



Donaldson.
FILTRATION SOLUTIONS

Process Filtration From Pure to Sterile

(P)-SM N

MAIN FEATURES & BENEFITS:

- High dirt holding capacity at low differential pressure and high flow rate
- Highly durable stainless-steel design
- Regenerable by ultrasonication or back flushing
- For the filtration of air and liquids
- Approved for Food Contact Use acc. to CFR Title 21 & 1935/2004/EC



INDUSTRIES:



- Chemical



- Food & Beverage



- Paint



- Environment



- Pharmaceutical

Donaldson Filtration Deutschland GmbH
Büssingstr. 1
42781 Haan
Germany

Web: www.donaldson.com

Donaldson[®]
Ultrafilter

PRODUCT DESCRIPTION

The (P)-SM N filter element consists of a regenerable, pleated filter matrix with stainless steel outer guard and end caps. The retention rate extends from 1 µm absolute up to 250 µm absolute in water.

The (P)-SM N filter element offers an exceedingly economical pre- and final filtration, where the stainless-steel filter matrix can be regenerated by ultrasonication or back flushing. This is especially important at higher particle loads.

The heavy-duty construction of the (P)-SM N filter is also suitable for high-viscosity liquids and can withstand a differential pressure of up to 5 bar (flow from outside to inside). In addition, the filter can be used for temperatures up to 210°C (special O-rings needed).

All components meet the USA/EU requirements for Food Contact Use in accordance with CFR (Code of Federal Regulations) Title 21 and EC/1935/2004. The filter element is manufactured in accordance with EC/2023/2006. It has no migration of filter media and is non-fibre releasing.

The (P)-SM N stainless steel filter is designed and developed for the following applications:

Liquid Filtration

- Water filtration
- Chemicals
- Solvents
- Pharmaceutical industry
- Food and beverage
- Syrup
- Cosmetics
- Paints
- Salt- and Seawater
- Coolants

Gas Filtration

- Compressed air
- Carbon dioxide
- Nitrogen
- Tank Ventilation
- Highly aggressive gases

PRODUCT SPECIFICATIONS

Product Specifications

Filtration Surface:

- 0.22 m² per 250 mm element (10")
- For other element sizes see correction factor CF in section "Available end cap configurations"

Temperature Range:

- -20°C (-4°F) to 210°C (410°F)
- > 180°C (356°F) specific O-rings required

**Maximum Differential Pressure:
(Flow Direction: Outside to Inside)**

- 5 bar (75 psid), independent of the system pressure or temperature

RETENTION RATES

Filter Rating (water)

	1 µm	5 µm	25 µm	50 µm	100 µm	250 µm
Nominal (~ 98 %)	0.6µm	4 µm	15 µm	40 µm	60 µm	200 µm
Absolute (> 99,98 %)	1 µm	5 µm	25 µm	60 µm	100 µm	250 µm

Retention Rates (Air, 20 °C, 90 Nm³/h, 10/30 Element)

Pore Size [µm]	98 % [µm]	>99.9 % [µm]	Thickness [mm]
1	0.1	< 1	0.37
5	1	< 5	0.35
25	15	25µm	0.17

MATERIAL COMPLIANCE USA

All components of the (P)-SM N filter element are FDA listed for food contact use in the Code of Federal Regulations (CFR), Title 21.

Filter Materials		CFR Title
Filter Matrix:	Stainless Steel 1.4301	211.65
End Caps:	Stainless Steel 1.4301	211.65
Bonding Materials:	Silicone	177.2600
O-Rings:	EPDM	177.2600
Alternatively:	Silicone	177.2600
	PTFE over silicone	177.1550
	PTFE over viton	177.1550

All products have been inspected and released by Quality Assurance as having met the following requirements:

- All filters are fabricated without the use of binders, adhesives, additives or surface-active agents.

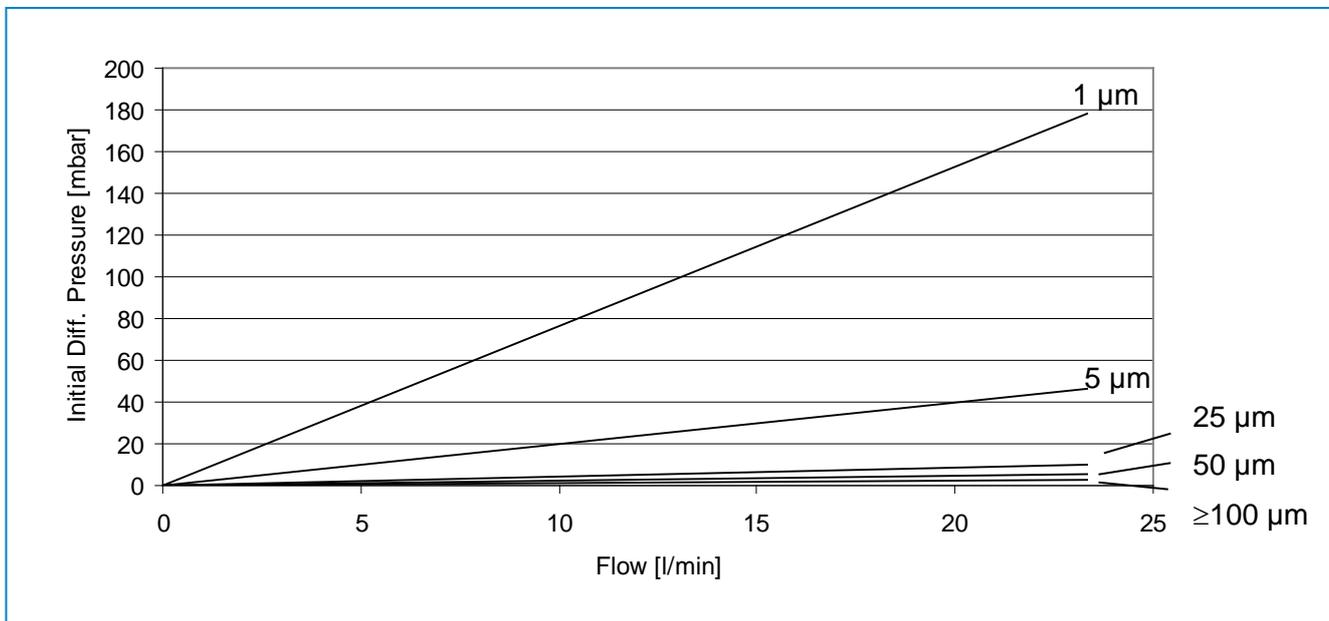
MATERIAL COMPLIANCE EU

The Donaldson (P)-SM N filter element meets the guideline for direct Food Contact Use as given in European Regulation 1935/2004/EC.

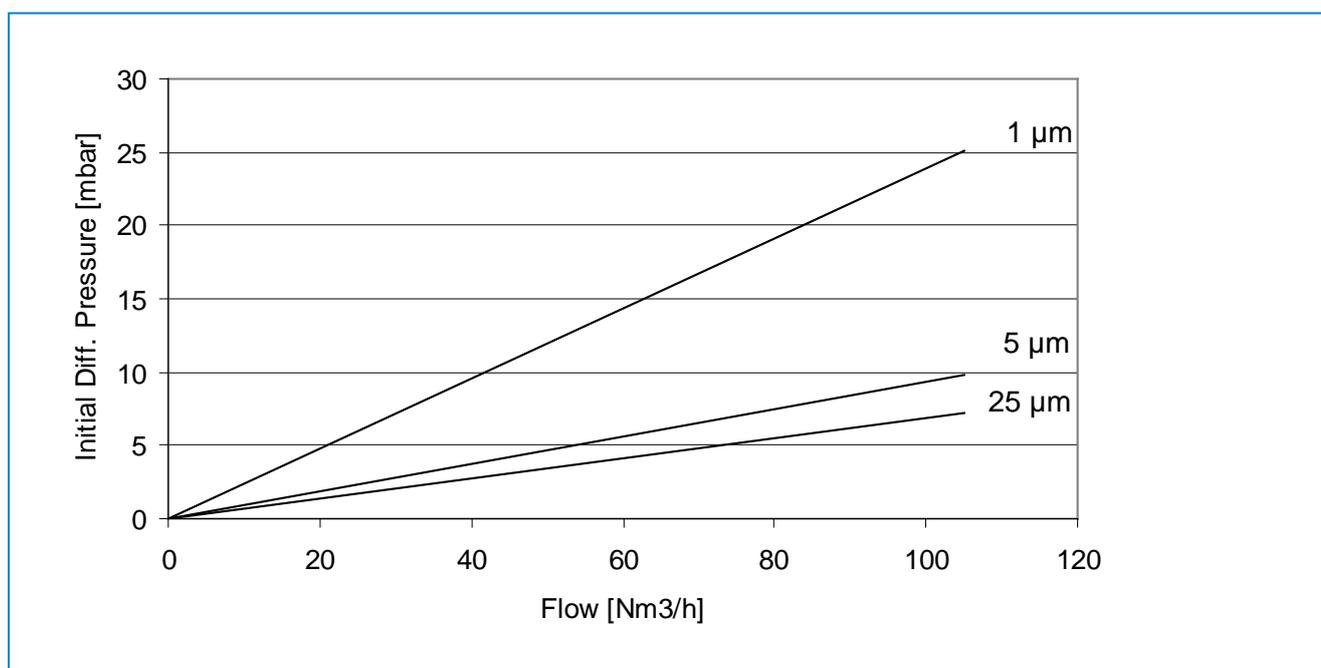
For specific details on the O-rings, please contact your Donaldson Sales Engineer.

FLOW CHARACTERISTICS

(P)-SM N, 10", Deionised water, 25°C



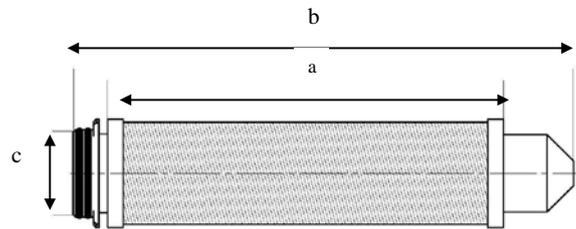
(P)-SM N, 10", air, 25°C, 1 bar absolute



AVAILABLE END CAP CONFIGURATIONS

Dimensions (CODE 7 connection):

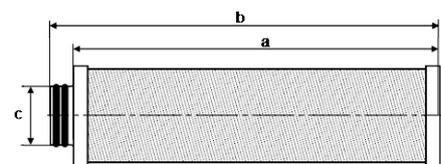
CODE 7						
Size	a		b		c	
	mm	inch	mm	inch	mm	inch
5"	128	5,04	192	7,56	56,5	22,2
10"	255	10,04	319	12,56	56,5	2,22
20"	498	19,61	562	22,16	56,5	2,22
30"	744	29,29	808	31,81	56,5	2,22



CODE 7: 2 x 226 o-rings, bayonet 2 locking tabs, locating fin

Dimensions (uf plug connection):

uf – plug Connection							
Size	a		b		c*		CF**
	mm	inch	mm	inch	mm	inch	
03/10	76	2.99	87	3.42	30	1.18	0.16
04/20	104	4.09	118	4.64	37	1.46	0.22
05/20	128	5.04	142	5.59	37	1.46	0.27
05/30	128	5.04	144	5.67	61	2.40	0.50
07/30	180	7.08	196	7.71	61	2.40	0.71
10/30	254	10	270	10.63	61	2.40	1.00
15/30	381	15	397	15.63	61	2.40	1.50
20/30	510	20	526	20.63	61	2.40	2.02
30/30	764	30	780	30.63	61	2.40	3.00
30/50	764	30	780	30.63	89	3.50	4.58



* Plug- type connection with double-o-ring

** Correction Factor filtration surface & flow rate

Other end cap configurations on request.

Technical alterations reserved 11/2017

- For information on integrity test equipment or integrity test services, please contact your Donaldson Sales Engineer and visit our website at www.donaldson.com!

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