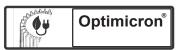


# HYDAC INTERNATIONAL

# **Optimicron® Filter Elements ON**

up to 20 bar, filtration rating 1, 3, 5, 10, 15 and 20 µm





Please note:

Ongoing conversion from Betamicron® (BN4HC) to Optimicron® (ON)!

# 1. OPTIMICRON®

#### 1.1 DESCRIPTION

The new Optimicron® filter elements have been optimised in respect of filtration performance and energy efficiency. They offer the best combination when it comes to separation efficiency, service life and differential pressure.

As a complete package the innovative characteristics of the new technology have a very positive impact on the differential pressure of the elements. For example, the new HELIOS filter mesh pack geometry has the effect of stabilising the pleats and increasing the available area of incident flow. The obvious advantage is improved flow conditions and as a result lower differential pressure.



The efficient micro-glass media forming the core of the filter element delivers first class filtration efficiency and a low differential pressure over the whole lifetime of the element and is now also available in 1 and 15 µm ratings.

The new design of the filter mesh pack and the combination of (up to seven) exclusive filtration layers has a particularly favourable effect on the differential pressure. So for example, a drainage layer with asymmetrical thread thickness as the first layer on the contaminated side channels the fluid and at the same time provides extensive and soft support of the other media. The penultimate filter layer, the so-called integrated drainage layer, ensures directed flow and prevents impact losses, dead spaces and turbulence which usually occur when wire mesh is used exclusively.

#### 1.2 GENERAL DATA

Collapse stability	20 bar
Temperature range	-30 °C to +100 °C For sealing material FPM to -10 °C
Flow direction	From outside to inside
Filtration rating	1, 3, 5, 10, 15, 20 µm
Bypass cracking pressure	Pressure filter element ("D"): Without bypass valve as standard Return line filter element ("R"): Standard 3 bar (others on request) Return line filter element ("RD"): Standard 3.4 bar
Category of filter element	Single use element

#### 1.3 STAT-FREE® TECHNOLOGY **OPTIONAL**

By completely revising the materials used, e.g. through the use of conductive plastics, fully discharge-capable filter elements are the result. Electrical charging of the filter elements during operation has therefore been reduced to a negligible level. The risks of sudden sparking and the subsequent formation of soot or sludge in the oil are therefore reliably eliminated.

With the new Stat-Free® filter elements, HYDAC has for the first time combining excellent succeede electrosta aracteristics with mance. Unprecedented filtration low char neration in the filter the system fluid is a new type of filter mesh Operating fluids with high water content (>50% water content) on request

#### 1.5 INNOVATIVE OUTER WRAP WITH IMPROVED DIFFUSER EFFECT FOR PRINTING WITH CUSTOMER LOGO

Since the outer wrap can be printed with the customer logo, it also acts as an advertising medium for the OEM

security of the spares same time, the user f obtaining an original cular benefit: the logo y legible even in the ndition

pack and element design.

#### 1.4 COMPATIBILITY WITH **HYDRAULIC FLUIDS ISO 2943**

- Hydraulic oils H to HLPD DIN 51524
- Lubrication oils DIN 51517, API, ACEA, DIN 51515, ISO 6743
- Compressor oils DIN 51506
- Biodegradable operating fluids VDMĂ 24568 HĖTG, HĔES, HEPG
- Fire-resistant fluids HFA, HFB, HFC and HFD

#### 1.APPLICATION

Optimicron® filter elements are intended to be used in all industries where particular importance is placed on first class filtration efficiency, high cleanliness classes as well as on significant savings in energy costs and on sustainable filtration.

E 7.224.2/11.16

HYDAC 1



E 7.224.2/11.16

As without bypass valve SFREE Stat-Free® element technology  2.3 MODEL CODE FOR RETURN LINE FILTER ELEMENTS IN PRESSURE FILTERS  (Can be used in the following filters: LPF/-TH, LPFGGA)  Size  0161, 0241, 0261, 0281  Type  RD Return line filter element for pressure filters  Filtration rating in µm  001, 003, 005, 010, 015, 020  Filter material of element  DN Collapse stability up to 20 bar  Supplementary details	2. MODEL CODE				
Coan be used in the following filters: LFM, MFM, MFM,/-OIU, MFM,L., DFM, HFM, LPF, LF, LFF, MDF, HDF, HDF, DF, DFF, DFF, FNFN, FNND, FMND, DFDK, DFMHA, DFMHA, DFM P, DFZ, DFQ E, DFP, DFPF, DFP, DFP, DFP, DFP, DFP, DF		NDADD DDESSUDE EU TES	EL EMENTS		
DFF, DFFX, FLND, FMND, DFDK, DFMHA, DFMHE, DFM A, DFM P, DFZ, DFQ E, DFP, DFPP,				EM IDE LE LEE MOE !	HDE HDEE DE
0660 P 010 ON /   0030, 0035, 0055, 0060, 0075, 0095, 0110, 0140, 0160, 0130, 0035, 0055, 0060, 0075, 0095, 0110, 0140, 0160, 0150, 0095, 01320, 1500, 0990, 1320, 1500     1	Can be used in the following	g liiters: LFM, MFM, MFM/ DEDK DE MHA DE MHE	OIU, MFML, DFM, HI	FIVI, LPF, LF, LFF, MDF, I	HDF, HDFF, DF, =)
Size	יום, דווע, FIND, FININD, L	סו טת, טוועוחא, טרועוחב	, DIIVI A, DFIVI P, DI		•
1030, 0035, 0055, 0060, 0075, 0095, 0110, 0140, 0160, 0240, 0260, 0280, 0300, 0330, 0450, 0500, 0650, 0660, 0900, 1920, 1220, 1500   1030, 005, 010, 015, 020   11ter material of element   101, 003, 005, 010, 015, 020   11ter material of element   102, 005, 005, 006, 0060, 0075, 0090, 0075, 0090, 0075, 0090, 0075, 0090, 0110, 0150, 0160, 0165, 0185, 0185, 0185, 020, 0240, 0260, 0270, 0280, 0330, 0450, 0500, 0180, 0075, 0090, 0110, 0150, 0160, 0165, 0185, 0185, 0160, 0240, 0260, 0270, 0280, 0330, 0450, 0500, 0580, 0600, 0660, 0750, 0850, 0950, 1300, 1700, 2600   1050, 0	N:			Q	060 D 010 ON /
1240, 0260, 0280, 0300, 0330, 0450, 0500, 0660, 0660, 0900, 0900, 0900, 0300		0095 0110 0140 0160			
Dyee  Dressure filter element  Iltration rating in jum  Dros, 005, 010, 015, 020  Dressure filter element  Dros, 005, 010, 015, 020  Ilter material of element  Dros, 005, 010, 015, 020  Dressure filter material of element  Dros, 005, 010, 015, 020  Dressure filter element element  Dros, 005, 010, 015, 020  Dressure filter element element element  Dros, 005, 005, 005, 005, 005, 005, 005, 00	0240, 0260, 0280, 0300, 0330, 0				
ilter material of element					
ilteration rating in µm join, 303, 305, 310, 315, 320 iilter material of element DN Collapse stability up to 20 bar Supplementary details JFPM (Viton) seal SFREE Stat-Free element technology  2.2 MODEL CODE FOR STANDARD RETURN LINE FILTER ELEMENTS (Can be used in the following filters: RFM, RF, RFD, RFL, RFLD, NF, NFD)  Size  JOSON 300, 3005, 3005, 3005, 3005, 3000, 300					
101, 003, 005, 010, 015, 020					
DN Collapse stability up to 20 bar Supplementary details  VFPM (Viton) seal  Size  JOST (1901) 1001, 003, 005, 0090, 0110, 0150, 0160, 0165, 0185, 0185, 0190, 016					
Supplementary details					
### Company of the Co		ar			
2.2 MODEL CODE FOR STANDARD RETURN LINE FILTER ELEMENTS  (Can be used in the following filters: RFM, RF, RFD, RFL, RFLD, NF, NFD)  (Size  1030, 0060, 0075, 0090, 0110, 0150, 0160, 0165, 0185, 1195, 0210, 0240, 0260, 0270, 0280, 0330, 0450, 0500, 1580, 0600, 0660, 0750, 0850, 0950, 1300, 1700, 2600  (Type  Return line filter element  (Siter anaterial of element)  N Collapse stability up to 20 bar Supplementary details  (Can be used in the following filters: LPF/-TH, LPFGGA)  (Can be used in the following filters: LPF/-TH, LPFGGA)  (Size  1010, 103, 036, 030, 036, 030, 036, 036, 036, 0					
(Can be used in the following filters: RFM, RF, RFD, RFL, RFLD, NF, NFD)    0660 R 010 ON / Size		nnology			
(Can be used in the following filters: RFM, RF, RFD, RFL, RFLD, NF, NFD)    0660 R 010 ON / Size					
(Can be used in the following filters: RFM, RF, RFD, RFL, RFLD, NF, NFD)    0660 R 010 ON / Size	2.2 MODEL CODE FOR STAP	NDARD RETURN LINE FILT	ER ELEMENTS		
0660 R 010 ON /   0030, 0060, 0075, 0090, 0110, 0150, 0160, 0165, 0185, 0199, 0210, 0240, 0260, 0270, 0280, 0330, 0450, 0500, 0580, 0600, 0660, 0750, 0850, 0950, 1300, 1700, 2600     Type					
Size	·		. , ,		1660 R 010 ON /
1030, 0060, 0075, 0090, 0110, 0150, 0160, 0165, 0185, 0195, 0210, 0240, 0260, 0270, 0280, 0330, 0450, 0500, 0580, 0600, 0660, 0750, 0850, 0950, 1300, 1700, 2600  10580, 0600, 0660, 0750, 0850, 0950, 1300, 1700, 2600  10599  Return line filter element  1011, 003, 005, 010, 015, 020  1011	Size				JOSO IX O TO ON /
0580, 0600, 0660, 0750, 0850, 0950, 1300, 1700, 2600  Type  R Return line filter element  Filtration rating in µm  001, 003, 005, 010, 015, 020  Filter material of element  Supplementary details  V FPM (Viton) seal  KB without bypass valve  SFREE Stat-Free element technology  Can be used in the following filters: LPF/-TH, LPFGGA)   O241 RD 010 ON  Size  0161, 0241, 0261, 0281  Type  RD Return line filter element for pressure filters  Filtration rating in µm  001, 003, 005, 010, 015, 020  Filter material of element  DN Collapse stability up to 20 bar  Supplementary details	0030, 0060, 0075, 0090, 0110, 0				
Return line filter element  Size  Silter material of element  DN Collapse stability up to 20 bar  Supplementary details  / FPM (Viton) seal  KB without bypass valve  SFREE Stat-Free® element technology  Can be used in the following filters: LPF/-TH, LPFGGA)  Size  10161, 0241, 0261, 0281  Type  2017, 003, 005, 010, 015, 020  Filter material of element  DN Collapse stability up to 20 bar  Supplementary details  Occupancy  Size  Condition rating in µm  Condition rating in processory  Condition rating					
Return line filter element  iitration rating in µm  ON Collapse stability up to 20 bar  Supplementary details  / FPM (Viton) seal  KB without bypass valve  SFREE Stat-Free® element technology  2.3 MODEL CODE FOR RETURN LINE FILTER ELEMENTS IN PRESSURE FILTERS  (Can be used in the following filters: LPF/-TH, LPFGGA)  Size  161, 0241, 0261, 0281  Fype  RD Return line filter element for pressure filters  iitration rating in µm  1001, 003, 005, 010, 015, 020  iiter material of element  ON Collapse stability up to 20 bar  Supplementary details		0930, 1300, 1700, 2000			
O11, 003, 005, 010, 015, 020  Filter material of element  ON Collapse stability up to 20 bar  Supplementary details  / FPM (Viton) seal  (B without bypass valve  SFREE Stat-Free® element technology  Can be used in the following filters: LPF/-TH, LPFGGA)  O241 RD 010 ON  Size  O161, 0241, 0261, 0281  Fype  RD Return line filter element for pressure filters  Filtration rating in µm  O101, 003, 005, 010, 015, 020  Filter material of element  ON Collapse stability up to 20 bar  Supplementary details		nt			
Collapse stability up to 20 bar  Supplementary details  / FPM (Viton) seal (8 without bypass valve  SFREE Stat-Free® element technology  2.3 MODEL CODE FOR RETURN LINE FILTER ELEMENTS IN PRESSURE FILTERS (Can be used in the following filters: LPF/-TH, LPFGGA)  Size  10161, 0241, 0261, 0281  Type  RD Return line filter element for pressure filters  Filtration rating in µm  101, 003, 005, 010, 015, 020  Filter material of element  DN Collapse stability up to 20 bar  Supplementary details					
Collapse stability up to 20 bar  Supplementary details  / FPM (Viton) seal  KB without bypass valve  SFREE Stat-Free® element technology  2.3 MODEL CODE FOR RETURN LINE FILTER ELEMENTS IN PRESSURE FILTERS  (Can be used in the following filters: LPF/-TH, LPFGGA)  Size  D161, 0241, 0261, 0281  Type  RD Return line filter element for pressure filters  Filtration rating in µm  D01, 003, 005, 010, 015, 020  Filter material of element  DN Collapse stability up to 20 bar  Supplementary details					
Supplementary details  / FPM (Viton) seal  (B without bypass valve  SFREE Stat-Free⊕ element technology  2.3 MODEL CODE FOR RETURN LINE FILTER ELEMENTS IN PRESSURE FILTERS  (Can be used in the following filters: LPF/-TH, LPFGGA)  Size  0161, 0241, 0261, 0281  Fype  RD Return line filter element for pressure filters  Filtration rating in μm  001, 003, 005, 010, 015, 020  Filter material of element  DN Collapse stability up to 20 bar  Supplementary details	ON Collanse stability up to	20 bar			
FPM (Viton) seal  KB without bypass valve  SFREE Stat-Free® element technology  2.3 MODEL CODE FOR RETURN LINE FILTER ELEMENTS IN PRESSURE FILTERS  (Can be used in the following filters: LPF/-TH, LPFGGA)  Size  D161, 0241, 0261, 0281  Type  RD Return line filter element for pressure filters  Filtration rating in µm  D01, 003, 005, 010, 015, 020  Filter material of element  DN Collapse stability up to 20 bar  Supplementary details					
2.3 MODEL CODE FOR RETURN LINE FILTER ELEMENTS IN PRESSURE FILTERS  (Can be used in the following filters: LPF/-TH, LPFGGA)  Size  0161, 0241, 0261, 0281  Type  RD Return line filter element for pressure filters  Filtration rating in µm  001, 003, 005, 010, 015, 020  Filter material of element  ON Collapse stability up to 20 bar  Supplementary details	Supplementary details				
2.3 MODEL CODE FOR RETURN LINE FILTER ELEMENTS IN PRESSURE FILTERS  (Can be used in the following filters: LPF/-TH, LPFGGA)  Size  O161, 0241, 0261, 0281  Type RD Return line filter element for pressure filters  Filtration rating in µm  O01, 003, 005, 010, 015, 020  Filter material of element  ON Collapse stability up to 20 bar  Supplementary details	V FPM (Viton) seal				
(Can be used in the following filters: LPF/-TH, LPFGGA)  O241 RD 010 ON  Size  O161, 0241, 0261, 0281  Type RD Return line filter element for pressure filters  Filtration rating in µm  O01, 003, 005, 010, 015, 020  Filter material of element  ON Collapse stability up to 20 bar  Supplementary details	V FPM (Viton) seal KB without bypass valve	analogy			
(Can be used in the following filters: LPF/-TH, LPFGGA)  O241 RD 010 ON  Size  O161, 0241, 0261, 0281  Type RD Return line filter element for pressure filters  Filtration rating in µm  O01, 003, 005, 010, 015, 020  Filter material of element  ON Collapse stability up to 20 bar  Supplementary details	FPM (Viton) seal KB without bypass valve	nnology			
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Size D161, 0241, 0261, 0281  Type RD Return line filter element for pressure filters Filtration rating in µm D101, 003, 005, 010, 015, 020 Filter material of element DN Collapse stability up to 20 bar Supplementary details	FPM (Viton) seal Section (Viton) FPM (Viton) Seal SEREE Stat-Free⊚ element tech	URN LINE FILTER ELEMEN		ERS	
O161, 0241, 0261, 0281  Type  RD Return line filter element for pressure filters  Filtration rating in µm  O01, 003, 005, 010, 015, 020  Filter material of element  DN Collapse stability up to 20 bar  Supplementary details	FPM (Viton) seal Section (Viton) FPM (Viton) Seal SEREE Stat-Free⊚ element tech	URN LINE FILTER ELEMEN		ERS	
Fype RD Return line filter element for pressure filters Filtration rating in µm D01, 003, 005, 010, 015, 020 Filter material of element DN Collapse stability up to 20 bar Supplementary details	FPM (Viton) seal KB without bypass valve SFREE Stat-Free⊚ element tech	URN LINE FILTER ELEMEN		-11	241 RD 010 ON
RD Return line filter element for pressure filters  Filtration rating in µm  201, 003, 005, 010, 015, 020  Filter material of element  DN Collapse stability up to 20 bar  Supplementary details	FPM (Viton) seal  KB without bypass valve  SFREE Stat-Free  element tech  2.3 MODEL CODE FOR RETU  (Can be used in the following	URN LINE FILTER ELEMEN		-11	241 RD 010 ON
Filtration rating in µm 201, 003, 005, 010, 015, 020 Filter material of element DN Collapse stability up to 20 bar Supplementary details	FPM (Viton) seal (B without bypass valve SFREE Stat-Free® element tech C.3 MODEL CODE FOR RETU (Can be used in the following Size 0161, 0241, 0261, 0281	URN LINE FILTER ELEMEN		-11	241 RD 010 ON
001, 003, 005, 010, 015, 020  Filter material of element  ON Collapse stability up to 20 bar  Supplementary details	FPM (Viton) seal KB without bypass valve SFREE Stat-Free® element tech  C.3 MODEL CODE FOR RETU  (Can be used in the following  Size  0161, 0241, 0261, 0281	URN LINE FILTER ELEMEN g filters: LPF/-TH, LPFG		-11	241 RD 010 ON
Filter material of element  ON Collapse stability up to 20 bar  Supplementary details	FPM (Viton) seal KB without bypass valve SFREE Stat-Free® element tech  2.3 MODEL CODE FOR RETU (Can be used in the following  Size 0161, 0241, 0261, 0281  Type RD Return line filter element for	URN LINE FILTER ELEMEN g filters: LPF/-TH, LPFG		-11	241 RD 010 ON
Supplementary details	FPM (Viton) seal (S without bypass valve SFREE Stat-Free® element tech  2.3 MODEL CODE FOR RETU (Can be used in the following  Size  0161, 0241, 0261, 0281  Type RD Return line filter element for  Filtration rating in um	URN LINE FILTER ELEMEN g filters: LPF/-TH, LPFG		-11	241 RD 010 ON
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	FPM (Viton) seal KB without bypass valve SFREE Stat-Free® element tech  2.3 MODEL CODE FOR RETU (Can be used in the following  Size 1161, 0241, 0261, 0281  Type RD Return line filter element for Filtration rating in µm 001, 003, 005, 010, 015, 020  Filter material of element DN Collapse stability up to  Supplementary details	URN LINE FILTER ELEMEN g filters: LPF/-TH, LPFG		-11	241 RD 010 ON
	FPM (Viton) seal KB without bypass valve SFREE Stat-Free® element tech  2.3 MODEL CODE FOR RETU (Can be used in the following  Size 1161, 0241, 0261, 0281  Type RD Return line filter element for Filtration rating in µm 001, 003, 005, 010, 015, 020  Filter material of element DN Collapse stability up to  Supplementary details	URN LINE FILTER ELEMEN g filters: LPF/-TH, LPFG		-11	241 RD 010 ON
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	FPM (Viton) seal KB without bypass valve SFREE Stat-Free® element tech  2.3 MODEL CODE FOR RETU (Can be used in the following  Size  1161, 0241, 0261, 0281  Type RD Return line filter element for  Filtration rating in µm  001, 003, 005, 010, 015, 020  Filter material of element  DN Collapse stability up to  Supplementary details	URN LINE FILTER ELEMEN g filters: LPF/-TH, LPFG		-11	241 RD 010 ON
	FPM (Viton) seal KB without bypass valve SFREE Stat-Free® element tech  2.3 MODEL CODE FOR RETU (Can be used in the following  Size 1161, 0241, 0261, 0281  Type RD Return line filter element for Filtration rating in µm 001, 003, 005, 010, 015, 020  Filter material of element DN Collapse stability up to  Supplementary details	URN LINE FILTER ELEMEN g filters: LPF/-TH, LPFG		-11	241 RD 010 ON
	FPM (Viton) seal KB without bypass valve SFREE Stat-Free® element tech  2.3 MODEL CODE FOR RETU (Can be used in the following  Size  1161, 0241, 0261, 0281  Type RD Return line filter element for  Filtration rating in µm  001, 003, 005, 010, 015, 020  Filter material of element  DN Collapse stability up to  Supplementary details	URN LINE FILTER ELEMEN g filters: LPF/-TH, LPFG		-11	241 RD 010 ON
	FPM (Viton) seal KB without bypass valve SFREE Stat-Free® element tech  2.3 MODEL CODE FOR RETU (Can be used in the following  Size  1161, 0241, 0261, 0281  Type RD Return line filter element for  Filtration rating in µm  001, 003, 005, 010, 015, 020  Filter material of element  DN Collapse stability up to  Supplementary details	URN LINE FILTER ELEMEN g filters: LPF/-TH, LPFG		-11	241 RD 010 ON
	FPM (Viton) seal KB without bypass valve SFREE Stat-Free® element tech  2.3 MODEL CODE FOR RETU (Can be used in the following  Size  1161, 0241, 0261, 0281  Type RD Return line filter element for  Filtration rating in µm  001, 003, 005, 010, 015, 020  Filter material of element  DN Collapse stability up to  Supplementary details	URN LINE FILTER ELEMEN g filters: LPF/-TH, LPFG		-11	241 RD 010 ON
	FPM (Viton) seal KB without bypass valve SFREE Stat-Free⊚ element tech  2.3 MODEL CODE FOR RETU (Can be used in the following  Size  0161, 0241, 0261, 0281  Type RD Return line filter element for Filtration rating in μm  001, 003, 005, 010, 015, 020  Filter material of element  ON Collapse stability up to  Supplementary details	URN LINE FILTER ELEMEN g filters: LPF/-TH, LPFG		-11	241 RD 010 ON
	FPM (Viton) seal KB without bypass valve SFREE Stat-Free⊚ element tech C.3 MODEL CODE FOR RETU (Can be used in the following Size 0.161, 0.0241, 0.0261, 0.0281  Type RD Return line filter element for Filtration rating in μm 0.001, 0.03, 0.05, 0.10, 0.15, 0.20  Filtre material of element ON Collapse stability up to Supplementary details	URN LINE FILTER ELEMEN g filters: LPF/-TH, LPFG		-11	241 RD 010 ON
	FPM (Viton) seal KB without bypass valve SFREE Stat-Free⊚ element tech C.3 MODEL CODE FOR RETU (Can be used in the following Size 0.161, 0.0241, 0.0261, 0.0281  Type RD Return line filter element for Filtration rating in μm 0.001, 0.03, 0.05, 0.10, 0.15, 0.20  Filtre material of element ON Collapse stability up to Supplementary details	URN LINE FILTER ELEMEN g filters: LPF/-TH, LPFG		-11	241 RD 010 ON
	FPM (Viton) seal KB without bypass valve SFREE Stat-Free⊚ element tech  2.3 MODEL CODE FOR RETU (Can be used in the following  Size  0161, 0241, 0261, 0281  Type RD Return line filter element for Filtration rating in μm  001, 003, 005, 010, 015, 020  Filter material of element  ON Collapse stability up to  Supplementary details	URN LINE FILTER ELEMEN g filters: LPF/-TH, LPFG		-11	241 RD 010 ON
l ·	FPM (Viton) seal KB without bypass valve SFREE Stat-Free® element tech  2.3 MODEL CODE FOR RETU (Can be used in the following  Size 0161, 0241, 0261, 0281  Type RD Return line filter element for Filtration rating in µm 001, 003, 005, 010, 015, 020  Filter material of element DN Collapse stability up to  Supplementary details	URN LINE FILTER ELEMEN g filters: LPF/-TH, LPFG		-11	241 RD 010 ON



### 3. FILTER CALCULATION / SIZING

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:

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

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

 $\Delta p = Q \cdot \underline{SK^* \cdot viscosity}$ element 1000 30 (\*see Point 4.1)

## 4. ELEMENT CHARACTERISTICS

#### 4.1 GRADIENT COEFFICIENTS FOR FILTER ELEMENTS

The gradient coefficients in mbar/(I/min) apply to mineral oils with a kinematic viscosity of 30 mm²/s. The pressure drop changes proportionally to the change in viscosity.

		Pre	ssure filter ele	ement "D"ON		
Size	1 µm	3 µm	5 µm	10 µm	15 µm	20 µm
0030	77.8	63.9	43.3	22.8	14.0	11.3
0035	50.2	21.3	17.1	13.7	10.0	7.44
0055	26.0	12.3	9.90	7.90	5.17	3.84
0060	53.5	26.0	18.3	12.1	9.78	6.32
0075	16.7	8.40	6.75	5.40	3.33	2.48
0095	13.2	6.74	5.40	4.33	2.62	1.92
0110	25.8	13.4	9.61	6.06	4.63	2.99
0140	19.9	11.5	7.39	4.38	3.54	2.29
0160	18.5	11.0	7.70	4.10	3.71	3.18
0240	11.5	6.90	5.34	3.19	2.44	2.10
0260 8.1	8 4.96 3.87	2.31 1.83 1.44	0280 5.54 3.37	2.74 1.49 1.36	1.17 0300 14.6	8.90 7.13
4.88 2.80	2.61 0330	3.23 4.19 3.37	2.46 1.55 1.22	0450 7.30 4.45	3.52 2.39 1.40	1.26 0500
5.05 2.57	2.07 1.23 0	.95 0.75 0650	4.46 2.69 2.20	1.47 0.86		
						0.81
0660	3.78	1.93	1.56	0.93	0.71	0.56
0900	3.37	2.10	1.67	1.10	0.65	0.63
0990	2.51	1.28	1.03	0.61	0.47	0.37
1320	1.85	0.97	0.76	0.45	0.35	0.27
1500	1.64	0.97	0.70	0.48	0.36	0.28

Return line element "R"ON						
Size	1 µm	3 µm	5 μm	10 µm	15 µm	20 µm
0030	89.8	68.4	43.9	26.8	16.8	14.7
0060	47.2	23.6	17.2	9.82	9.01	6.85
0075	25.6	19.4	13.4	7.31	4.80	4.40
0090	22.5	13.1	9.49	6.07	4.30	3.21
0110	22.3	13.1	8.87	5.40	4.26	3.24
0150	13.4	7.80	5.65	3.61	2.55	1.91
0160	16.0	8.00	5.68	3.22	2.69	2.32
0165	14.1	9.44	7.37	4.02	2.25	2.42
0185	10.4	7.44	5.74	2.93	1.65	1.41
0195	7.66	5.48	4.22	2.16	1.22	1.04
0210	5.66	3.28	2.55	1.53	1.00	0.88
0240	10.4	5.18	3.66	2.27	1.84	1.41
0270	3.66	2.12	1.65	0.99	0.65	0.57
0280 5.1	0 2.57 2.08	0330 8.09 3.72 2.73	1.48 1.28	1.02 0451046333 3	.17 2.310.01640	1.00 0.805.80
0500 5.2	7 2.60 1.90	1.09 0.84 0.69 0580	2.49 1.23	0.90 0.53 0.40 0.	34 0600 2.35	1.23 1.10
0.61 0.42	0.34					
0660 2 E	7 4 60 4 04	0.67.0.57.0750.2.11	1 10 0 00	0 52 0 24 0 22 00	EO 0 77 4 04	1 00 0 50 45

0000 5.5	1.03 1.21 0	.01 0.31 0130 2.	11 1.12 0.32 0.0	0.04 0.02 000	00 2.77 1.01 1.0	0.00.40
0.44 0.36						
0950	2.39	1.03	0.79	0.48	0.38	0.31
1300 1.7	2 0.72 0.59 0	.35 0.32 0.22 17	00 1.35 0.64 0.5	53 0.28 0.25 0.1	8 2600 0.84 0.3	36 0.29
0.18 0.16	0.11 2700 0	.91 0.35 0.30 0.1	8 0.17 0.08			

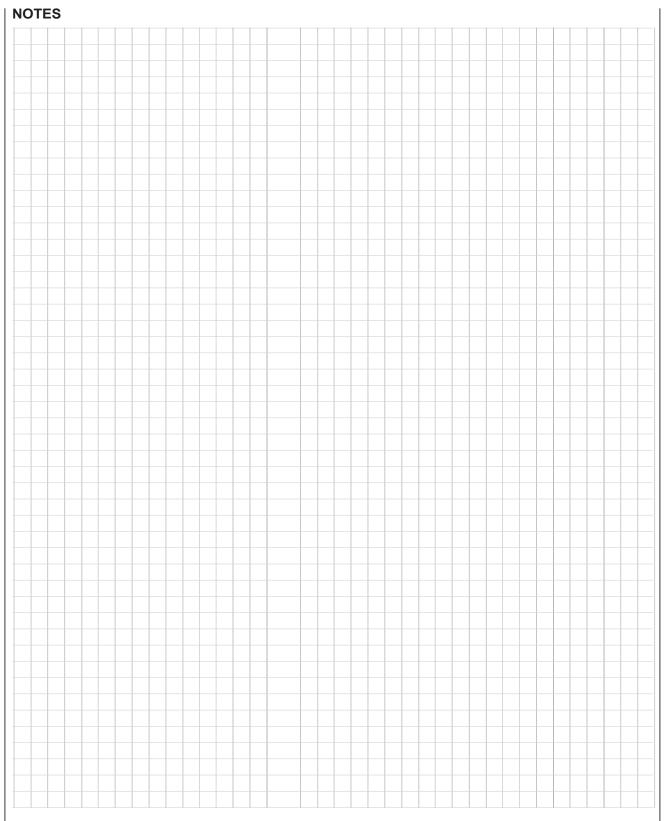
Return line element "RD"ON							
Size 1 μm 3 μm 5 μm 10 μm 15 μm 20 μm 0161 17.71 10.67							
			8.76	4.97	3.41	3.04	
0241	10.86	6.54	5.37	3.05	2.09	1.87	
0261	7.19	4.33	3.56	2.02	1.38	1.24	
0281	4.47	2.69	2.21	1.25	0.86	0.77	

For information on bypass valve curves, please see Filter Element (Quick Selection) brochure no.: E 7.221../..

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### **NOTE**

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

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

Subject to technical modifications.

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