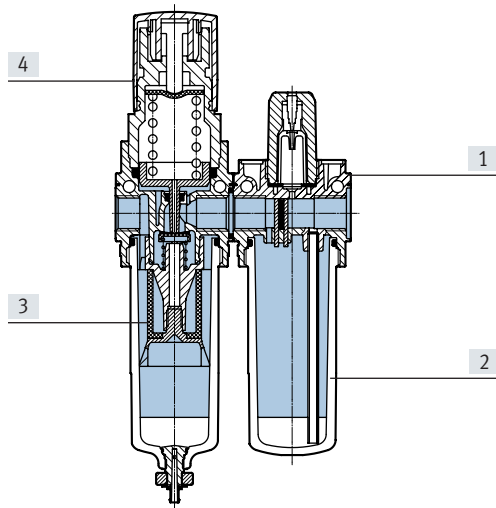
1) More information [www.festo.com/x/topic/crc](http://www.festo.com/x/topic/crc)

### Weight [g]

|              |      |
|--------------|------|
| Size         | Mini |
| Service unit | 300  |

### Materials

Sectional view



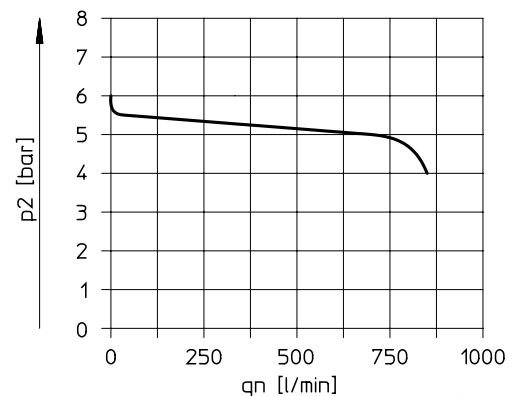
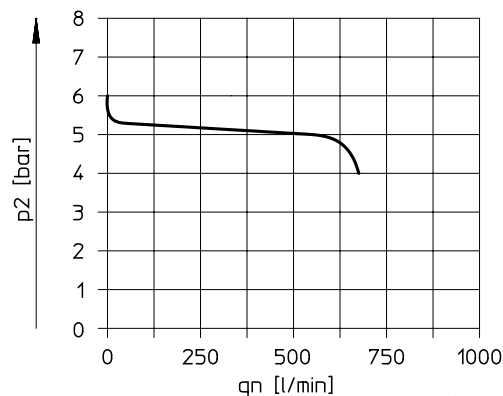
| Size                   | Mini              |
|------------------------|-------------------|
| [1] Housing            | Reinforced PA     |
| [2] Bowl               | PC                |
| [3] Filters            | PE                |
| [4] Rotary knob        | POM               |
| - Seals                | NBR               |
| LABS (PWIS) conformity | VDMA24364-B1/B2-L |

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

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

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

Operating pressure  $p_1 = 10$  bar



#### Note

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

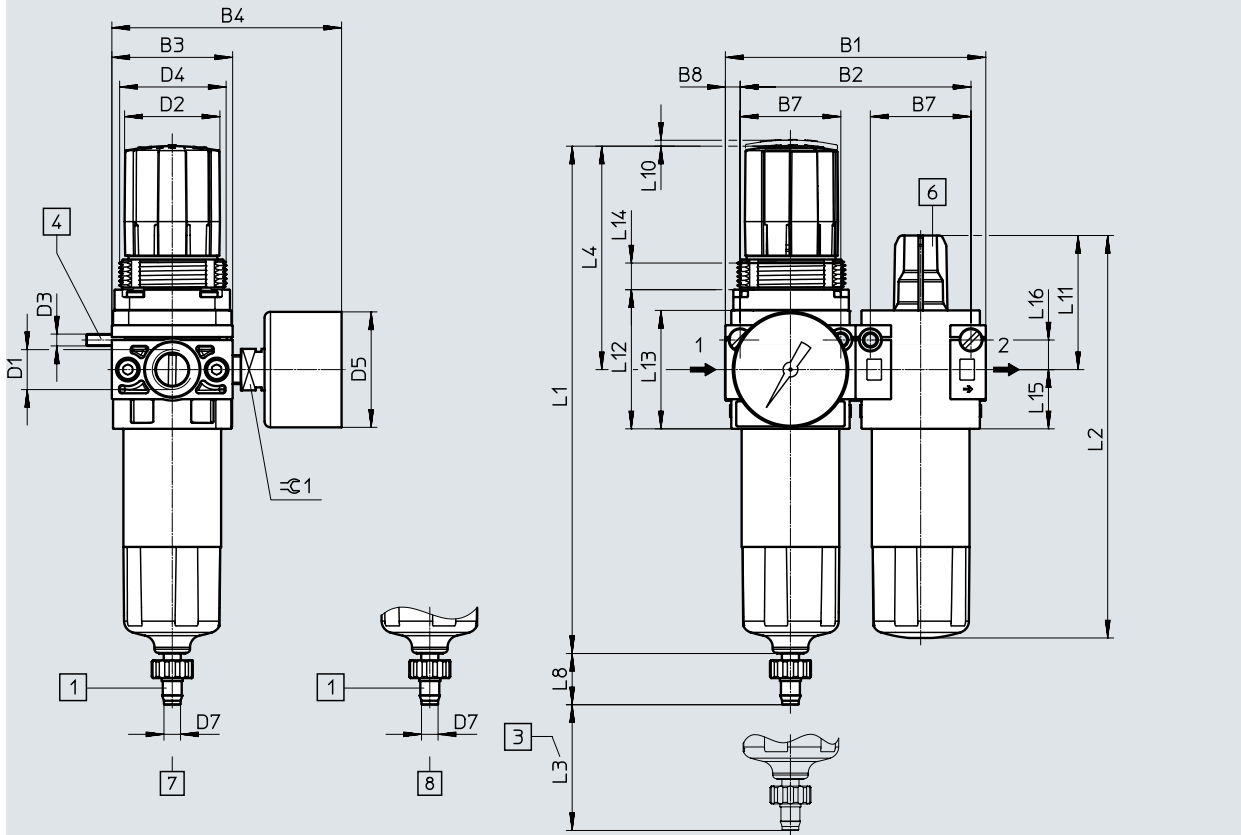
In rare cases, however, the leakage can be up to 500 l/h.

Datasheet

Dimensions

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

Mini



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

| Type       | B1 | B2 | B3 | B4 | B7 | B8 | D1   | D2<br>∅ | D3 | D4      | D5<br>∅ | D7<br>∅ |
|------------|----|----|----|----|----|----|------|---------|----|---------|---------|---------|
| FRC-1/4-DB | 88 | 78 | 41 | 78 | 34 | 5  | G1/4 | 32      | M4 | M36x1.5 | 39      | 5.6     |

| Type       | L1    | L2  | L3<br>min. | L4 | L8   | L10 | L11 | L12 | L13 | L14 | L15 | L16 | ≈ 1 |
|------------|-------|-----|------------|----|------|-----|-----|-----|-----|-----|-----|-----|-----|
| FRC-1/4-DB | 171.7 | 136 | 12         | 76 | 17.3 | 2   | 45  | 47  | 40  | 9   | 20  | 10  | 14  |

Ordering data

Pressure regulation range 0.5 ... 7 bar (0.05 ... 0.7 MPa)

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

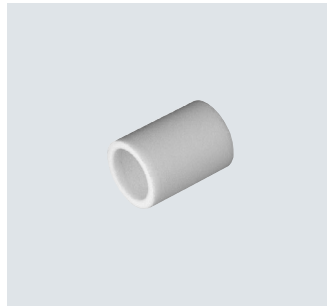
With pressure gauge, outer scale in bar, inner scale in psi

|                |      |      |        |                        |        |                     |
|----------------|------|------|--------|------------------------|--------|---------------------|
| Manual         | Mini | G1/4 | 537658 | FRC-1/4-DB-7-5M-MINI   | 537654 | FRC-1/4-DB-7-MINI   |
| Semi-automatic | Mini | G1/4 | 537660 | FRC-1/4-DB-7-5M-MINI-H | 537656 | FRC-1/4-DB-7-MINI-H |



## Accessories

## Filter cartridges, D series, metal



| Ordering data |                             | Part no. | Type          |
|---------------|-----------------------------|----------|---------------|
| Size          | Grade of filtration<br>[μm] |          |               |
| Mini          | 5                           | 159640   | LFP-D-MINI-5M |
| Midi          |                             | 159594   | LFP-D-MIDI-5M |
| Maxi          |                             | 159641   | LFP-D-MAXI-5M |

## Filter cartridges, D series, polymer



| Ordering data |                             | Part no. | Type           |
|---------------|-----------------------------|----------|----------------|
| Size          | Grade of filtration<br>[μm] |          |                |
| Mini          | 5                           | 547957   | LFP-DB-MINI-5M |
|               | 40                          | 534502   | MS4-LFP-E      |

## Accessories


### Special oil



#### Ordering data

| Scope of delivery | Part no. | Type    |
|-------------------|----------|---------|
| 1 litre           | 152811   | OFSW-32 |

#### Ordering data – Pressure gauge MA

|  | Nominal size             | Pneumatic connection | Display range |               | Part no.           | Type                      |
|--|--------------------------|----------------------|---------------|---------------|--------------------|---------------------------|
|  |                          |                      | Outer scale   | Inner scale   |                    |                           |
|  | <b>Pressure gauge MA</b> |                      |               |               |                    | Datasheets → Internet: ma |
|  | 27                       | M5                   | 0 ... 10 bar  | –             | 526323             | MA-27-10-M5               |
|  | 40                       | G1/8                 | 0 ... 10 bar  | 0 ... 145 psi | 359874             | MA-40-10-1/8              |
|  |                          |                      | 0 ... 16 bar  | 0 ... 232 psi | 345395             | MA-40-16-1/8              |
|  | 50                       | G1/4                 | 0 ... 10 bar  | 0 ... 145 psi | 359873             | MA-50-10-1/4              |
|  |                          |                      | 0 ... 16 bar  | 0 ... 232 psi | 356759             | MA-50-16-1/4              |
|  | <b>Pressure gauge MA</b> |                      |               |               |                    | Datasheets → Internet: ma |
|  | 40                       | G1/8                 | 0 ... 1 MPa   | –             | 192732             | MA-40-1-G1/8-MPA          |
| 0 ... 1.6 MPa  |                          |                      | –             | 192733        | MA-40-1.6-G1/8-MPA |                           |
| 50   | G1/4                     | 0 ... 1 MPa          | –             | 192734        | MA-50-1-G1/4-MPA   |                           |
|  |                          | 0 ... 1.6 MPa        | –             | 192735        | MA-50-1.6-G1/4-MPA |                           |