Ecomicron® Filter Elements ECON2

up to 10 bar, filtration rating 3, 5, 10, 20 µm

1. ECOMICRON® ELEMENT

1.1 DESCRIPTION

With the introduction of the new Betamicron® element technology HYDAC has broken new ground in the field of filter technology: with its markedly improved filtration performance the new glass fibre technology delivers a significant reduction in operating costs of both machine and system.

In the second step we were able to incorporate the outstanding values of the new Betamicron®4 technology into the environmentally friendly all-plastic variant Ecomicron®. The result was the new filter element generation Ecomicron®2 with tried-and-tested full-plastic structure and improved performance data.

The typical HYDAC element construction has been retained: the unique outer wrap ensures optimum flow control and protects the high-grade filter medium; the pleated filter mesh pack stabilises the filter element for flow from outside to inside and makes maximum use of the glass fibre capacity.

1.2 GENERAL DATA

Collapse stability	10 bar
Temperature range	-30 °C to +100 °C For sealing material FPM to -10 °C
Flow direction	From outside to inside
Filtration rating	3, 5, 10, 20 µm
Bypass cracking pressure	Return line filter element (**"R"**): standard 3 bar Pressure filter element for MFX filter (**"MX"**): standard 3.5 bar (others on request)
Category of filter element	Single use element

1.3 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.

1.4 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 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: RFM, NF, NFD)

0660 R 010 ECON2 /-V

Size
0075, 090, 0150, 0160, 0165, 0185, 0195, 0240, 0280, 0330, 0500, 0660, 0750, 0850, 0950, 1300, 2600

Type
R Return line filter element

Filtration rating in µm
003, 005, 010, 020

Filter material of element
ECON2 Ecomicron®

Supplementary details
KB without bypass valve
V FKM (Viton) seal

2.2 MODEL CODE FOR PRESSURE FILTER ELEMENTS IN MFX FILTERS

0100 MX 010 ECON2 /-V

Size
0100, 0200

Type
MX Pressure filter element for MFX filter

Filtration rating in µm
003, 005, 010, 020

Filter material of element
ECON2 Ecomicron®

Supplementary details
KB without bypass valve
V FKM (Viton) seal

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"...ECON2				
Size	3 µm	5 µm	10 µm	20 µm
0075	22.0	14.2	8.1	4.4
0090	14.9	10.1	6.7	3.2
0150	8.9	6.0	4.0	1.9
0160	9.5	5.9	3.8	2.9
0165	11.2	7.8	4.5	2.4
0185	8.9	6.1	3.3	1.8
0195	6.6	4.5	2.4	1.3
0240	6.2	3.8	2.6	1.8
0280	3.1	2.2	1.6	1.0
0330	4.2	2.7	1.7	1.2
0500	3.0	1.9	1.3	0.8
0660	1.9	1.2	0.8	0.5
0750	1.3	0.9	0.6	0.4
0850	1.5	1.0	0.7	0.4
0950	1.2	0.8	0.5	0.4
1300	0.8	0.6	0.4	0.3
1700	0.7	0.5	0.3	0.2
2600	0.4	0.3	0.2	0.1

Pressure filter element "MX"...ECON2				
Size	3 µm	5 µm	10 µm	20 µm
0100	13.0	10.0	6.5	4.8
0200	8.0	5.9	3.8	2.8

4.2 CONTAMINATION RETENTION CAPACITY IN G

Return line filter element "R"...ECON2				
Size	3 µm	5 µm	10 µm	20 µm
0075	10.3	11.4	13.7	15.5
0090	12.2	13.5	16.2	18.3
0150	20.4	22.6	27.2	30.8
0160	18.6	20.7	24.9	28.1
0165	18.7	20.7	24.9	28.2
0185	25.6	28.4	34.1	38.6
0195	28.1	31.1	37.5	42.4
0240	29.3	32.5	39.1	44.2
0280	62.3	69.0	83.0	93.9
0330	38.4	42.6	51.2	57.9
0500	58.9	65.3	78.6	88.9
0660	87.1	96.5	116.1	131.3
0750	147.1	163.0	196.1	221.9
0850	112.1	124.2	149.5	169.1
0950	130.0	144.1	173.3	196.1
1300	181.0	200.7	241.4	273.1
1700	229.8	254.7	306.4	346.6
2600	369.4	409.4	492.5	557.2

Pressure filter element "MX"...ECON2				
Size	3 µm	5 µm	10 µm	20 µm
0100	25.6	29.9	29.9	33.0
0200	43.8	50.5	50.5	56.0

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

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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