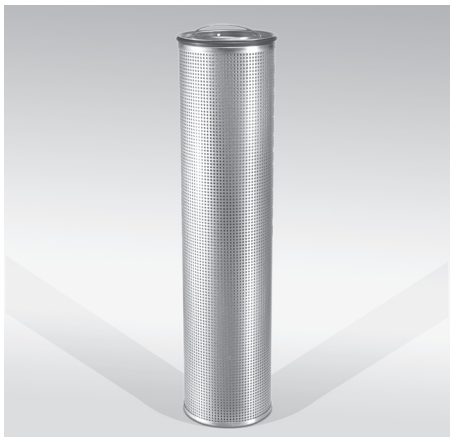

Wire Mesh Filter Elements WR

Flow direction from in to out
up to 6 bar, filtration rating 25, 40, 60, 100 µm

1. WIRE MESH ELEMENT

1.1 DESCRIPTION

WR filter elements have a wire mesh with a star-shaped pleat and support cylinder with square perforations. They are used for medium to large flow rates in inline filters, return line filters and suction line filters. Filter elements with a metal wire mesh are often used as an inexpensive and reusable solution. Depending on the requirements (filtration rating, pressure, dynamics) vaiours types of mesh are used, such as twill, linen and Dutch weave. Wire mesh filter elements are always surface filters, which means that they become contaminated faster than single use elements. For the regeneration, it must be borne in mind that elements finer than 40 µm can only be cleaned in the ultrasonic bath.

1.2 GENERAL DATA

Collapse stability	6 bar
Temperature range	-30 °C to +100 °C For sealing material FPM to -10 °C
Flow direction	From outside to inside
Filtration rating	25, 40, 60, 100 µm (others on request)
Bypass cracking pressure	The bypass valve function is realised in the filter or in the element spigot. For a pressure filter element ("**D**") or a return line filter element ("**R**") the cracking pressure is 3 bar as standard (others on request) Return line filter element, suction line ("**RS**"): without bypass valve as standard
Category of filter element	Can be cleaned to extend service life

1.3 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 FHA, HFB, HFC and HFD
- Operating fluids with high water content (>50% water content) on request

1.4 CLEANING

Stainless steel wire mesh elements can be cleaned after use. However only a certain level (percentage) of cleaning is achievable.

In order to achieve the best possible result, the elements should be cleaned using specialist equipment.

The cleaning effect cannot however be predicted. It depends greatly on various conditions

- Filtration rating:
  The finer the filter material, the worse the cleaning level
- Operating pressure:
  The higher the operating pressure, the more firmly the contamination particles become embedded in the filter material
- Type of particle:
  For example, if the contamination consists mainly of fibres, the level of cleaning is worse than if it consists of cube-type particles.

In addition it must be noted that with each cleaning process, it is only possible to restore approx. 80-90% of the initial filter area each time, i.e. after 4-5 cleaning cycles, the result might not make economic sense (cleaning costs versus service life).

Further information on cleaning is provided in the operating manual which is available on request.

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2. MODEL CODE

2.1 MODEL CODE FOR PRESSURE FILTER ELEMENTS

(Can be used in the following filters: LFR, LPFR, MDFR)

0080 D 040 WR /-V

Size
0020, 0045, 0080, 0150, 0250

Type
D Pressure filter element

Filtration rating in µm
025, 040, 060

Filter material of element
WR Collapse stability up to 6 bar

Supplementary details
V FKM (Viton) seal

2.2 MODEL CODE FOR RETURN LINE FILTER ELEMENTS

(Can be used in the following filters: RMER; RMTR, RPER, RFLR)

0800 R 040 WR /-V

Size
0170, 0230, 0300, 0310, 0400, 0500, 0600, 0800, 1000, 1200

Type
R Return line filter element

Filtration rating in µm
025, 040, 060

Filter material of element
WR Collapse stability up to 6 bar

Supplementary details
V FKM (Viton) seal

2.3 MODEL CODE FOR RETURN LINE FILTER ELEMENTS, SUCTION LINE FILTER

(Can be used in the following filters: SFAR)

0180 RS 100 WR /-V

Size
0100, 0150, 0180, 200, 250

Type
RS Return line filter element, suction line filter

Filtration rating in µm
100

Filter material of element
WR Collapse stability up to 3 bar

Supplementary details
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

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

(* gradient coefficient 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.

Details for 60 and 100 µm

Pressure filter element "D"...	
Size	WR
0020	2.0414
0045	0.9020
0080	0.7183
0150	0.4617
0250	0.2810

Return line filter element "R"...	
Size	WR
0170	0.0558
0230	0.0388
0300	0.0287
0310	0.0279
0400	0.0218
0500	0.0113
0600	0.0067
0800	0.0057
1200	0.0036

Return line filter element "RS"...	
Size	WR
0100	0.4299
0150	0.2991
0180	0.2293
0200	0.1994
0250	0.1376

4.2 FILTRATION AREA [CM²]

Pressure filter element "D"...	
Size	WR
0020	190
0045	430
0080	540
0150	840
0250	1380

Return line filter element "R"...	
Size	WR
0170	1720
0230	2320
0300	3110
0310	3200
0400	4100
0500	7900
0600	13600
0800	16000
1200	24700

Return line filter element "RS"...	
Size	WR
0100	1600
0150	2300
0180	3000
0200	3450
0250	5000

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.
All technical details are subject to change without notice.

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