Mobilemicron®
Filter Elements MM
up to 10 bar, filtration rating 8, 10, 15 µm

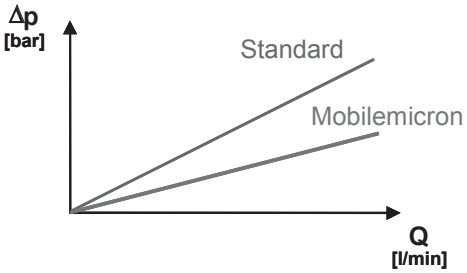
1. MOBILEMICRON® ELEMENT

1.1 DESCRIPTION

The use of Mobilemicron® element technology guarantees safe, reliable operation of your mobile machine.

The Mobilemicron® series of filter elements is characterized by an especially low pressure drop which makes them particularly suitable for use wherever high-viscosity oil is likely - especially at low temperatures during a cold start. When Mobilemicron® elements are used, compared to conventional hydraulic elements under the same ambient conditions, the Δp produced is lower and the flow rate is higher which results in a lower energy requirement.

Filtered flow during cold start



Thanks to its excellent cold start behaviour the Mobilemicron® element technology is used primarily in mobile applications but is also typically recommended for gear lubrication applications in systems with high temperature fluctuations and high-viscosity oils (>ISO VG 100).

1.2 GENERAL DATA

Collapse stability	10 bar for return line filter elements 20 bar for pressure filter elements
Temperature range	-30 °C to +100 °C For sealing material FPM to -10 °C
Flow direction	From outside to inside
Filtration rating	8, 10, 15 µm
Bypass cracking pressure	Return line filter element (**"R"**): standard 3 bar Pressure filter element for MFX filter (**"MX"**): standard 3.5 bar Return line filter element for RKM filter (**"RK"**): standard without bypass valve Return line filter element pressure filter (**"RD"**): standard without bypass valve (others on request)
Category of filter element	Single use element

1.3 STAT-FREE® ELEMENT 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 succeeded in combining excellent electrostatic characteristics with filtration performance. Unprecedented low charge generation in the filter element and in the system fluid is achieved with a new type of filter mesh pack and element design.

1.4 OUTER WRAP PRINTED WITH CUSTOMER LOGO

Since the outer wrap can be printed with the customer logo, it also acts as an advertising medium for the OEM and guarantees security of the spares business. At the same time, the user can be certain of obtaining an original spare part. Particular benefit: the logo remains perfectly legible even in the contaminated condition.

1.5 COMPATIBILITY WITH HYDRAULIC FLUIDS TO 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 VDMA 24568 HETG, HEES, HEPG
- Fire-resistant fluids HFA, HFB, HFC and HFD
- Operating fluids with high water content (>50% water content) on request

2. MODEL CODE

2.1 MODEL CODE FOR STANDARD RETURN LINE FILTER ELEMENTS

(Can be used in the following filters: RF, RFD, RFM, RFL, RFLD)

0660 R 010 MM /-V

Size
0075, 0090, 0150, 0165, 0185, 0195, 0210, 0270, 0330, 0500, 0660, 0850

Type
R Return line filter element

Filtration rating in µm
008, 010, 015

Filter material of element
MM Mobilemicron®, collapse stability up to 10 bar

Supplementary details
V FPM (Viton) seal
KB without bypass valve
SFREE Stat-Free® element technology

2.2 MODEL CODE FOR RETURN LINE FILTER ELEMENTS IN RKM FILTERS

0300 RK 010 MM /-V

Size
0080, 0100, 0120, 0151, 0201, 0251, 0300, 0350, 0400, 0800

Type
RK Return line filter element for RKM filter

Filtration rating in µm
008, 010, 015

Filter material of element
MM Mobilemicron®, collapse stability up to 10 bar

Supplementary details
V FPM (Viton) seal
SFREE Stat-Free® element technology

2.3 MODEL CODE FOR RD PRESSURE FILTER ELEMENTS

(Can be used in the following filters: LPF…/-TH, LPF…GGA)

0251 RD 010 MM /-V

Size
0161, 0241, 0261, 0281

Type
RD Pressure filter element

Filtration rating in µm
008, 010, 015

Filter material of element
MM Mobilemicron®, collapse stability up to 20 bar

Supplementary details
V FPM (Viton) seal
SFREE Stat-Free® element technology

2.4 MODEL CODE FOR PRESSURE FILTER ELEMENTS IN MFX FILTERS

0100 MX 010 MM /-V

Size
0100, 0200

Type
MX Pressure filter element for MFX filter

Filtration rating in µm
008, 010, 015

Filter material of element
MM Mobilemicron®, collapse stability up to 20 bar

Supplementary details
V FPM (Viton) seal
KB without bypass valve
SFREE Stat-Free® element technology

3. FILTER CALCULATION / SIZING

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

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

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

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

(*see point 4.1)

4. ELEMENT CHARACTERISTICS

4.1 GRADIENT COEFFICIENTS FOR FILTER ELEMENTS

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

Return line filter element "R"...MM			
Size	8 µm	10 µm	15 µm
0075	4.83	4.83	3.02
0090	4.60	4.60	2.15
0150	2.08	2.08	1.30
0165	2.66	2.66	1.66
0185	1.97	1.97	1.23
0195	1.45	1.13	0.69
0210	0.95	0.95	0.59
0270	0.58	0.58	0.36
0330	1.43	1.43	0.89
0500	0.94	0.94	0.59
0660	0.55	0.55	0.34
0850	0.42	0.42	0.26

Return line filter element "RK"...MM			
Size	8 µm	10 µm	15 µm
0080	2.48	2.48	1.59
0100	1.74	1.74	1.11
0120	1.40	1.40	0.90
0151	1.00	1.00	0.65
0201	0.75	0.75	0.47
0251	0.58	0.58	0.36
0300	0.62	0.62	0.39
0350	0.30	0.30	0.20
0400	0.56	0.56	0.35
0800	0.44	0.44	0.27

Pressure filter element "RD"...MM			
Size	8 µm	10 µm	15 µm
0161	3.53	3.53	2.29
0241	2.03	2.03	1.32
0261	1.31	1.31	0.85
0281	0.82	0.82	0.53

Pressure filter element "MX"...MM			
Size	8 µm	10 µm	15 µm
0100	2.70	2.70	2.20
0200	1.60	1.60	1.30

4.2 CONTAMINATION RETENTION CAPACITY IN G

The contamination retention and particle filtration performance of an element are established in the multipass test to ISO 16889. This procedure with its precisely defined test conditions and a standard test dust (ISO MTD) enables the performance data of different elements to be compared.

Return line filter element "R"...MM			
Size	8 µm	10 µm	15 µm
0075	5.4	5.4	6.4
0090	7.4	7.4	8.8
0150	11.8	11.8	13.9
0165	9.9	9.9	11.6
0185	13.6	13.6	16.0
0195	18.5	18.5	21.7
0210	32.8	32.8	38.7
0270	50.8	50.8	59.9
0330	21.8	21.8	25.7
0500	33.4	33.4	39.4
0660	53.7	53.7	63.3
0850	69.1	69.1	81.4

Return line filter element "RK"...MM			
Size	8 µm	10 µm	15 µm
0080	11.0	11.0	13.3
0100	16.3	16.3	19.6
0120	20.7	20.7	25.0
0151	26.6	26.6	31.4
0201	50.9	50.9	61.4
0251	61.9	61.9	74.7
0300	55.6	55.6	67.1
0350	87.0	87.0	105.0
0400	67.4	67.4	81.3
0800	86.3	86.3	104.2

Pressure filter element "RD"...MM			
Size	8 µm	10 µm	15 µm
0161	11.3	11.3	13.7
0241	18.7	18.7	22.6
0261	29.0	29.0	35.0
0281	46.6	46.6	56.2

Pressure filter element "MX"...MM			
Size	8 µm	10 µm	15 µm
0100	13.3	13.3	15.7
0200	22.7	22.7	26.8

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

NOTES

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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