

## Profile® II RFN Series Filter Elements

### Description

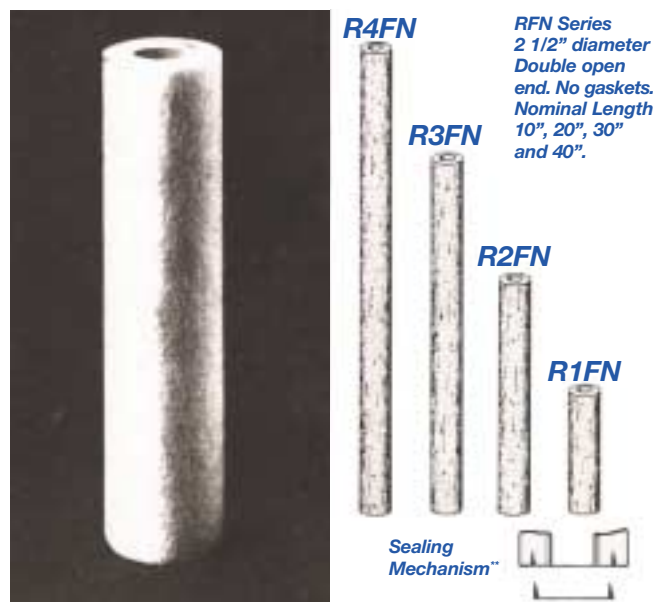
Profile® II RFN Series filters are composed of an all nylon filter medium with glass filled polypropylene cores as standard. They are also available with glass filled nylon cores. The elements have an absolute rated downstream section, and a continuously profiled pore size upstream section, which increases service life many-fold.

The fibers in Profile II RFN filters are for practical purposes continuous. No binder resin is used —the fibers are “bonded” by intertwining during the manufacturing process. As a result, Profile II RFN filters show no media migration.

The Profile II RFN Series filter elements are aligned within the housing by installing the elements onto a tie-rod. The elements are then secured in place by a seal nut. When fully engaged, the tie-rod/seal nut assembly forms a knife edge sealing” surface embedded into the filter medium at both the top and bottom of the element.

### Applications

The Profile II RFN filter has numerous applications in a broad range of industries that include chemical, petrochemical, pharmaceutical, paint, resin coating, food, beverage and cosmetic industries.



Standard Profile® II RFN Filter Element

**Table I. Profile II RFN Cartridge Grades and Their Characteristics**

Cartridge Grade	Removal Ratings				Clean Pressure Drop		Typical Aqueous Flow (GPM/10" Cartridge)
	Liquid Service				Liquid Service	Gaseous Service	
	Rating in $\mu\text{m}$ at % Efficiency				Aqueous Pressure Drop (psi/gpm) <sup>(2)</sup>	CFM of Air per PSI per 10" Cartridge <sup>(3)</sup>	
	90%	99%	99.9%	99.98%			
050	2.0	3.0	4	5	0.8	11	3 - 8
100	6.5	7.5	9	10	0.3	29	6 - 15
200	10	14	18	20	0.10	75	10 - 15
400	20	30	35	40	0.05	207	10 - 15
700	32	50	70 <sup>(1)</sup>	–	<0.05	415	10 - 15

(1) Extrapolated values.

(2) Pressure drop in PSI per GPM for a single 10" module. For multiple elements, divide by number of modules. For fluids other than water, multiply by viscosity in centipoise.

(3) For longer modules, increase the flow rates listed in proportion. The flow rates listed do not take into account pressure losses due to flow in the internal diameter of the element, which becomes significant above about 40 to 60 cfm.

## Fluid Capability

The materials of construction of the standard RFN Series filters permit application in a very wide range of liquids, and gases. For use with hot vegetable and mineral oils, which cause the polypropylene core to swell, the GN Series, with a glass filled nylon core, is preferred. For use with xylene, toluene or other aromatics, and for high temperatures, the glass filled nylon core is required. The Profile II RFN Series nylon filters should **not** be used in any oxidizing conditions or with water above 115°F (40°C).

## Operating Characteristics

The recommended maximum pressure differential for the standard RFN Series filters is 75 psi up to 86°F (30°C), 50 psi up to 158°F (70°C), and 35 psi up to 180°F (82°C). For the GN Series filters with glass filled nylon cores, recommended maximum pressure differential is 90 psi up to 86°F (30°C), 80 psi up to 158°F (70°C), 70 psi up to 212°F (100°C), and 50 psi up to 300°F (150°C).

## Part Numbers / Ordering Information

Table II. Standard Configurations of Profile II RFN Series Filter Elements

100% Removal Rating $\mu\text{m}^{**}$	Profile II RFN Element Part Number
5	R ■ ▲ FN050
10	R ■ ▲ FN100
20	R ■ ▲ FN200
40	R ■ ▲ FN400
70*	R ■ ▲ FN700

\*99.9% removal.

\*\*NOTE: For comparison of removal ratings and to replace conventional depth filters with Profile II elements, refer to bulletin PRO 400.

If the fluid filtered is compatible with polypropylene and if the temperature is below 194°F (90°C), Profile II RF Polypropylene Series elements, described in Data Sheet E1 and Bulletin PRO 400, may be suitable. Pall Corporation's Scientific and Laboratory Services group will supply compatibility information for both nylon and polypropylene upon request.

## Sizes

The Profile II RFN Series filter elements are 2 1/2" O.D. and are available in one piece 10, 20, 30, and 40 inch length modules.

## Housings

Housings are available in polypropylene, other polymers, carbon steel and stainless steel. Refer to brochure SUM 200 for further details.

Code	Inner Core Material of Construction
GY	Glass Filled Polypropylene (Standard)
GN	Glass Filled Nylon (Optional)

Code	Nominal Length, Inches
1	10
2	20
3	30
4	40



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