



## SUSTAINMICRON® Filter elements SN

up to 20 bar,  
Filtration rating 3, 5 and 10 µm



### SUSTAINMICRON®

#### High-performance element technology:

- energy-efficient
- powerful
- sustainable

#### THREE IN ONE

The new element technology combines the proven and characteristic features of three established HYDAC filter element generations in a trendsetting manner:

The implementation of the dirt-retaining properties of Optimicron® with free fluid flow at low differential pressures ensures a lasting saving of energy and thus of costs. Longer oil lifetimes, low wear and higher plant reliability are adopted by the proven and established Stat-Free® technology and introduced as a new standard. The adaptation and further development of the special fatigue strength of Optimicron® Pulse is crucial in applications with extreme pulsation and dynamic loads and ensures virtually unlimited, dynamic stability with SUSTAINMICRON®.

#### APPLICATION

SUSTAINMICRON® makes an active contribution to sustainability. The CO<sub>2</sub> footprint is lastingly reduced through greater efficiency, a longer service life and lower consumption of valuable resources. The element is universally usable and suitable for all applications in the mobile and industrial segment. It is used in all industries in which importance is attached to first-class separation performance, high purity classes, a noticeable saving on energy costs and sustainable filtration.

### 1. GENERAL DESCRIPTION

#### 1.1 DESCRIPTION

A new benchmark is set in element technology with SUSTAINMICRON®: Thanks to innovative further development, it has been possible to achieve the performance and reliability of the familiar element standards while further reducing the differential pressure by up to 30 %. In addition, the new element generation combines the respective outstanding properties of the established filter element technologies Optimicron® (ON), Optimicron® Pulse (ON/PS) and Stat-Free® technology (SFREE) for specific requirements and applications in their proven quality. A meaningful contribution is thus made to sustainability by saving valuable resources and reducing the CO<sub>2</sub> footprint.

#### 1.2 OUTER SLEEVE MADE OF BI-COMPONENT FIBRES

By means of the use of bi-component fibres, the innovative outer sleeve makes a considerable contribution to the electrostatic optimisation of the entire filter element on the basis of the triboelectric electrochemical series.

#### 1.3 GENERAL DATA

Collapse pressure resistance	20 bar
Temperature range	-30 °C to +100 °C (short-term up to +120 °C) With FPM sealing material down to -10 °C
Flow direction	from outside inwards
Filtration rating	3, 5, 10 µm
Cracking pressure, bypass valve	<b>Pressure filter element (D)</b> As standard without bypass valve <b>Return filter element (R)</b> Standard 3 bar (others on request)
Filter element type	One-way element

#### 1.4 COMPATIBILITY WITH PRESSURISED FLUIDS ISO 2943

- Hydraulic oils up to HLPD DIN 51524
- Lubricating oils DIN 51517, API, ACEA, DIN 51515, ISO 6743
- Compressor oils DIN 51506
- Rapidly biodegradable pressurised fluids VDMA 24568 HETG, HEES, HEPG
- Flame-resistant pressurised fluids HFA, HFB, HFC and HFD (operating temperature 5 °C to 65 °C, others on request)
- Pressurised fluids with a high water content (>50 %) and HFD-R fluids on request

## 2. MODEL CODE

### 2.1 MODEL CODE FOR STANDARD PRESSURE FILTER ELEMENTS

(Usable in the filters: LFM, MFM, MFM.../-OIU, MFM..L..., DFM, HFM, LPF, LF, LFF, MDF, DF, DFF, DFFX, FLND, FMND, DFDK, DF...MHA, DF...MHE, DF...M A, DF...M P, DFZ, DF...Q E, DFP, DFPF)

	0660	D	010	SN	/-V
<b>Sizes</b>	0330, 0500, 0660, 0990, 1320				
<b>Version</b>	D Pressure filter element				
<b>Filtration rating in µm</b>	003, 005, 010				
<b>Filter material</b>	SN Collapse pressure resistance up to 20 bar				
<b>Additional data</b>	V FPM (Viton) seal				

### 2.2 MODEL CODE FOR STANDARD RETURN FILTER ELEMENTS

(Usable in the filters: RFM, RF, RFD, RFL, RFLD, NF, NFD)

	0660	R	010	SN	/-V
<b>Size</b>	0330, 0450, 0500, 0580, 0660, 0750, 0850, 0950, 1300, 1700, 2600				
<b>Version</b>	R Return filter element				
<b>Filtration rating in µm</b>	003, 005, 010				
<b>Filter material</b>	SN Collapse pressure resistance up to 20 bar				
<b>Additional data</b>	V FPM (Viton) seal				

### 3. FILTER DESIGN

The total pressure loss of a filter with a certain volumetric flow rate  $Q$  is made up of the housing  $\Delta p$  and the element  $\Delta p$ , and is determined as follows:

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

$\Delta p_{\text{housing}}$  = see housing characteristic curve in the respective filter brochure

$$\Delta p_{\text{element}} = Q \cdot \frac{SK^*}{1000} \cdot \frac{\text{viscosity}}{30}$$

(\*see point 4.1)

### 4. ELEMENT CHARACTERISTIC DATA

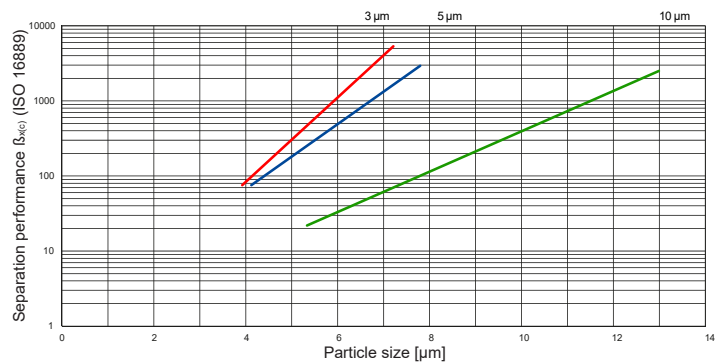
#### 4.1 SLOPE COEFFICIENTS FOR FILTER ELEMENTS

The slope coefficients in mbar/(l/min) apply to mineral oils with a kinematic viscosity of 30 mm<sup>2</sup>/s. The pressure loss changes in proportion to the change in the viscosity.

Pressure filter element "D" ...SN			
Size	3 µm	5 µm	10 µm
0330	3.496	3.033	1.968
0500	2.138	1.863	0.984
0660	1.600	1.404	0.744
0990	1.065	0.928	0.490
1320	0.784	0.683	0.361

Pressure filter element "R" ...SN			
Size	3 µm	5 µm	10 µm
0330	3.222	2.525	1.258
0450	2.528	2.128	1.190
0500	2.106	1.758	0.927
0580	0.996	0.833	0.446
0660	1.550	1.150	0.590
0750	0.845	0.803	0.443
0850	1.204	0.951	0.507
0950	0.876	0.753	0.419
1300	0.615	0.556	0.308
1700	0.587	0.501	0.247
2600	0.308	0.277	0.155

### 5. BETA VALUES



**NOTE**

The information in this brochure relates to the operating conditions and fields of application described.  
For applications and/or operating conditions not described, please contact the relevant technical department.  
Subject to technical modifications.

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