

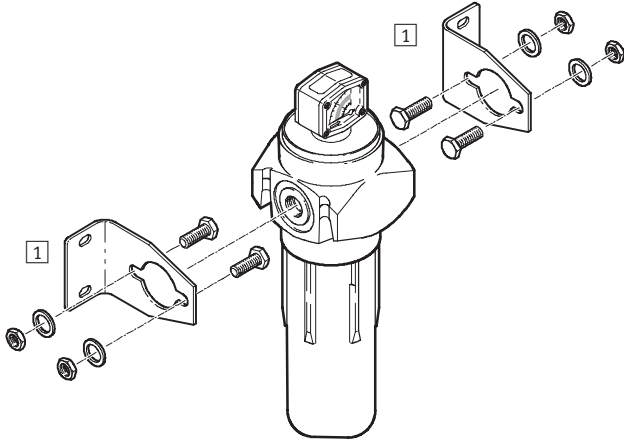
- 1 - Type discontinued
Available up until 12/2008

Fine and micro filters, LFMB-H/LFMA-H, H series

Peripherals overview and type codes

FESTO

Peripherals overview



| Mounting attachments and accessories | Brief description | → Page |
|--------------------------------------|---|-----------|
| 1 Mounting bracket (2 pcs.) LFMM | The fine and micro filters are mounted on the wall using mounting brackets LFMM | 3 / 4.3-5 |

Type codes

LFMB – 1/2 – H – A

| Service function | |
|------------------|--------------|
| LFMA | Micro filter |
| LFMB | Fine filter |

| Pneumatic connection | |
|----------------------|-------------|
| 1/2 | Thread G1/2 |
| 3/4 | Thread G3/4 |
| 1 | Thread G1 |

| Series | |
|--------|--------|
| H | Series |

| Condensate drain | |
|------------------|-----------------|
| A | Fully automatic |

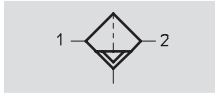
Individual units
Filter





4.3

Fine and micro filters, LFMB-H/LFMA-H, H series

Technical data

Function



-  Flow rate
1,100 ... 5,200 l/min
-  Temperature range
-10 ... +60 °C
-  Input pressure
0 ... 16 bar
-  www.festo.com/en/Spare_parts_service



Various industries require fine or micro-filtered air: chemicals, pharmaceuticals, process technology, food industry, etc. Festo fine and micro filters clean compressed air almost completely of any remaining minute water and oil droplets, together with any dirt particles.

- Robust die-cast design
- Very high flow rates
- All filter units with automatic condensate drain and differential pressure gauge for displaying filter pollution

- Fine and micro-filters fulfil stringent air quality requirements in accordance with ISO 8573-1
- Easy replacement of filter components
- Resistant to mineral and synthetic lubricants

Fine filter function

Compressed air flows through a filter cartridge made of borosilicate fibre-glass, from the inside to the outside. As the compressed air flows through the fibre tissues, large particles are prevented from passing the filtration bed by simple inertia, or are collected by collision with the fibres.

Separation of fine and very fine oil vapour particles and solid impurities down to 0.01 micron results from an extremely fine filter tissue. The smallest particles collect on the fibres where they form larger droplets (coalescing effect), which run off due to gravity.

The flow rate recommended for each filter must be observed in order to prevent the oil-water emulsion which has accumulated in the foam jacket from being drawn in by the compressed air. Compressed air should be pre-filtered to 5 µm where fine filters and micro-filters are used.

| General technical data | | | | | | |
|---|--|------|----|--|------|----|
| Type | Micro filters LFMA | | | Fine filters LFMB | | |
| Pneumatic connection | G1/2 | G3/4 | G1 | G1/2 | G3/4 | G1 |
| Design | Fibre filter | | | | | |
| Type of mounting | In-line installation | | | | | |
| | Via accessories | | | | | |
| Mounting position | Vertical ±5° | | | | | |
| Operating medium | Compressed air, filtered, grade of filtration 1 µm | | | Compressed air, filtered, grade of filtration 5 µm | | |
| Grade of filtration [µm] | 0.01 | | | 1 | | |
| Residual oil content [mg/m ³] | ≤0.01 | | | ≤0.5 | | |
| Filter efficiency [%] | 99.9999 | | | | | |
| Input pressure [bar] | 0 ... 16 | | | | | |
| Air purity classes per ISO 8573-1 | | | | | | |
| Particulate | 1 | | | 2 | | |
| Atomised oil | 2 | | | 3 | | |

-  Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

- 1 - Type discontinued
Available up until 12/2008

Fine and micro filters, LFMB-H/LFMA-H, H series

Technical data

FESTO

| Standard nominal flow rate ¹⁾ qnN [l/min] | | | |
|--|-------------------------------|-------------------------------|-------|
| Connection | G ¹ / ₂ | G ³ / ₄ | G1 |
| Micro filters LFMA | 1,100 | 2,000 | 3,400 |
| Fine filters LFMB | 1,600 | 3,300 | 5,200 |

1) With 6 bar input pressure and $\Delta p = 0.07$ bar.

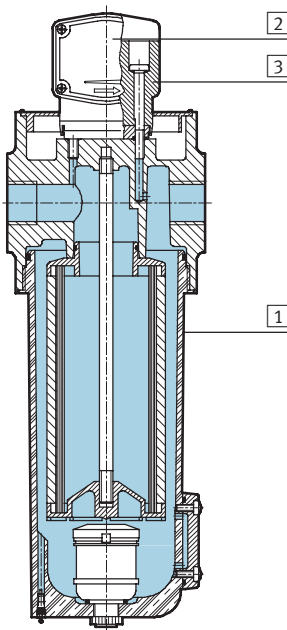
| Ambient conditions | | |
|--|-------------|--|
| Ambient temperature [°C] | -10 ... +60 | |
| Corrosion resistance CRC ¹⁾ | 2 | |

1) Corrosion resistance class 2 according to Festo standard 940 070

Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a surrounding industrial atmosphere or media such as cooling or lubricating agents.

| Weights [g] | | | |
|--------------------|-------------------------------|-------------------------------|-------|
| | G ¹ / ₂ | G ³ / ₄ | G1 |
| Micro filters LFMA | 1,100 | 2,800 | 3,200 |
| Fine filters LFMB | 1,100 | 2,800 | 3,200 |

| Materials | |
|----------------|--|
| Sectional view | |



| Fine and micro filters | | |
|------------------------|----------------------------|------------------------|
| 1 | Housing/bowl | Die-cast zinc |
| 2 | Pressure gauge sight glass | Polymethylmethacrylate |
| 3 | Pressure gauge housing | Polyamide |
| - | Seals | Nitrile rubber |

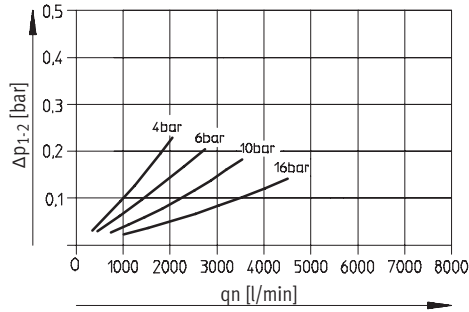
Fine and micro filters, LFMB-H/LFMA-H, H series

Technical data

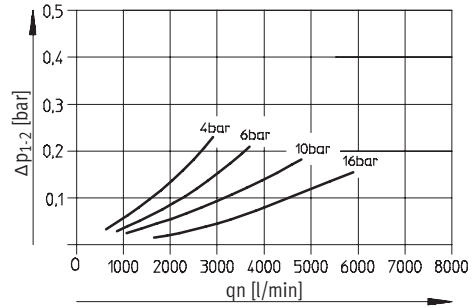
FESTO

Standard flow rate q_n as a function of the output pressure Δp_{1-2}

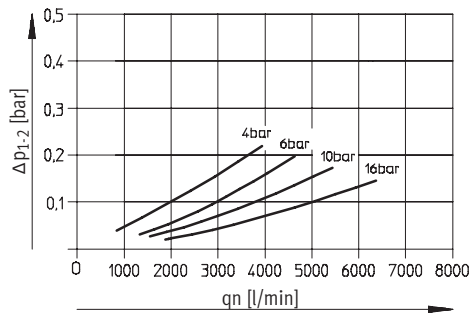
LFMA- $\frac{1}{2}$ -H-A



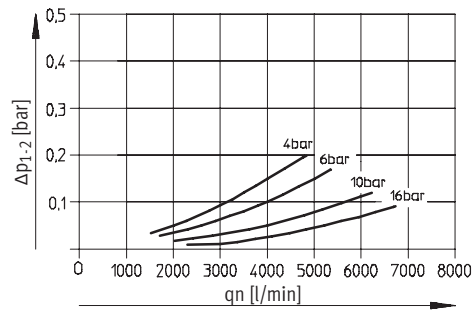
LFMB- $\frac{1}{2}$ -H-A



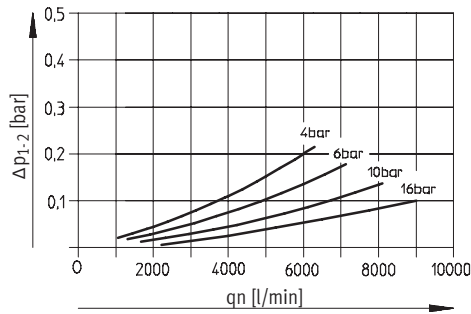
LFMA- $\frac{3}{4}$ -H-A



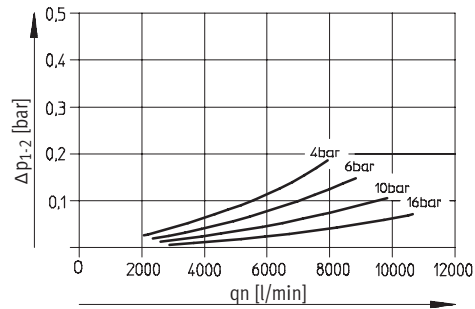
LFMB- $\frac{3}{4}$ -H-A



LFMA-1-H-A



LFMB-1-H-A



- 1 - Type discontinued
Available up until 12/2008

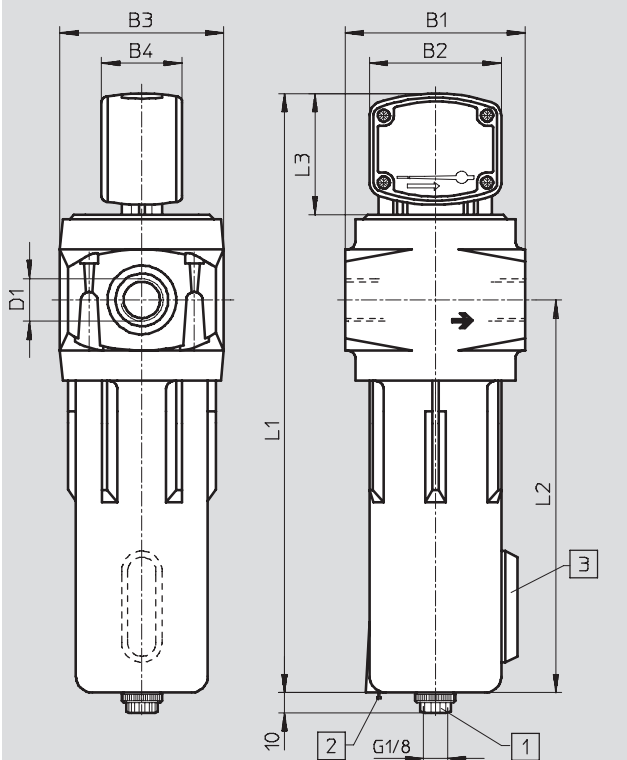
Fine and micro filters, LFMB-H/LFMA-H, H series

Technical data

FESTO

Dimensions

Download CAD data → www.festo.com/en/engineering



- 1 Fully automatic condensate drain (tightening torque 1 Nm)
2 Pressure relief valve
3 Sight glass for condensate level

→ Flow direction

| Type | B1 | B2 | B3 | B4 | D1 | L1 | L2 | L3 |
|--------------|-----|----|-----|----|------|-----|-----|----|
| LFMA-1/2-H-A | 89 | 65 | 81 | 39 | G1/2 | 294 | 194 | 60 |
| LFMB-1/2-H-A | | | 112 | | G3/4 | | | |
| LFMA-3/4-H-A | 120 | 65 | 112 | 39 | G3/4 | 366 | 251 | 60 |
| LFMB-3/4-H-A | | | 112 | | G1 | | | |
| LFMA-1-H-A | 120 | 65 | 112 | 39 | G1 | 466 | 351 | 60 |
| LFMB-1-H-A | | | 112 | | G1 | | | |

⚠ Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Ordering data

| Connection | Grade of filtration 1 µm | | Grade of filtration 0.01 µm | |
|------------|--------------------------|--------------|-----------------------------|--------------|
| | Part No. | Type | Part No. | Type |
| G1/2 | 162 818 | LFMB-1/2-H-A | 162 815 | LFMA-1/2-H-A |
| G3/4 | 162 819 | LFMB-3/4-H-A | 162 816 | LFMA-3/4-H-A |
| G1 | 162 820 | LFMB-1-H-A | 162 817 | LFMA-1-H-A |

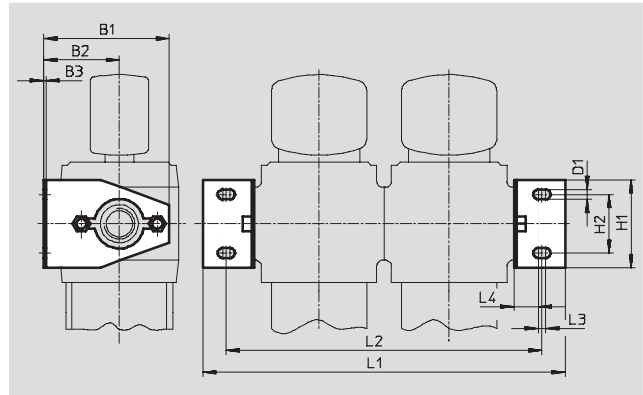
- 2 - Type discontinued
Available up until 12/2008

Fine and micro filters, H series

Accessories

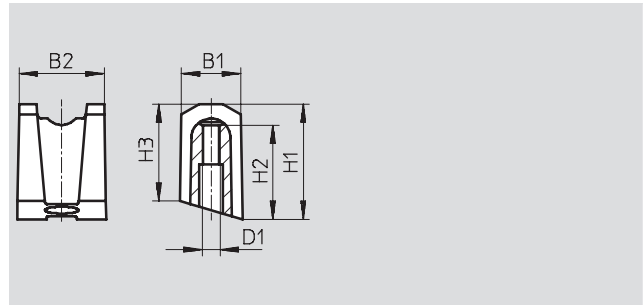
FESTO

Mounting bracket LFMM



| Ordering data | | | | | | | | | | | | |
|----------------------|-----|----|-----|----|----|----|-----|-----|----|------|----------|--------------------------|
| Connection | B1 | B2 | B3 | D1 | H1 | H2 | L1 | L2 | L3 | L4 | Part No. | Type |
| G $\frac{1}{2}$ | 86 | 52 | 1.6 | 7 | 60 | 40 | 159 | 127 | 5 | 16.5 | 162 830 | LFMM- $\frac{1}{2}$ -H |
| G $\frac{3}{4}$, G1 | 116 | 68 | 2 | 9 | 80 | 60 | 200 | 157 | 5 | 16 | 162 831 | LFMM- $\frac{3}{4}$ -1-H |


Connection piece for filter LFMV for connecting two filters



| Ordering data | | | | | | | | |
|----------------------|------|----|--------|----|------|------|----------|--------------------------|
| Connection | B1 | B2 | D1 | H1 | H2 | H3 | Part No. | Type |
| G $\frac{1}{2}$ | 9.75 | 14 | M3x0.5 | 19 | 15.5 | 16 | 162 832 | LFMV- $\frac{1}{2}$ -H |
| G $\frac{3}{4}$, G1 | 12.5 | 20 | M4 | 29 | 26 | 25.5 | 162 833 | LFMV- $\frac{3}{4}$ -1-H |

Individual units
Filter

4.3

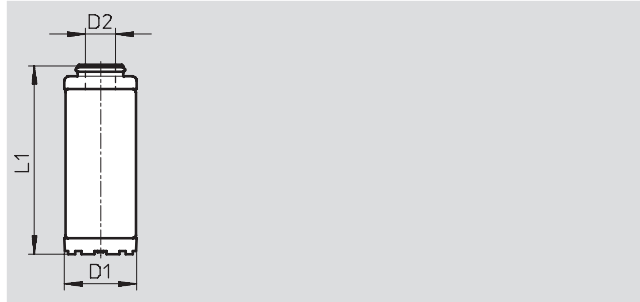
-  - Type discontinued
Available up until 12/2014

Fine and micro filters, H series

Accessories

FESTO

Filter cartridge LFMBP/LFMAP



| Ordering data | | | | | |
|-------------------------------|---------|---------|-------|----------|---------------------------------------|
| Connection | D1 Ø | D2 Ø | L1 | Part No. | Type |
| For fine filter | | | | | |
| G ¹ / ₄ | 35 | 6.75 | 74 | 185 689 | LFMBP- ¹ / ₄ -H |
| G ¹ / ₂ | 48 | 21.7 | 126 | 162 827 | LFMBP- ¹ / ₂ -H |
| G ³ / ₄ | 72 | 33 | 168.8 | 162 828 | LFMBP- ³ / ₄ -H |
| G1 | 72 | 33 | 268.8 | 162 829 | LFMBP-1-H |
| For micro filter | | | | | |
| G ¹ / ₄ | 35 | 6.75 | 74 | 185 688 | LFMAP- ¹ / ₄ -H |
| G ¹ / ₂ | 48 | 21.7 | 126 | 162 824 | LFMAP- ¹ / ₂ -H |
| G ³ / ₄ | 72 | 33 | 168.8 | 162 825 | LFMAP- ³ / ₄ -H |
| G1 | 72 | 33 | 268.8 | 162 826 | LFMAP-1-H |

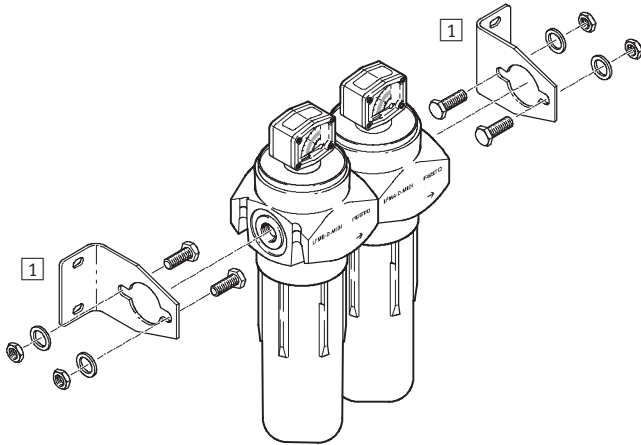
Individual units
Filter

4.3

Filter combinations LFMBA-H, H series

Peripherals overview

Peripherals overview



| Mounting attachments and accessories | Brief description | → Page |
|--------------------------------------|---|------------|
| 1 Mounting bracket (2 pcs.) LFMM | The filter combination is attached to the wall by means of the mounting brackets LFMM | 3 / 4.3-11 |

Type codes

| | | | | | | | |
|-----------------------------|--------------------|---|-----|---|---|---|---|
| | LFMBA | - | 1/2 | - | H | - | A |
| Service function | | | | | | | |
| LFMBA | Filter combination | | | | | | |
| Pneumatic connection | | | | | | | |
| 1/2 | Thread G1/2 | | | | | | |
| 3/4 | Thread G3/4 | | | | | | |
| 1 | Thread G1 | | | | | | |
| Series | | | | | | | |
| H | Series | | | | | | |
| Condensate drain | | | | | | | |
| A | Fully automatic | | | | | | |

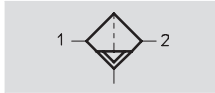
- 1 - Type discontinued
Available up until 12/2008





FESTO

Filter combinations LFMB-A-H, H series

Technical data

Function



-  - Flow rate
800 ... 2,600 l/min
-  - Temperature range
-10 ... +60 °C
-  - Input pressure
0 ... 16 bar
-  - www.festo.com/en/Spare_parts_service



Various industries require fine or micro-filtered air: chemicals, pharmaceuticals, process technology, food industry, etc. Festo fine and micro filters clean compressed air almost completely of any remaining minute water and oil droplets, together with any dirt particles.

- Available as pre-assembled filter combination
- Very high flow rates
- All filter units with automatic condensate drain and differential pressure gauge for displaying filter pollution

- Fine and micro-filters fulfil stringent air quality requirements in accordance with ISO 8573-1
- Easy to replace filter components
- Resistant to mineral and synthetic lubricants

| General technical data | | | |
|-----------------------------------|---|-----------------|----|
| Type | Filter combination LFMB-A | | |
| Pneumatic connection | G $\frac{1}{2}$ | G $\frac{3}{4}$ | G1 |
| Design | Fibre filter | | |
| Type of mounting | In-line installation Via accessories | | |
| Mounting position | Vertical $\pm 5^\circ$ | | |
| Grade of filtration | [μm] | 0.01 | |
| Residual oil content | [mg/m^3] | ≤ 0.01 | |
| Filter efficiency | [%] | 99.9999 | |
| Input pressure | [bar] | 0 ... 16 | |
| Air purity classes per ISO 8573-1 | | | |
| Particulate | | 1 | |
| Atomised oil | | 2 | |

-  - Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

| Standard nominal flow rate ¹⁾ qnN [l/min] | | | |
|--|-----------------|-----------------|-------|
| Connection | G $\frac{1}{2}$ | G $\frac{3}{4}$ | G1 |
| LFMB-A-...-H-A | 800 | 1,400 | 2,600 |

1) With 6 bar input pressure and $\Delta p = 0.07$ bar.

| Ambient conditions | | | |
|----------------------|-------------------|-----------------|-----------------|
| Variant | | G $\frac{1}{2}$ | G $\frac{3}{4}$ |
| Ambient temperature | [°C] | -10 ... +60 | |
| Corrosion resistance | CRC ¹⁾ | 2 | |

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

Filter combinations LFMBA-H, H series

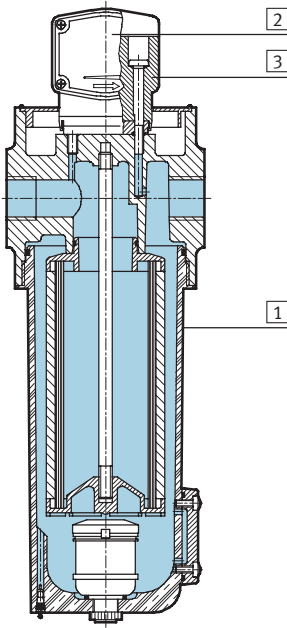
Technical data

FESTO

| Weights [g] | G $\frac{1}{2}$ | | G $\frac{3}{4}$ | |
|-------------|-----------------|-----------------|-----------------|-----------------|
| | G $\frac{1}{2}$ | G $\frac{3}{4}$ | G $\frac{1}{2}$ | G $\frac{3}{4}$ |
| LFMBA-... | 2,300 | 5,700 | 5,700 | 6,500 |

Materials

Sectional view

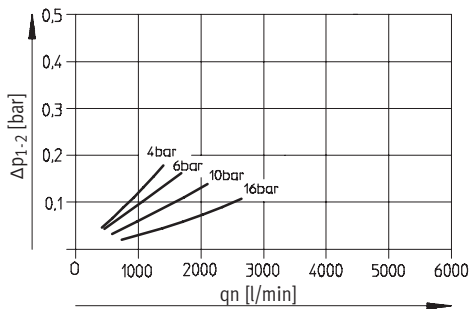


Fine and micro filters

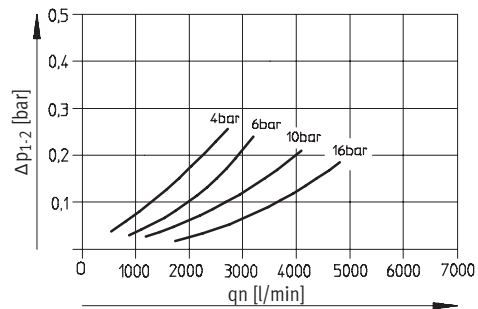
| | | |
|---|----------------------------|------------------------|
| 1 | Housing/bowl | Die-cast zinc |
| 2 | Pressure gauge sight glass | Polymethylmethacrylate |
| 3 | Pressure gauge housing | Polyamide |
| - | Seals | Nitrile rubber |

Standard flow rate q_n as a function of the output pressure Δp_{1-2}

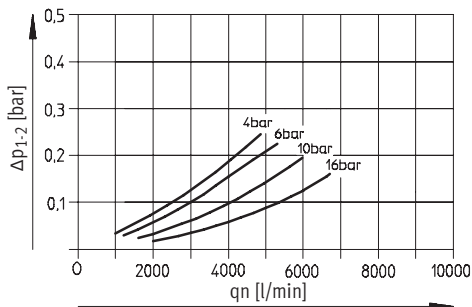
LFMBA- $\frac{1}{2}$ -H-A




LFMBA- $\frac{3}{4}$ -H-A



LFMBA-1-H-A



-  - Type discontinued
Available up until 12/2008

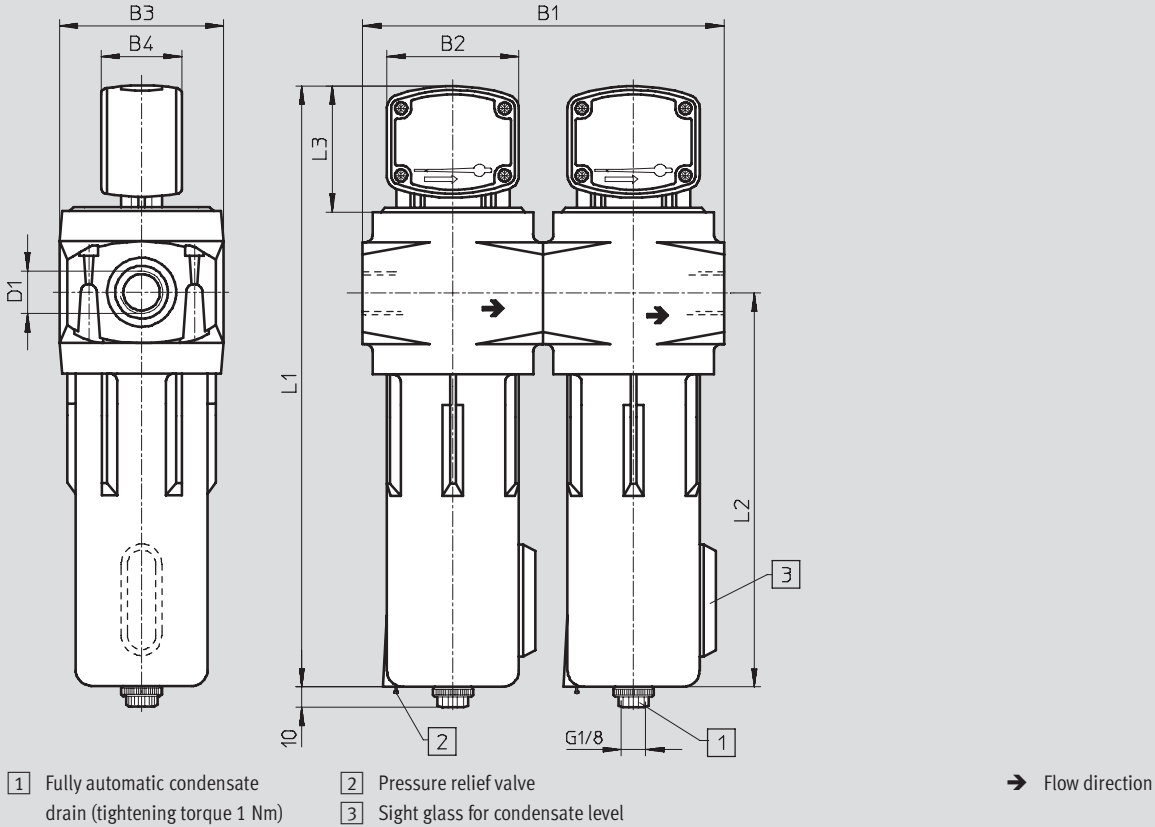
Filter combinations LFMBA-H, H series

Technical data

FESTO

Dimensions

Download CAD data → www.festo.com/en/engineering



| Type | B1 | B2 | B3 | B4 | D1 | L1 | L2 | L3 |
|---------------|-----|----|-----|----|------|-----|-----|----|
| LFMBA-1/2-H-A | 178 | 65 | 81 | 39 | G1/2 | 294 | 194 | 60 |
| LFMBA-3/4-H-A | 240 | | 112 | | G3/4 | 366 | 251 | |
| LFMBA-1-H-A | 240 | | 112 | | G1 | 466 | 351 | |

-  - Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Ordering data

| Connection | Part No. | Type |
|------------|----------|---------------|
| G1/2 | 162 821 | LFMBA-1/2-H-A |
| G3/4 | 162 822 | LFMBA-3/4-H-A |
| G1 | 162 823 | LFMBA-1-H-A |

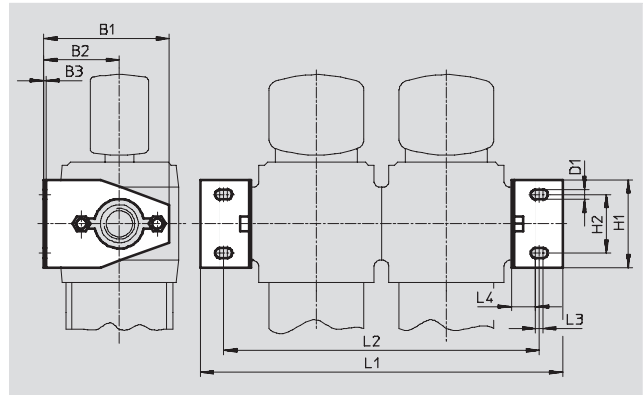
- 2 - Type discontinued
Available up until 12/2008

Fine and micro filters, H series

Accessories

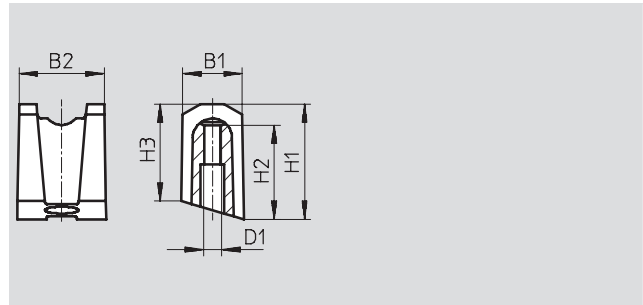
FESTO

Mounting bracket LFMM



| Ordering data | | | | | | | | | | | | |
|----------------------|-----|----|-----|----|----|----|-----|-----|----|------|----------|--------------------------|
| Connection | B1 | B2 | B3 | D1 | H1 | H2 | L1 | L2 | L3 | L4 | Part No. | Type |
| G $\frac{1}{2}$ | 86 | 52 | 1.6 | 7 | 60 | 40 | 248 | 216 | 5 | 16.5 | 162 830 | LFMM- $\frac{1}{2}$ -H |
| G $\frac{3}{4}$, G1 | 116 | 68 | 2 | 9 | 80 | 60 | 320 | 277 | 5 | 16 | 162 831 | LFMM- $\frac{3}{4}$ -1-H |


Connection piece for filter LFMV for connecting two filters



| Ordering data | | | | | | | | |
|----------------------|------|----|--------|----|------|------|----------|--------------------------|
| Connection | B1 | B2 | D1 | H1 | H2 | H3 | Part No. | Type |
| G $\frac{1}{2}$ | 9.75 | 14 | M3x0.5 | 19 | 15.5 | 16 | 162 832 | LFMV- $\frac{1}{2}$ -H |
| G $\frac{3}{4}$, G1 | 12.5 | 20 | M4 | 29 | 26 | 25.5 | 162 833 | LFMV- $\frac{3}{4}$ -1-H |

Individual units
Filter

4.3

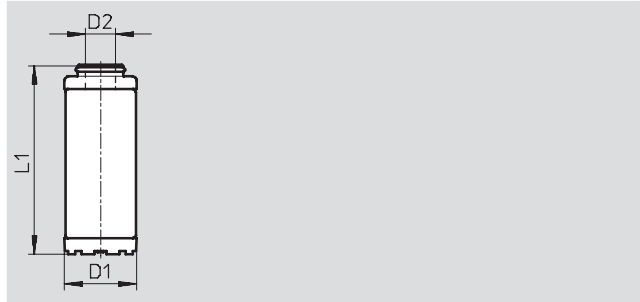
-  - Type discontinued
Available up until 12/2014

Fine and micro filters, H series

Accessories

FESTO

Filter cartridge LFMBP/LFMAP



| Ordering data | | | | | |
|-------------------------------|---------|---------|-------|----------|---------------------------------------|
| Connection | D1 ∅ | D2 ∅ | L1 | Part No. | Type |
| For fine filter | | | | | |
| G ¹ / ₄ | 35 | 6.75 | 74 | 185 689 | LFMBP- ¹ / ₄ -H |
| G ¹ / ₂ | 48 | 21.7 | 126 | 162 827 | LFMBP- ¹ / ₂ -H |
| G ³ / ₄ | 72 | 33 | 168.8 | 162 828 | LFMBP- ³ / ₄ -H |
| G1 | 72 | 33 | 268.8 | 162 829 | LFMBP-1-H |
| For micro filter | | | | | |
| G ¹ / ₄ | 35 | 6.75 | 74 | 185 688 | LFMAP- ¹ / ₄ -H |
| G ¹ / ₂ | 48 | 21.7 | 126 | 162 824 | LFMAP- ¹ / ₂ -H |
| G ³ / ₄ | 72 | 33 | 168.8 | 162 825 | LFMAP- ³ / ₄ -H |
| G1 | 72 | 33 | 268.8 | 162 826 | LFMAP-1-H |

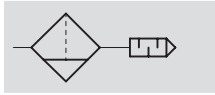
Individual units
Filter




4.3

Filter silencers LFU

Technical data

Function



-  Flow rate
4,000 ... 12,500 l/min
-  Temperature range
-10 ... +100 °C
-  Input pressure
0 ... 16 bar



All exhaust air from pneumatic control systems is cleaned by the filter silencer.

Exhaust air is discharged into the atmosphere via a fine filter cartridge (degree of filtration: >99.99%).

At the same time, exhaust noise is greatly reduced. Condensate is collected in the lower plastic bowl and can be discharged via the condensate drain.

- Exhaust air is up to 99.99% free of oil and other contaminants.
- The silencer reduces exhaust noise regardless of frequency.
- Condensate drain, manual rotary.

| General technical data | | | | | |
|-------------------------------|-----------------------|----------|-----------|--------|---------|
| Size | G1/4 | G3/8 | G1/2 | G1 | |
| Pneumatic connection | G1/4 | G3/8 | G1/2 | G1 | |
| Mounting position | Vertical ±5° | | | | |
| Flow rate ¹⁾ | [l/min] | ≥4,000 | ≥4,700 | ≤6,000 | ≤12,500 |
| Input pressure | [bar] | 0 ... 16 | | | |
| Noise reduction ¹⁾ | Reduction of 40 db(A) | | >40 db(A) | | |

1) At 6 bar with respect to atmosphere.

- ¶ - Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

| Ambient conditions | | | |
|----------------------|-------------------|-------------|------------|
| Ambient temperature | [°C] | -10 ... +60 | 0 ... +100 |
| Corrosion resistance | CRC ¹⁾ | 2 | |

1) Corrosion resistance class 2 according to Festo standard 940 070

Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a surrounding industrial atmosphere or media such as cooling or lubricating agents.

| Weights [g] | | | | |
|-----------------|------|------|------|-------|
| Size | G1/4 | G3/8 | G1/2 | G1 |
| Filter silencer | 190 | 190 | 570 | 1,010 |

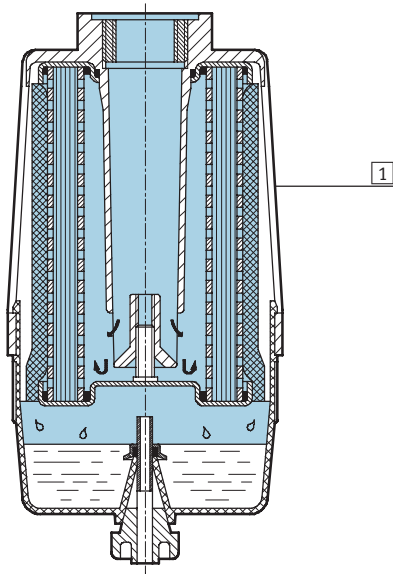
Filter silencers LFU

Technical data



Materials

Sectional view



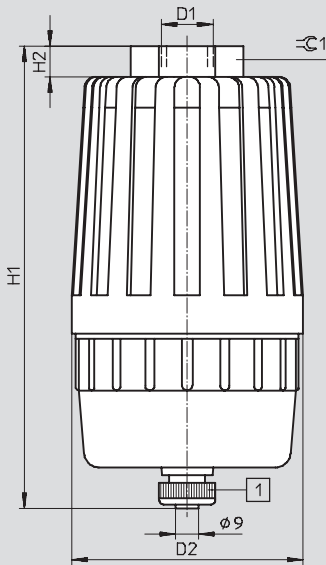
| Filter silencer | | |
|-----------------|------------------|-------------------------|
| 1 | Housing | Polypropylen |
| | Note on material | Free of copper and PTFE |

Individual units
Filter

4.3

Dimensions and ordering data

Download CAD data → www.festo.com/en/engineering



1 Condensate drain, manual rotary

| Connection | D1 | D2 | H1 | H2 | ≅1 | Part No. | Type |
|-------------------------------|-------------------------------|-----|-----|----|----|----------|--------------------------------------|
| G ¹ / ₄ | G ¹ / ₄ | 77 | 131 | 7 | 26 | 539 132 | LFU- ¹ / ₄ New |
| G ³ / ₈ | G ³ / ₈ | 77 | 131 | 7 | 26 | 539 133 | LFU- ³ / ₈ New |
| G ¹ / ₂ | G ¹ / ₂ | 90 | 180 | 12 | 41 | 10 494 | LFU- ¹ / ₂ |
| G1 | G1 | 100 | 252 | 15 | 50 | 10 495 | LFU-1 |

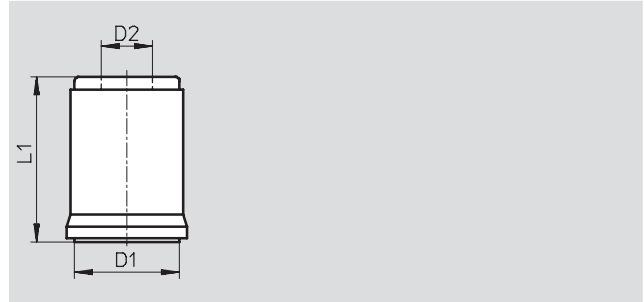
-||- Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.


Filter silencers LFU

Accessories

Filter cartridge LFPU

Note on material:
 Free of copper and PTFE



| Dimensions and ordering data | | | | | |
|---|----|------|-----|---------------|---|
| For connection | D1 | D2 | L1 | Part No. | Type |
| | ∅ | ∅ | | | |
| G ¹ / ₄ , ³ / ₈ | 60 | 28 | 69 | 539134 | LFPU-1/4-3/8  New |
| G ¹ / ₂ | 70 | 34.8 | 110 | 10 496 | LFPU-1/2 |
| G1 | 82 | 42.8 | 180 | 10 497 | LFPU-1 |