



## Optimicron® Diesel filter elements ON-DF

### Description

The HYDAC Optimicron® Diesel filter elements were specially developed to remove large amounts of contamination from diesel fuels in a single pass. The elements excel with their special filter mesh pack design and innovative Helios technology. This stabilises the pleats and increases the available area of incident flow.

A clear advantage of this is very good flow characteristics and therefore a lower differential pressure. As a result, the mesh pack enables the optimum combination of filtration efficiency, filter service life and low pressure loss.

The filter elements are used in the LowViscosity Housing filter series (LVH-F)

### Applications

- Diesel storage, transport and refuelling applications
- Mining
- Ports
- Refineries
- Chemical industry

### Advantages

- Good price/performance ratio
- High separation in a single pass
- High level of cleanliness due to graduated depth filter construction
- Simple element replacement
- Excellent contamination retention capacity
- Stable pleat structure
- Low  $\Delta p$
- Low maintenance costs due to long intervals between filter changes
- Significant reduction in pressure loss and very long filter service life thanks to the use of innovative Helios pleat geometry
- High fluid compatibility

### Technical data

| General data                            |                                                                                                                                                                 |
|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Maximum permitted differential pressure | 2.5 bar                                                                                                                                                         |
| Filtration type                         | Absolute                                                                                                                                                        |
| Type of filter element                  | Single-use element                                                                                                                                              |
| Filtration rating                       | 3, 5, 10, 20 $\mu m$                                                                                                                                            |
| Beta values                             | $\beta_{(x)} > 1000$                                                                                                                                            |
| Flow direction                          | N10 to N32: from outside to inside<br>N42 : from inside to outside                                                                                              |
| Permitted fluid temperature             | -10 °C ... 60 °C*                                                                                                                                               |
| Permitted storage temperature           | 5 ... 50 °C                                                                                                                                                     |
| Permitted fluids                        | Diesel according to EN590, ASTM D975<br>Biodiesel according to EN14214, B0 to B100<br>Fuel oil according to EN51603-1<br>Marine gas oil DMA, DMB, DMC, DMX, DMZ |
| Sealing material                        | FPM (FKM, Viton®)                                                                                                                                               |

\* or at least 10 °C below the flash point of the fluid used / deployed

## Model code

N42 - ON-DF 010 FA - 40 F

### Length of filter elements

N10 = 10" (can be used in LVH-F-110)  
 N16 = 16" (can be used in LVH-F-115)  
 N20 = 20" (can be used in LVH-F-120)  
 N32 = 32" (can be used in LVH-F-130)  
 N42 = 42" (can be used in LVH-F-140 to 840)

### Filter type

ON-DF = Optimicron Diesel Filter

### Filtration rating

3 = 3 µm  
 5 = 5 µm  
 10 = 10 µm  
 20 = 20 µm

### Filter material

A = Filter material type A

### Cap type

40 = necessary for length N42  
 41 = necessary for length N10 and N20  
 42 = necessary for length N16 and N32

### Sealing material

F = FPM (FKM, Viton®)

## Pressure drop

The total pressure drop of a filter at a certain flow rate Q is the sum of the housing  $\Delta p$  and the element  $\Delta p$  and is calculated as follows:

$$\Delta p_{total} = \Delta p_{housing} + \Delta p_{element}$$

$\Delta p_{housing}$  = see housing curve in filter housing brochure

$$\Delta p_{element} [bar] = \frac{(R \cdot v \cdot Q)}{n \cdot 1000}$$

$$R = R \text{ factor } \left[ \frac{mbar}{\frac{l}{min} \cdot \frac{mm^2}{s}} \right]$$

$$v = \text{kinematic viscosity } \left[ \frac{mm^2}{s} \right]$$

$$Q = \text{flow rate } \left[ \frac{l}{min} \right]$$

$$n = \text{number of filter elements}$$

## R factors

| Filter element | Filter element filtration rating |      |       |       |
|----------------|----------------------------------|------|-------|-------|
|                | 3 µm                             | 5 µm | 10 µm | 20 µm |
| N10ON-DF-xxx   | 0.38                             | 0.38 | 0.32  | 0.30  |
| N16ON-DF-xxx   | 0.14                             | 0.14 | 0.14  | 0.14  |
| N20ON-DF-xxx   | 0.37                             | 0.32 | 0.28  | 0.27  |
| N32ON-DF-xxx   | 0.16                             | 0.16 | 0.16  | 0.16  |
| N42ON-DF-xxx   | 0.24                             | 0.24 | 0.24  | 0.24  |

## NOTE

The information in this brochure relates to the operating conditions and applications described.

For applications and/or operating conditions not described please contact the relevant technical department.

Subject to technical modifications.

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