

# ultrafilter high-performance filter

## FF / MF /SMF with nanotechnology



### High performance filter ultrafilter

- ultrafilter high-performance depth filter for removal of water and oil aerosols as well as particles from compressed air and gases.
- Thanks to the unique combination of binderfree, non-woven nanofibre filter media and pleating technology, a reduction in energy costs of 70 % is achieved, as well as an improved filtration performance.
- The new nanofibre material from ultrafilter is oleophobic, which means oil and water are actively rejected, so the differential pressure drop and therefore operation costs are reduced to a minimum compared with a conventional filter element.

### Advantages and benefits

- 450 % greater filter media compared to standard elements
- lower differential pressure
- improved filtration efficiency
- greater dirt-capturing capacity
- 70 % less energy costs

### Applications

- chemical and petrochemical industry
- pharmaceutical industry
- food & beverage
- plastic industry
- process filtration
- instrumentation air



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# ultrafilter nanofilters FF, MF, SMF

| Features:                                     | Benefits:  |
|---|--|
| Binderfree, thermally welded nanofilter media | Low differential pressure and high particle load                                 |
| Oleophobe filter media                        | Rejects oil and water  |
| Pleated filter media                          | 450 % more filtration surface, higher particle load capacity, low air flow speed |
| Support sleeves of stainless steel (316L)     | Extremely large free flow, secure and long operation                             |

| Validation  |
|---|
| Validation of ultrafilter high-performance filters by University Amberg |

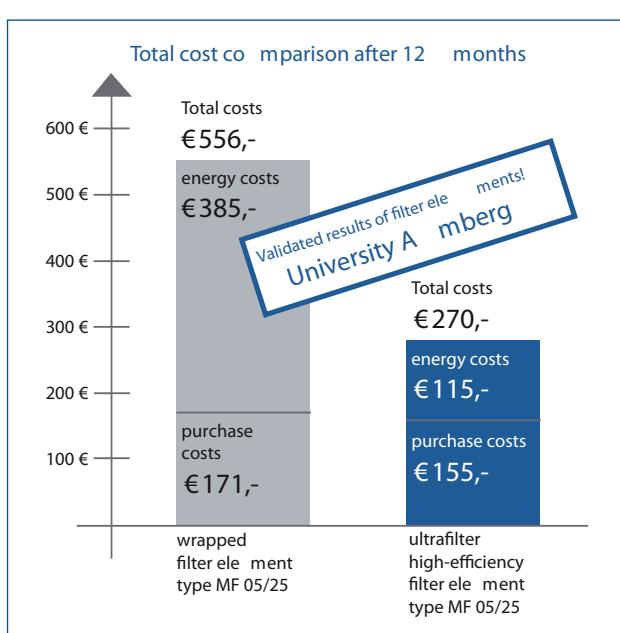
| Retention rate at a particle size of 0,01 µm |
|--|
| FF = 99,999 %                                |
| MF = 99,99998 %                              |
| SMF = 99,99999 %                             |

| Materials:                   |   |
|------------------------------|---|
| outer foam sock              | <ul style="list-style-type: none"> <li>blue polyurethane foam sock up to 80 °C</li> <li>HT/CR sock up to 120 °C</li> <li>HT/NX sock up to 180 °C</li> </ul> |
| Support sleeved inner/outer  | Stainless steel 1.4301  |
| Pre- and after filter medium | pleated Cerex   |
| Filter medium                | binderfree nanofibres of borosilicate   |
| Bonding                      | Polyurethane  |
| End caps                     | Aluminium   |
| O-rings                      | Perbunan, silicon free and free of parting compounds  |

| Residual oil content at an inlet of 3 mg/m³ |
|---|
| FF = 0,1 mg/m³                              |
| MF = 0,03 mg/m³                             |
| SMF = <0,01 mg/m³                           |

| Max. differential pressure                          |
|---|
| 5 bar at 20 °C, independant from operation pressure |

| Start-up differential pressure |
|--------------------------------|
| FF = 0,04 bar                  |
| MF = 0,08 bar                  |
| SMF = 0,09 bar                 |



| element | correction factor |
|---------|-------------------|
| 02/05   | 0,04              |
| 03/05   | 0,08              |
| 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   | 3,28              |
| 30/50   | 5,89              |

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