RT-PLEAT filter elements

Element flow direction from in to out
up to 10 bar, filtration rating 3, 5, 7, 12 and 20 µm

1. RT PLEAT ELEMENT

1.1 DESCRIPTION

Within the HYDAC Group, a new generation of elements has been developed that enables efficient refitting of Pall housing of the types UR319, UR619, UR209 and UR219: RT-PLEAT.

They are used in pressure filter housing, where they provide fine filtration of hydraulic and lubricating oils.

Further information on Betterfit elements is available from the Betterfit database on our website (www.hydac.com) under Service > Online Tools > Betterfit

1.2 FUNCTION

The pleated structure of the new RT-PLEAT filter elements remains highly stable even under operating conditions such as cold starts or high differential pressures. This guarantees a high level of contamination retention and ensures that the contamination remains in the element, even during pressure pulsations. Furthermore, the entire filter surface is used during the service life of the filter element. This means that pressure losses are minimised.

- Long system life time and reliable component protection due to the high separation capacity
- Long element life times due to the high contamination retention capacity and low pressure loss at the element
- Low operating costs due to the long element changing intervals and the economic element price

1.3 GENERAL DATA

Collapse stability	10 bar
Temperature range	-20 °C to +120 °C
Flow direction	From inside to outside
Filtration rating	3, 5, 7, 12, 20 µm
Seal material	FKM
Bypass cracking pressure	Pressure filter element ("**D**"): Without bypass valve as standard
Category of filter element	Single use element

1.4 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 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.

1.5 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 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.

1.6 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

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2. MODEL CODE

2.1 MODEL CODE FOR RT-PLEAT PRESSURE FILTER ELEMENTS

1.28.04 D 03 RT-PLEAT /-V

Size

Type
D Pressure filter element

Filtration rating in µm
03, 05, 07, 12, 20

Filter material of element
RT-PLEAT Collapse stability up to 10 bar

Supplementary details
V FKM seal (standard = **must be specified**)
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.

Pressure filter element 1.21. ..."D"...RT-PLEAT /-V

Size	3 µm	5 µm	7 µm	12 µm	20 µm
1.21.08	8.90	3.50	3.16	2.61	2.25
1.21.13	5.50	2.17	1.97	1.63	1.40
1.21.20	3.60	1.41	1.27	1.05	0.91
1.21.40	1.80	0.70	0.63	0.53	0.46

Pressure filter element 1.22. ..."D"...RT-PLEAT /-V

Size	3 µm	5 µm	7 µm	12 µm	20 µm
1.22.20	1.00	0.82	0.74	0.67	0.61
1.22.40	0.40	0.41	0.37	0.34	0.30

Pressure filter element 1.27. ..."D"...RT-PLEAT /-V

Size	3 µm	5 µm	7 µm	12 µm	20 µm
1.27.03	65.90	20.40	18.80	16.50	15.18
1.27.07	29.30	9.00	9.86	7.30	8.10

Pressure filter element 1.28. ..."D"...RT-PLEAT /-V

Size	3 µm	5 µm	7 µm	12 µm	20 µm
1.28.04	33.70	11.00	9.90	9.00	8.20
1.28.08	17.20	5.60	5.00	4.60	4.20
1.28.13	10.80	3.50	3.10	2.80	2.50
1.28.20	7.00	2.30	2.10	1.80	1.60

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.

Pressure filter element 1.21. ..."D"...RT-PLEAT /-V

Size	3 µm	5 µm	7 µm	12 µm	20 µm
1.21.08	41.08	22.63	25.57	47.97	52.77
1.21.13	67.71	37.30	41.00	78.61	86.47
1.21.20	104.52	57.58	63.34	121.35	133.48
1.21.40	208.70	115.04	126.54	242.44	266.68

Pressure filter element 1.22. ..."D"...RT-PLEAT /-V

Size	3 µm	5 µm	7 µm	12 µm	20 µm
1.22.20	455.00	340.29	374.31	504.47	554.92
1.22.40	910.00	680.59	748.65	1008.95	1109.84

Pressure filter element 1.27. ..."D"...RT-PLEAT /-V

Size	3 µm	5 µm	7 µm	12 µm	20 µm
1.27.03	4.90	6.25	6.88	6.06	6.80
1.27.07	11.07	14.13	15.40	13.70	15.10

Pressure filter element 1.28. ..."D"...RT-PLEAT /-V

Size	3 µm	5 µm	7 µm	12 µm	20 µm
1.28.04	9.80	11.70	12.90	12.12	13.33
1.28.08	19.60	23.40	25.74	19.88	21.87
1.28.13	30.63	36.57	40.59	37.88	41.67
1.28.20	40.55	77.13	84.84	59.10	65.05

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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