

SUSTAINMICRON® Filter elements SN

up to 20 bar,
filtration rating 3, 5, 10 and 20 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 CO₂ 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 CO₂ footprint.

1.2 ELEMENT HOUSING MADE OF Bi-COMPONENT FIBRES

By means of the use of bi-component fibres, the innovative element housing makes a considerable contribution to the electrostatic optimisation of the entire filter element on the basis of the triboelectric electrochemical series. In addition, the non-woven outer wrap provides impact protection when the filter element is handled and protects the filter mat from contamination when the element is installed. It also serves as flow protection and ensures even oil distribution across the entire surface of the filter element.

1.3 GENERAL DATA

Collapse pressure resistance	20 bar
Temperature range	-30 °C to +100 °C (short-term up to +120 °C) With FKM sealing material down to -10 °C
Flow direction	From outside inwards
Filtration rating	3, 5, 10, 20 µm
Cracking pressure, bypass valve	Pressure filter element (D) No bypass valve as standard Return filter element (R) Standard 3 bar (others available on request)
Filter element type	Disposable 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
- Biodegradable operating fluids to VDMA 24568 (HETG, HEES, HEPG)
- Flame-retardant hydraulic 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
Size 0035, 0055, 0067, 0075, 0095, 0117, 0147, 0167, 0247, 0260, 0287, 0300, 0330, 0337, 0450, 0500, 0507, 0650, 0660, 0667, 0900, 0990, 0997, 1320, 1327, 1500					
Version D Pressure filter element					
Filtration rating in μm 003, 005, 010, 020					
Filter material SN collapse/burst pressure up to 20 bar					
Other specifications V FKM (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
Size 0060, 0075, 0090, 0110, 0150, 0160, 0165, 0185, 0195, 0210, 0240, 0260, 0270, 0280, 0330, 0450, 0500, 0580, 0600, 0660, 0750, 0850, 0950, 0957, 1300, 1307, 1700, 2600, 2607, 2700					
Version R Return filter element					
Filtration rating in μm 003, 005, 010, 020					
Filter material SN collapse/burst pressure up to 20 bar					
Other specifications V FKM (Viton) seal					

3. FILTER CALCULATION

The total pressure loss of a filter with a certain volumetric flow rate Q is made up of the housing Δp and the element Δp , 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 relevant 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

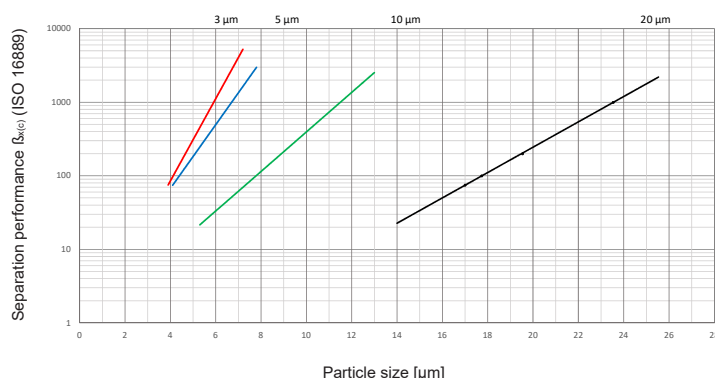
The slope coefficients in mbar/(l/min) apply to mineral oils with a kinematic viscosity of 30 mm²/s. The pressure loss changes in proportion to the change in the viscosity.

Pressure filter element "D" ...SN				
Size	3 µm	5 µm	10 µm	20 µm
0035	20.198	15.390	10.817	6.486
0055	11.166	8.910	5.609	3.363
0067	23.913	16.470	10.285	5.535
0075	7.178	6.075	3.606	2.162
0095	5.643	4.860	2.834	1.700
0117	11.318	8.649	5.151	2.620
0147	8.423	6.651	3.723	1.950
0167	7.890	6.930	3.198	2.776
0247	5.022	4.272	2.664	1.887
0260	3.642	3.096	2.000	1.313
0287	2.556	2.192	1.162	1.066
0300	6.268	5.704	3.211	2.176
0330	3.496	3.033	1.968	1.035
0337	3.496	3.033	1.968	1.035
0450	3.134	2.816	1.605	1.088
0500	2.138	1.863	0.984	0.633
0507	2.138	1.863	0.984	0.633
0650	1.850	1.760	0.952	0.636
0660	1.600	1.404	0.744	0.474
0667	1.600	1.404	0.744	0.744
0900	1.401	1.336	0.721	0.482
0990	1.065	0.928	0.490	0.315
0997	1.065	0.928	0.490	0.315
1320	0.784	0.683	0.361	0.232
1327	0.784	0.683	0.361	0.232
1500	0.791	0.651	0.407	0.245

Return filter element "R" ...SN

Size	3 µm	5 µm	10 µm	20 µm
0060	20.935	15.480	8.838	5.599
0075	11.136	10.579	5.451	3.104
0090	9.908	7.983	4.925	2.650
0110	9.908	7.983	4.925	2.650
0150	5.927	5.368	2.946	1.585
0160	6.433	5.112	2.898	1.854
0165	6.786	6.447	3.322	1.892
0185	4.516	4.290	2.210	1.154
0195	3.325	3.158	1.627	0.850
0210	2.351	2.234	1.206	0.742
0240	4.090	3.294	2.111	1.179
0260	3.025	2.542	1.561	0.938
0270	1.521	1.445	0.780	0.480
0280	2.027	1.926	1.040	0.678
0330	3.222	2.525	1.258	0.827
0450	2.528	2.128	1.190	0.692
0500	2.106	1.758	0.927	0.541
0580	0.996	0.833	0.446	0.273
0600	0.888	0.843	0.449	0.247
0660	1.550	1.150	0.590	0.356
0750	0.845	0.803	0.443	0.246
0850	1.204	0.951	0.507	0.277
0950	0.876	0.753	0.419	0.235
0957	0.876	0.753	0.419	0.235
1300	0.615	0.556	0.308	0.168
1307	0.615	0.556	0.308	0.168
1700	0.587	0.501	0.247	0.135
2600	0.308	0.277	0.155	0.083
2607	0.308	0.277	0.155	0.083
2700	0.333	0.278	0.153	0.076

5. BETA VALUES



NOTE

The information given in this brochure refers to the described operating conditions and applications.
For applications and operating conditions not described, please contact the relevant technical department.
Subject to technical modifications.

HYDAC FILTERTECHNIK GMBH
Industriegebiet
66280 Sulzbach/Saar - Germany
Phone: +49 6897 509-01
E-mail: filter@hydac.com
Internet: www.hydac.com