



Donaldson  
FILTRATION SOLUTIONS

# Process Filtration From Pure to Sterile

(P)-GSL N

## MAIN FEATURES & BENEFITS:

- High dirt holding capacity at low differential pressure and high flow rate
- Regenerable by Back-flushing or ultrasonication
- For the filtration of air, gas & steam
- Down to 0.01  $\mu\text{m}$  in saturated steam
- Approved for food contact use acc. to CFR Title 21 & EC/1935/2004



## INDUSTRIES:



- Dairy



- Food & Beverage Industry



- Fermentation



- Pharmaceutical



- Chemical

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Donaldson®  
**Ultrafilter**

## PRODUCT DESCRIPTION

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The (P)-GSL N filter consists of a regenerable pleated stainless-steel filter matrix in a stainless-steel cartridge. The retention rate extends from 1 µm to 25 µm.

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The (P)-GSL N filter retains contaminants, such as particles, abrasion of valves and sealings as well as rust. An improved steam quality ensures longer service life of the filters to be sterilized and increases the efficiency of the entire process. The (P)-GSL N filter element offers the possibility of a particularly economic filtration, since the filter medium can be regenerated by ultrasonic bath or by back-flushing. This is especially essential at high particle loads. The pleated stainless-steel filter matrix ensures a very low differential pressure even at high contamination loads.

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The heavy-duty construction of the (P)-GSL N filter is designed to withstand a maximum differential pressure up to 10 bar. The filter may also be used in a temperature range of -20°C up to 210°C for the filtration of air, gases or liquids. For temperatures higher than 180°C special O-Rings are required.

### Typical applications for (P)-GSL N filter elements include:

#### Steam Filtration

- Breweries
- Chemical industry
- Pharmaceutical industry
- Food and beverage
- Aseptic packaging
- Electronic industry
- Dairy industry
- Plastic industry

#### Gas Filtration

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

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All components of the version with welded end caps meet the USA requirements for Food Contact Use in accordance with CFR (Code of Federal Regulations) Title 21 and the EU requirements for Food Contact use according to EC/1935/2004. The filter element is manufactured in accordance with the manufacturing requirements, has no migration of filter media and is non-fibre releasing.

## PRODUCT SPECIFICATIONS

## Product Specification

## Filtration Surface\*

- 0,18 m<sup>2</sup> per 250 mm element (10/30)
- 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) special O-rings are required

Maximum Differential Pressure  
(Flow Direction: Outside to  
Inside)

- 10 bar (145 psid), independent of the system pressure or temperature

## RETENTION RATES

Retention Rates (Air, 20 °C, 90 Nm<sup>3</sup>/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

## Retention Rates (Saturated Steam, 121°C, 90 kg/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

## Fractional Efficiency (P)-GSL N, 1µm, Air / Saturated Steam

Fractional Efficiency [%]						
Pore Size [µm]	0,01 µm	0,07 µm	0,1 µm	0,2 µm	0,3 µm	0,4µm
1	99.99	99.65	98.69	99.08	99.49	99.74

## MATERIAL COMPLIANCE USA

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

Filter Materials		CFR Title
<b>Filter Matrix:</b>	<b>Stainless Steel 1.4301</b>	<b>211.65</b>
<b>Support:</b>	Stainless Steel 1.4301	211.65
<b>End Caps:</b>	Stainless Steel 1.4301	211.65
<b>O-Rings:</b>	EPDM	177.2600
<b>Alternatively:</b>	Fluoraz	177.2600
	Silicone	177.2600
	EPDM	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:

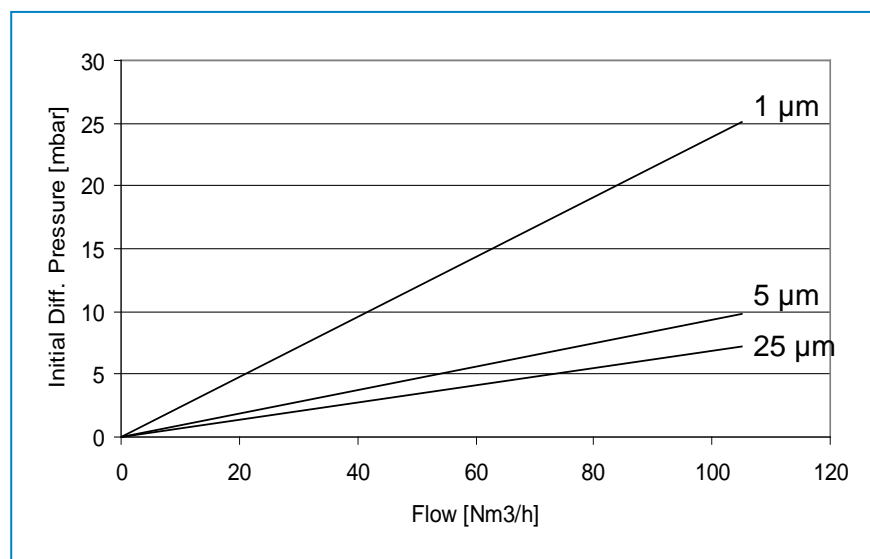
- All filters are fabricated without the use of binders, adhesives, additives or surface-active agents.

## MATERIAL COMPLIANCE EU

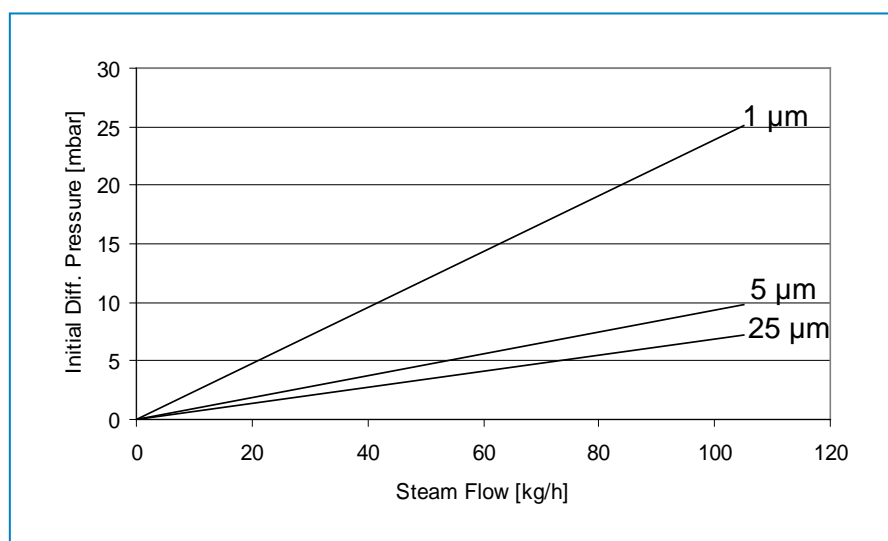
The Donaldson (P)-GSL N filter element meets the guideline for food contact use as given in European Regulation 1935/2004/EC.

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

## FLOW CHARACTERISTICS



(P)-GSL N, 10/30, air,  
20 °C,  
1 bar absolute



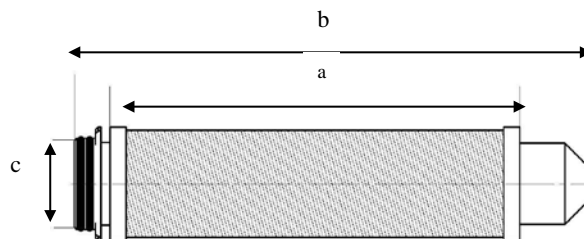
(P)-GSL N, 10/30,  
saturated steam, 121 °C,  
2 bar absolute

## AVAILABLE END CAP CONFIGURATIONS

## Dimensions (CODE 7 connection):

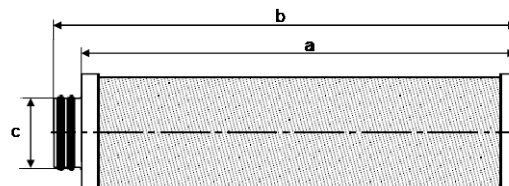
CODE 7						
Size	a		b		c	
	mm	inch	mm	inch	mm	inch
5"	128	5.04	192	7.56	56.5	2.22
10"	255	10.04	319	12.56	56.5	2.22
20"	498	19.61	542	21.34	56.5	2.22
30"	744	29.29	802	31.57	56.5	2.22

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	0.17
04/10	104	4.09	115	4.53	30	1.18	0.26
04/20	104	4.09	118	4.64	37	1.46	0.26
05/20	128	5.04	142	5.59	37	1.46	0.35
07/20	180	7.08	194	7.64	37	1.46	0.52
03/30	76	2.99	92	3.62	61	2.40	0.21
05/30	128	5.04	144	5.67	61	2.40	0.44
07/30	180	7.08	196	7.71	61	2.40	0.67
10/30	254	10	270	10.63	61	2.40	1.00
15/30	381	15	397	15.63	61	2.40	1.57
20/30	508	20	524	20.63	61	2.40	2.13
30/30	762	30	778	30.63	61	2.40	3.27
10/50	254	10	270	10.63	89	3.50	1.45



\* Plug-type connection with double O-ring

\*\* Correction Factor filtration surface & flow rate

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!](http://www.donaldson.com!)

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