Filtration | CLEARPOINT® 3eco Flange Filter

CLEARPOINT® 3eco: The new high-performance and increased energy efficiency flange filter generation

**Improved Oil Separation Performance**
The latest generation of the CLEARPOINT® 3eco compressed air filter series has enabled us to improve our solutions for compressed air filtration and be able to increase the deposition rate for oil aerosols by up to 10 fold. The differential pressure can be simultaneously reduced by up to 50% and the energy efficiency can therefore be considerably optimised. For these reasons we are very pleased to add our ECO-Label on this product.

**Energy efficient and safe compressed air filtration**
Taking advantage of new material and production technologies as well as flow-optimised, corrosion-protected housing design, CLEARPOINT® 3eco provides safe and reliable filtration and a qualitative improved compressed air with considerably reduced operating costs.

**Three filtration rates fulfil every requirement**
The particularly high deposition performance makes it possible to fulfil every compressed air filtration requirement with just 3 filtration rates – C (Coarse), F (Fine) and S (Ultra-fine). The new 3eco-filter has of course also been validated by the independent IUTA Institute according to ISO 12500.

**High-performance filtration**
- Up to 10-fold increased oil aerosol deposition rates
- Increased process safety
- Efficient filtration between 30% and 111% for the energy optimised volume flows

**Optimum energy efficiency**
- Extensively reduced differential pressure
- Reductions in energy and operating costs

**Application-based**
- Able to fulfil every compressed air filtration requirement with just 3 filtration rates
- Simplified assembly, installation, service and maintenance
- Reliable operation
- Performance range from 1,420 up to 34,680 m³/h at 7 bar

**Tried and tested filter housing**
- High qualitative, safe and durable
- Corrosion protection by utilising high-temperature galvanising
- Rapid exchange of filter elements from the top

Better through Responsibility
CLEARPOINT® 3eco – Reduced Operating Costs by Utilising Optimised Differential Pressure

The decisive factor when evaluating the service life costs for compressed air filters is the energy consumption which occurs with differential pressure. This differential pressure is particularly low with the new CLEARPOINT® 3eco filter elements. The new CLEARPOINT® 3eco filter considerably lowers the operating costs even further when compared to the previous, CLEARPOINT® 3E filters. The annual energy savings are sometimes even higher than the purchasing price for the filter elements. They also increase the process safety and efficiency accordingly.

New material and production processes make everything possible

The significant performance increase with the CLEARPOINT® 3eco filter is made possible by pioneering materials: An innovative open synthetic fleece (mesh) on the outside of the filter media ensures the required rigidity for the various filter positions, without thereby reducing the filter surface area. The pioneering production processes by utilising Softpleat technology provide the optimum provide the optimum connection from many surfaces (important for particle deposition) and higher filter bed depths (ensures the deep filtration, especially for oil aerosols).

The Tried and Tested Filter Housing with the Practice Oriented Details

- Simple installation with two same-height compressed air connections
- The optional differential pressure gauge indicates directly whether the filter unit must be changed – ideal to retain the energy costs at a low level.
- High-quality surface protection by utilising high-temperature galvanising on the inside and paint on the outside.
- Service-friendly filter element interchange via the upper blank flange.
- The large surface area of the filter element reduces the air speed to energy-economic values.
- The flange filter can be anchored not only on the wall but also on the floor with the optional adjusting feet.

The operating costs for the CLEARPOINT® 3eco filter can be considerably lowered. The graphic illustrates them on an example of the S040 filter with filter ration S with energy-optimised volume flow.
CLEARPOINT® 3eco PN 16: Flange Filter L080 – L304

<table>
<thead>
<tr>
<th>Model:</th>
<th>L080</th>
<th>L100</th>
<th>L102</th>
<th>L150</th>
<th>L156</th>
<th>L200</th>
<th>L204</th>
<th>L254</th>
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<tr>
<td>PN16 DIN 2633</td>
<td>DN80</td>
<td>DN100</td>
<td>DN100</td>
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<td>DN200</td>
<td>DN200</td>
<td>DN250</td>
<td>DN300</td>
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<td>Max. operating pressure (bar)</td>
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<td></td>
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<td>10 (16 bar as option)</td>
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**Energy optimised**

| Volume flow 7 bar (m³/h), | 1420 | 2840 | 4260 | 5680 | 9940 | 11360 | 14200 | 19880 | 31240 |
| Differential pressure in mbar (wet saturated) | C-Degree | Ø 50 mbar | | | | | | | |
| F-Degree | Ø 85 mbar | | | | | | | | |
| S-Degree | Ø 110 mbar | | | | | | | | |

**Performance-optimised**

| Volume flow 7 bar (m³/h), | 1580 | 3160 | 4740 | 6320 | 11060 | 12640 | 15800 | 22120 | 34680 |
| Differential pressure in mbar (wet saturated) | C-Degree | Ø 70 mbar | | | | | | | |
| F-Degree | Ø 125 mbar | | | | | | | | |
| S-Degree | Ø 125 mbar | | | | | | | | |

| Volume (l) | 22 | 40 | 63 | 66 | 95 | 120 | 160 | 265 | 407 |
| Weight (kg) | 58 | 68 | 93 | 120 | 130 | 160 | 175 | 260 | 365 |

*In order to achieve Class 1.-.1, an additional active carbon filter and dust filter required as the coalescence filter cannot retain the oil vapour.

**Filter element temperature resistance:** 100 °C wet saturated/ 120 °C dry

Effective filtration at 30% of the nominal/ energy-efficient volume flows

**Example of calculation for required filter size**

when utilising ≠ 7 bar [Ü]:

Volume flow rate: 4200 m³/h
Operating pressure: 5 bar [g]
Correction factor: 0.84

> 4200 m³/h / 0.84 = 5000 m³/h (7 bar [Ü])

>> required filter size: L150

**Correction factors**

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With System to Required Compressed Air Quality

Here at BEKO TECHNOLOGIES we develop, produce and distribute products and systems for optimised compressed air quality and compressed gas quality which are utilised all over the world. From the processing of compressed air and compressed gas through filtration and drying up to proven condensate technology and including instruments for the quality controlling and measuring. From the smallest compressed-air application up to and including demanding process technologies.

Since its founding, BEKO TECHNOLOGIES has continuously provided decisive solutions for compressed-air technology. Our ground breaking ideas have exerted considerable influence on development processes. So that this influence continues, over 10% of our staff are active in the innovation field. With this potential and our personal commitment, we at BEKO TECHNOLOGIES represent trend-setting technologies, products and services.

Do you have questions about the best way of processing your compressed air?

We have the answers! We offer efficient solutions for any type of processing chain. Please contact us with your queries. We would be delighted to tell you more about our condensate treatment, filtration, drying, measuring and process technology, and our comprehensive services.

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