

Ultrair[®] FF, MF, SMF

The depth filter for the removal of water and oil aerosols as well as solid particles from compressed air and gases with absolute retention efficiency.

Product description:

The Ultrair[®] depth filter employs the three dimensional micro fibre fleece Ultrair[®] made out of binderfree glassfibre. A pre-filter medium 1 µm is integrated and realises an effective two stage filtration.

Characteristics:

By utilising various filtration mechanisms such as retention by direct impact, sieve effect and diffusion effect, liquid aerosols and solid particles down to the size of 0.01 µm are being retained in the filter.



Cross section of the Ultrair[®] depth filter



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Applications:

The Ultrair[®] depth filter is for example being utilised in the following industries

- Chemical industry
- Petrochemical industry
- Pharmaceutical industry
- Plastic industry
- General machine fabrication
- Air conditioning technology
- Food industry
- Paint industry
- Beverage industry
- Process industry for instrumentation and control air

Ultrair® FF, MF, SMF

| Features: | Benefits: |
|---|---|
| Expanded inner and outer stainless steel sleeves for the secure hold of the filter medium | No danger of corrosion - large openings ensure low differential pressure drop and high throughput |
| Binderfree depth filter medium made out of borosilicate glass fibres | Low differential pressure drop; high throughput |
| Removal of liquid aerosols and solid particles down to 0.01 µm | Validated retention efficiency, high level of security and safety |
| Large surface area, large void volume (> 94%) | High dirt holding capacity; guaranteed service life time |

| Materials: | |
|-----------------------------------|--|
| Outer foam sock | Blue polyurethane foam sock up to 80°C HT/ CR sock up to 120°C HT/ NX sock up to 180°C |
| Support sleeves - inner and outer | Stainless steel 1.4301/304 |
| Pre-and after filter medium | Cerex® |
| Filter medium | Binderfree borosilicate |
| Bonding | Polyurethane |
| End caps | Aluminium (for HT/ NX: stainless steel) |
| 2 O-Rings | Perbunan - silicon free and free of parting compound (Standard) |

Validation:

Validation of high-efficiency filters by Technical University Dresden

Retention rate related to particles 0,01 µm:

| | | |
|-----|---|-----------|
| FF | = | 99,999% |
| MF | = | 99,99998% |
| SMF | = | 99,99999% |

Residual oil content at an inlet concentration of 3mg/ m³

| | | |
|-----|---|---------------|
| FF | = | 0,1 mg/ m³ |
| MF | = | 0,03 mg/ m³ |
| SMF | = | < 0,01 mg/ m³ |

Max. differential pressure:

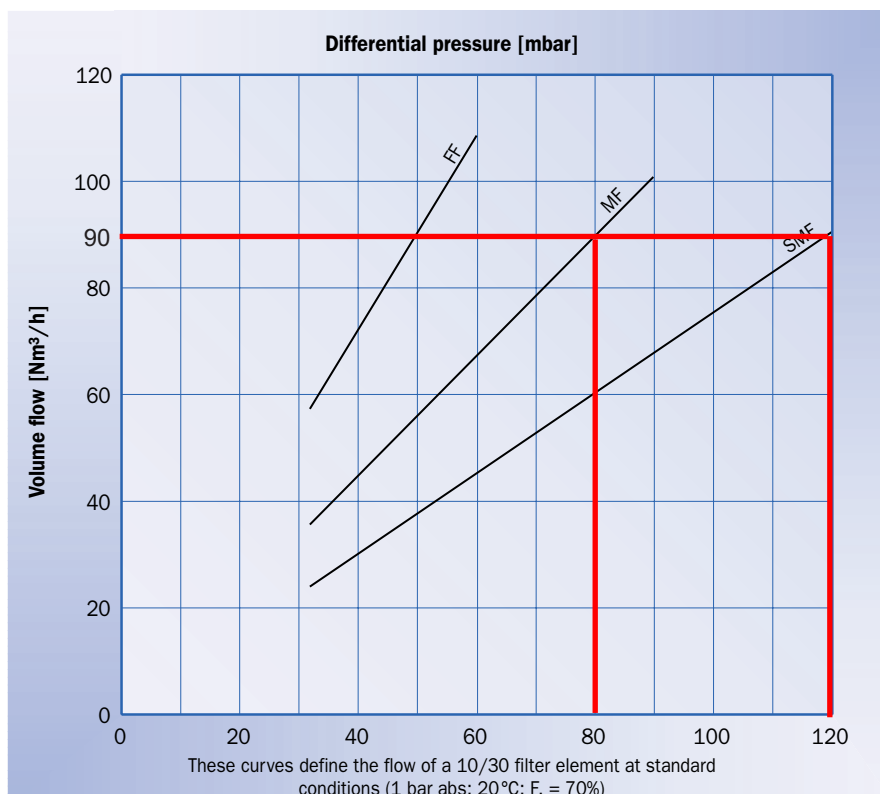
5 bar at 20°C,
irrespective of system pressure

Initial differential pressure at nominal flow:

| | | |
|-----|---|----------|
| FF | = | 0.05 bar |
| MF | = | 0.08 bar |
| SMF | = | 0.12 bar |

| Elemente type | Correction factor Filter surface KF |
|---------------|--|
| 02/05 | 0.08 |
| 03/05 | 0.10 |
| 03/10 | 0.12 |
| 04/10 | 0.17 |
| 04/20 | 0.19 |
| 05/20 | 0.25 |
| 05/25 | 0.32 |
| 07/25 | 0.47 |
| 07/30 | 0.68 |
| 10/30 | 1.0 |
| 15/30 | 1.55 |
| 20/30 | 2.10 |
| 30/30 | 3.20 |
| 30/50 | 5.65 |

Performance of FF, MF, SMF elements – compressed air



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