Donaldson
FILTRATION SOLUTIONS

STEAM, STERILE AIR AND LIQUID FILTRATION

Process Filtration

SOLUTIONS FOR STERILE REQUIREMENTS

EXTENSIVE PRODUCT PORTFOLIO

Donaldson is a leading global manufacturer of filtration systems. Founded in 1915, Donaldson has a broad range of industrial air, sterile air, culinary steam, drying, tank venting, and process liquid filtration products and services.

ADVANCED TECHNOLOGY

Donaldson's advanced filtration technology protects your capital investment and reduces long-term cost of ownership by optimizing filter performance and energy efficiency. Extensive research and development capabilities — coupled with advanced design and testing capabilities — help us deliver customized solutions to meet special requirements.

UNRIVALED SUPPORT AND EXPERTISE

Global manufacturing and distribution with local support, with strong post-sales technical assistance, combined with housings, elements and parts in-stock and ready to ship within 24 hours, provide unequaled support.

Product Portfolio

AIR AND GAS FILTERS	STEAM FILTERS	LIQUID FILTERS
Housings	Housings	Housings
Membrane filters	Sintered steel filters	Membrane filters
Depth filters	Pleated steel filters	Depth filters

Reliable Product Quality

All filter elements are produced, packaged and shipped under strict controls in an exact manner and meet the quality and performance data that are stored in the product specification.

For indirect and direct food contact according to FDA CFR - Code of Federal Regulations, Title 21	FDA
For indirect and direct food contact in accordance with Regulation (EC) No 1935/2004	
3-A Sanitary Standards for the United States	
Manufactured according to the specifications of the Pressure Equipment Directive 97/23/EC	CE

Typical Application Areas


Dairies


Water & Soft Drinks


Breweries


Wineries


Pharmaceutical


Food

ECONOMICAL SOLUTIONS

AIR, GAS, AND STEAM FILTER HOUSINGS

High-quality Stainless Steel Housings in Industrial Quality

P-EG filter housings have been developed for the purification of compressed air, gases, and steam. Housings are available in a variety of connection types, including NPT, ANSI, butt-weld, and BSP.

FDA CE

FNPT Housings – 304 SS

Model Number	Gas Capacity (scfm)	Steam Capacity (lbs/hr)	Connections			Dimensions (inches)		Design Pressure and Temperature	Surface Finish		Weight w/o Element (lbs)	Element (UF Connection)	
			FNPT	Type	Vent/Drain	Height	Width (±.125)		Inner	Outer		Size	Qty
P-EG 0006	36	100	1/4"	NPT thread	Vent 1/4" BSP Drain 1/4" NPT	8.2	4.10	232 psig @ 392°F	Pickled and passivated to Ra 63	Pickled, passivated and polished to Ra 63	4	03/10	1
P-EG 0009	54	150	3/8"			9.5	4.25				4	04/10	1
P-EG 0012	72	175	1/2"			9.5	4.25				4	04/20	1
P-EG 0018	108	225	3/4"			10.5	4.90				4	05/20	1
P-EG 0027	162	300	1"			11.5	4.90				6	05/25	1
P-EG 0036	216	430	1-1/4"			13.5	5.50				7	07/25	1
P-EG 0048	288	610	1-1/2"			15.0	6.70				9	07/30	1
P-EG 0072	480	800	2"			18.0	6.70				11	10/30	1
P-EG 0108	720	1,075	2"			23.0	6.70				12	15/30	1
P-EG 0144	960	1,650	2-1/2"			29.0	8.50				20	20/30	1
P-EG 0192	1,152	2,050	3"			39.0	8.50				24	30/30	1
P-EG 0288	1,960	2,530	3"			40.0	9.50	174 psig @ 392°F			36	30/50	1

ANSI Flange Housings – 304 SS

Model Number	Gas Capacity (scfm)	Steam Capacity (lbs/hr)	Connections			Dimensions (inches)		Design Pressure and Temperature	Surface Finish		Weight w/o Element (lbs)	Element (UF Connection)	
			ANSI	Type	Vent/Drain	Height	Width (±.125)		Inner	Outer		Size	Qty
P-EG 0027	162	300	1"	ANSI flange optional	Vent 1/4" BSP Drain 1/4" BSP	11.2	9.72	232 psig @ 302°F	Pickled and passivated to Ra 63	Pickled, passivated and polished to Ra 63	11	05/25	1
P-EG 0036	216	430	1-1/4"			13.2	10.00				15	07/25	1
P-EG 0048	288	610	1-1/2"			14.9	11.60				17	07/30	1
P-EG 0072	480	800	2"			17.8	11.70				22	10/30	1
P-EG 0108	720	1,075	2"			22.8	11.70				23	15/30	1
P-EG 0144	960	1,650	2-1/2"			28.8	13.40				37	20/30	1
P-EG 0192	1,152	2,050	3"			38.9	13.40				44	30/30	1
P-EG 0288	1,960	2,530	3"			40.0	15.00	174 psig @ 302°F			52	30/50	1
P-EG 0432	2,880	4,500	4"	ANSI flange	Vent 1/2" NPT Drain 1/2" NPT	36.7	16.14	150 psig @ 450°F	Bead blast	Bead blast	140	20/30	3
P-EG 0576	3,840	5,850	4"			47.0	16.14				183	30/30	3
P-EG 0768	4,992	9,200	6"			51.3	18.90				225	30/30	4
P-EG 1152	7,680	12,000	6"			54.8	21.26				338	30/30	6
P-EG 1536	9,984	14,900	8"			58.8	26.00				628	30/30	8
P-EG 1920	12,672	17,100	8"			58.8	26.00				628	30/30	10

Capacity Correction Factors for Gas Applications[1]

Operating Pressure (psig)	15	30	45	60	75	90	100	115	130	150	160	175	190	200	220	230
Correction Factor	0.25	0.36	0.52	0.60	0.75	0.90	1.00	1.10	1.20	1.40	1.50	1.60	1.75	1.90	2.00	2.10

Capacity Correction for Steam Applications[1]

Operating Pressure (psig)	15	35	50	82	115	125	150	175
Saturated Steam Temperature (°F)	250	281	297	324	347	353	366	377
Correction Factor	0.46	0.77	1.0	1.5	2.0	2.15	2.53	2.92

Materials

Filter Housings	304 SS (316L SS on request)
Seaing Nut	304 SS
Plug	304 SS/PTFE gasket
Housing Gasket	EPDM (other gaskets available upon request)

1 Published capacity based on 100 psig inlet pressure for compressed gas and 50 psig for steam. To determine capacity at other operating pressures, multiply published value by correction factor. Capacities are general recommendations and may vary based on element selections, operating conditions, and allowable pressure losses.

2 0432-1920 are ASME stamped.

HIGH QUALITY SANITARY SOLUTIONS

AIR, GAS, AND STEAM FILTER HOUSINGS

Sanitary Stainless Steel Housings in Industrial Quality

PG-EG stainless steel housings are used for the purification of compressed air, other technical gases, and steam. Combined with different filter elements, they provide an optimized solution for nearly any application. The standard model series PG-EG (single and multiple) consists of six different housing sizes for operating flow rates of 36 to 12,672 scfm at 100 psi inlet pressure.

Tri-Clamp®[1] Housings – 316L SS

Model Number	Gas Capacity (scfm)	Steam Capacity (lbs/hr)	Connections			3-A Sanitary Certified	Dimensions (inches)		Design Pressure and Temperature	Surface Finish Inner and Outer	Weight w/o Element (lbs)	Element (UF Connection)	
			Tri-Clamp®	Type	Vent/Drain		Height	Width (±.125)				Size	Qty
PG-EG 0006	36	100	1/2"	Tri-Clamp®	Vent 1/8" BSP (Pharma Plug) Drain 1/8" BSP (Pharma Valve)	3-A Stamped	11.40	4.72	232 psig @ 392°F	Electro-polished to Ra 32	3.3	03/10	1
PG-EG 0018	108	160	1/2"				13.50	4.72			3.8	05/20	1
PG-EG 0032	216	400	1"		Vent 1/4" BSP (Pharma Plug) Drain 1/4" BSP (Pharma Valve)		16.20	6.40			5.0	05/30	1
PG-EG 0072	270	500	1-1/2"				21.20	6.40			6.4	10/30	1
PG-EG 0072	432	800	2"				21.20	6.50			6.5	10/30	1
PG-EG 0144	864	1,800	2-1/2"				32.40	8.14			10.0	20/30	1
PG-EG 0192	1,296	2,500	3"				41.00	8.14			12.5	30/30	1

ANSI Flange Housings – 316L SS

Model Number	Gas Capacity (scfm)	Steam Capacity (lbs/hr)	Connections			3-A Sanitary Certified	Dimensions (inches)		Design Pressure and Temperature	Surface Finish Inner and Outer	Weight (w/o Element (lbs)	Element (UF Connection)	
			ANSI	Type	Vent/Drain		Height	Width (±.125)				Size	Qty
PG-EG 0432	2,880	4,500	4"	ANSI flange	1/2" Tri-Clamp® vent and drain ports equipped with caps	No	38.0	16.14	150 psig @ 450°F	Nitric passivated to Ra 32	140	20/30	3
PG-EG 0576	3,840	5,850	4"				48.8	16.14			183	30/30	3
PG-EG 0768	4,992	9,200	6"				51.5	18.90			225	30/30	4
PG-EG 1152	7,680	12,000	6"				55.7	21.26			338	30/30	6
PG-EG 1536	9,984	14,900	8"				59.5	26.00			628	30/30	8
PG-EG 1920	12,672	17,100	8"				59.7	26.00			628	30/30	10

Capacity Correction Factors for Gas Applications[2]

Operating Pressure (psig)	15	30	45	60	75	90	100	115	130	150	160	175	190	200	220	230
Correction Factor	0.25	0.36	0.52	0.60	0.75	0.90	1.00	1.10	1.20	1.40	1.50	1.60	1.75	1.90	2.00	2.10

Capacity Correction Factors for Steam Applications[2]

Operating Pressure (psig)	15	35	50	82	115	125	150	175
Saturated Steam Temperature (°F)	250	281	297	324	347	353	366	377
Correction Factor	0.46	0.77	1.0	1.5	2.0	2.15	3.53	2.92

Materials

Filter Housing	316L SS
Clamp	304 SS
Pharma Plug (if applicable	316 SS
Pharma Valve (if applicable)	316 SS
Housing Gasket	EPDM

1 Tri-Clamp is a registered trademark of Ladish Company.

2 Published capacity based on 100 psig inlet pressure for compressed gas and 50 psig for steam. To determine capacity at other operating pressures, multiply published value by correction factor. Capacities are general recommendations and may vary based on element selections, operating conditions, and allowable pressure losses.

INNOVATIVE, STERILE TANK VENTILATION

AIR AND GAS FILTER HOUSINGS

Filter Housings for the Venting of Storage Tanks and Bulk Tanks

P-BE vent filter housings are developed for sterile ventilation of stationary and mobile storage tanks used in food, beverage, pharmaceutical, chemical and other industries. The user-friendly two-piece housing has a splash protection to help prevent liquids coming into contact with the filter medium.

Tri-Clamp® Housings – 316L SS

FDA

Model Number	Capacity (scfm)	Capacity (gpm)	Connection Tri-Clamp®	Dimensions (inches)		Maximum Operating Temperature	Surface Finish Inner and Outer	Weight (lbs)	Element (UF Connection)	
				Height	Width				Size	Qty
P-BE 0006	10	75	1 1/2"	4.7	3.3 x 0.08	390°F	Polished to Ra 63	2.2	03/10	1
P-BE 0027	16	120	1 1/2"	7.1	4.1 x 0.08			3.3	05/25	1
P-BE 0032	24	180	2"	7.1	4.5 x 0.08			4.4	05/30	1
P-BE 0072	49	365	2"	12.2	5.1 x 0.08			4.9	10/30	1
P-BE 0144	102	765	3"	22.8	5.1 x 0.08			9.5	20/30	1
P-BE 0192	152	1,140	3"	32.7	5.1 x 0.08			13.4	30/30	1

ANSI Flange Housings – 304 SS

Model Number	Capacity (scfm)	Capacity (gpm)	Connection ANSI	Dimensions (inches)		Maximum Operating Temperature	Surface Finish Inner and Outer	Weight (lbs)	Element (UF Connection)	
				Height	Width				Size	Qty
P-BE 0006	10	75	1 1/2"	4.7	3.3 x 0.08	390°F	Polished to Ra 63	5.5	03/10	1
P-BE 0027	16	120	1 1/2"	7.1	4.1 x 0.08			6.6	05/25	1
P-BE 0032	24	180	2"	7.1	4.5 x 0.08			7.7	05/30	1
P-BE 0072	49	365	2"	12.2	5.1 x 0.08			8.8	10/30	1
P-BE 0144	102	765	3"	22.8	5.1 x 0.08			20.9	20/30	1
P-BE 0192	152	1,140	3"	32.7	5.1 x 0.08			22.0	30/30	1
P-BE 0432	247	1,850	4"	29	8.7			32.6	20/30	3
P-BE 0576	371	2,780	4"	39	8.7			44.5	30/30	3
P-BE 0768	494	3,700	6"	39	10.8			48.5	30/30	4
P-BE 1152	742	5,565	6"	39	12.8			79.0	30/30	6
P-BE 1536	989	7,420	6"	39	15.5			88.0	30/30	8
P-BE 1920	1,183	8,870	8"	39	15.5			111.0	30/30	10

Materials

Filter Housings	Models 0006-0192: 316L SS standard (304 SS optional)
	Models 0432-1920: 304 SS standard (316L SS optional)
Attachment Parts	304 SS

STERILE FILTRATION OF AIR AND GASES

AIR AND GAS FILTER ELEMENTS

Sterile Filter P-SRF X

Donaldson P-SRF X is a sterile grade, pleated high performance PTFE filter element with a stainless steel support structure. The PTFE filter media is inherently hydrophobic with a high porous membrane structure that provides excellent de-wetting and filtration capabilities. The sturdy stainless-steel construction permits more than 250 possible sterilization cycles at specified conditions and can withstand high temperatures and high differential pressures in both flow directions. It can withstand over 250 steam sterilization cycles and normal working temperatures up to 392°F.

Outstanding Features

- Excellent dewetting characteristic
- Suitable for sterilization with hydrogen peroxide (VPHP)
- Low differential pressure at high flow rates
- LRV of MS2 Coliphage
- Can be sterilized in reverse direction
- For food contact use according to CFR Title 21 & 1935/2004/EC

Filter Media	PTFE
Retention Rate (µm)	>99.9999999% at 0.2 µm >99.9999999% at 0.02 µm >99.999999% at 0.003 µm
End Caps	304 SS
Element O-Ring	Silicone (Alternate materials available upon request.)
Element Size	03/10, 04/10, 04/20, 05/20, 05/25, 07/25, 05/30, 07/30, 10/30, 15/30, 20/30, 30/30
Connections	UF, Code 7
Recommended Housings	PG-EG, P-EG, P-BE, PG-IL
Conformity	FDA
Temperature Range	-4°F to 392°F
Maximum Differential Pressure	73 psid (-4°F to 392°F), regardless of the system pressure or flow direction
Application Examples	Sterile filtration of compressed air and gases


Medical


Food


Brewery


Pharmaceutical


Chemical

STERILE FILTRATION OF AIR AND GASES

AIR AND GAS FILTER ELEMENTS

Sterile Filter P-SRF V

Donaldson P-SRF V is the next generation of sterile air filtration. The pleated depth media matrix is specifically designed to offer a lower pressure drop and improved retention capability, which minimize machine downtime and cost of ownership. The revolutionary media configuration offers improved hydrophobic capabilities for an especially fast de-wetting time. The sturdy stainlesssteel construction permits more than 150 sterilization cycles at specified conditions and withstands high differential pressures in both flow directions.

Outstanding Features

- Excellent dewetting characteristic
- Suitable for sterilization with hydrogen peroxide (VPHP)
- Low differential pressure at high flow rates
- LRV of MS2 Coliphage
- Can be sterilized in reverse direction
- For food contact use according to CFR Title 21 & 1935/2004/EC

Filter Media	Borosilicate with PTFE impregnation
Retention Rate (µm)	>99.99999995% at 0.2 µm >99.99999995% at 0.02 µm >99.999999991% at 0.003 µm
End Caps	304 SS
Element O-Ring	Silicone (Alternate materials available upon request.)
Element Size	03/10, 04/10, 04/20, 05/20, 05/25, 07/25, 05/30, 07/30, 10/30, 15/30, 20/30, 30/30, 30/50
Connections	UF, Code 7
Recommended Housings	PG-EG, P-EG, P-BE, PG-IL
Conformity	FDA
Temperature Range	-4°F to 392°F
Maximum Differential Pressure	73 psid (-4°F to 392°F), regardless of the system pressure or flow direction
Application Examples	Sterile filtration of compressed air and gases; tank ventilation


Medical


Food


Brewery


Pharmaceutical


Chemical

STERILE FILTRATION OF AIR AND GASES

AIR AND GAS FILTER ELEMENTS

Sterile Filter P-SRF

The P-SRF filter element is used for a safe sterile filtration of compressed air and other process gases. All elements fulfill the high requirements in the food and beverage, as well as the pharmaceutical industries, and work reliably under extreme operating conditions. The P-SRF filter element is a sterile depth filter with stainless steel end caps, inner support core and outer support liner. Due to its borosilicate medium, this filter has a high temperature resistance and long service life.

Outstanding Features

- Excellent dewetting characteristic
- Suitable for sterilization with hydrogen peroxide (VPHP)
- Low differential pressure at high flow rates
- LRV of MS2 Coliphage
- Can be sterilized in reverse direction
- For food contact use according to CFR Title 21 & 1935/2004/EC

Filter Media	Borosilicate with PTFE support layers
Retention Rate (µm)	>99.99998% at 0.2 µm
End Caps	304 SS
Element O-Ring	Silicone (Alternate materials available upon request.)
Element Size	03/10, 04/10, 04/20, 05/20, 05/25, 05/30, 07/25, 07/30, 10/30, 15/30, 20/30, 30/30, 30/50
Connections	UF, Code 7
Recommended Housings	PG-EG, P-EG, PG-IL
Conformity	FDA
Temperature Range	-4°F to 392°F (≥302°F only for dry compressed air)
Maximum Differential Pressure	75 psid (-4°F to 302°F), regardless of the system pressure or flow direction
Application Examples	Sterile filtration of compressed air and gases


Food


Dairies


Brewery


Pharmaceutical

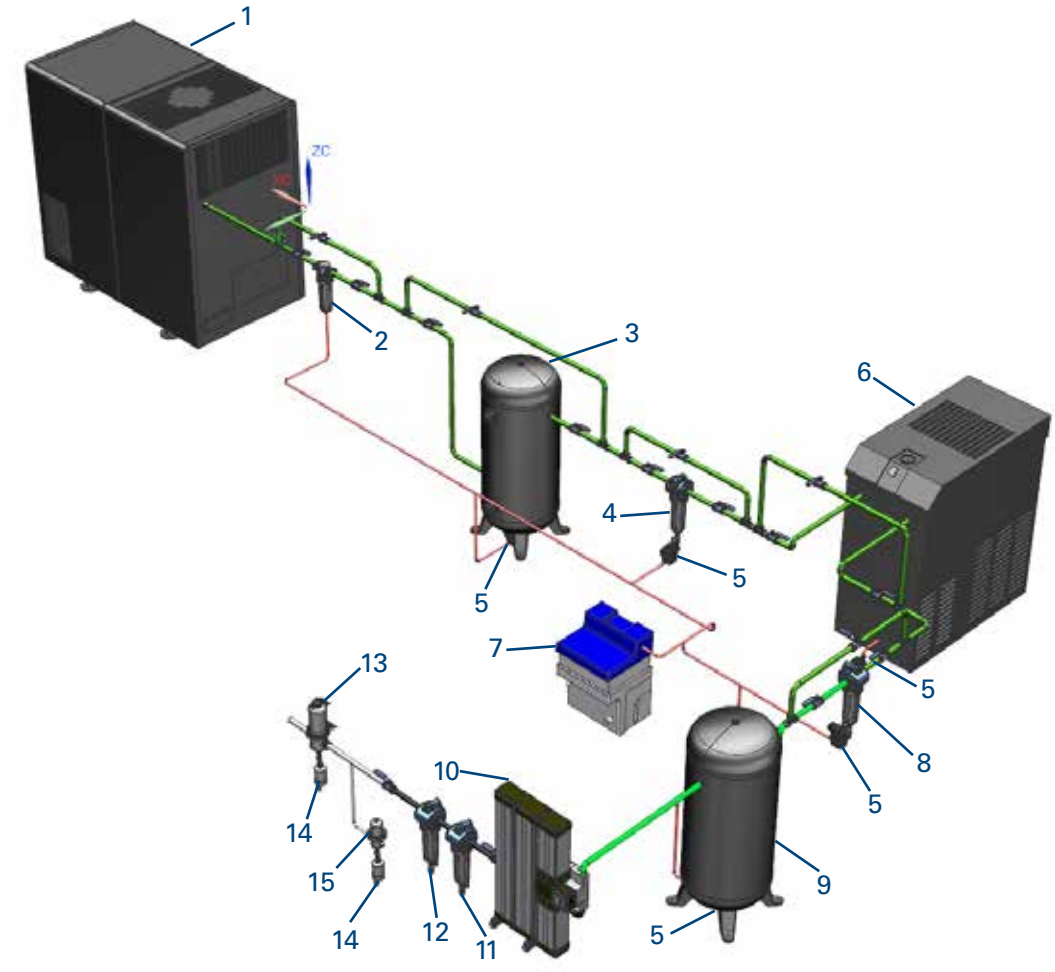

Chemical

WHEN IT HAS TO BE PURE AND STERILE

AIR AND GAS FILTER ELMENTS

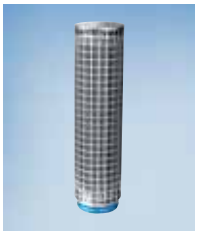
	P-GSL N	P-SRF X	P-SRF V	P-SRF	PF-PT N
					
Filter Media	304 SS	PTFE	Borosilicate	Borosilicate/PTFE	PTFE
Retention rates [µm]	1, 5, 25, 50, 100, 250 absolute	>99.9999998% at 0.2 µm >99.999999% at 0.02 µm >99.99998% at 0.003 µm	>99.99999995% at 0.2 µm >99.99999995% at 0.02 µm >99.999999991% at 0.003 µm	0.01 absolute	0.2; sterile LRV >/= 7 cm^2
End Caps	304 SS	304 SS	304 SS	304 SS	Polypropylene
Element O-Ring	EPDM for use up to 356°F (Alternate materials available upon request.)	Silicone (Alternate materials available upon request.)	Silicone (Alternate materials available upon request.)	Silicone (Alternate materials available upon request.)	EPDM
Element Sizes	03/10, 04/10, 04/20, 05/20, 07/20, 05/30, 07/30, 10/30, 15/30, 30/30, 30/50	03/10, 04/10, 04/20, 05/20, 5/25, 07/25, 05/30, 07/30, 10/30, 15/30, 30/30	03/10, 04/10, 04/20, 05/20, 5/25, 07/25, 05/30, 07/30, 10/30, 15/30, 30/30, 30/50	03/10, 04/10, 04/20, 05/20, 5/25, 07/25, 05/30, 07/30, 10/30, 15/30, 30/30, 30/50	10/30, 20/30, 30/30
Connections	UF, Code 7	UF, Code 7	UF, Code 7	UF, Code 7	UF, Code 7
Recommended Housings	PG-EG, P-EG, PG-IL	PG-EG, P-EG, P-BE, PG-IL	PG-EG, P-EG, P-BE, PG-IL	PF-EG, P-EG, PG-IL	PG-EG, P-EG, P-BE, PG-IL
Conformity	FDA	FDA	FDA	FDA	FDA
Temperature Range	-68°F to 410°F > 300°F special O-Rings are required	-4°F to 392°F	-4°F to 392°F	-4°F to 392°F (≥302°F only for dry compressed air)	Up to198°F
Maximum Differential Pressure	145 psid, independent of the system pressure or temperature	73 psid (-4°F to 392°F), regardless of the system pressure or flow direction	73 psid (-4°F to 392°F), regardless of the system pressure or flow direction	75 psid (-4°F to 302°F), regardless of the system pressure or flow direction	100°F @ 80 psi, 150°F @ 60 psi, 180°F @ 30 psi
Application Examples	Sterile filtration of culinary steam	Sterile filtration of compressed air and gases	Sterile filtration of compressed air and gases, tank ventilation	Sterile filtration of compressed air and gases, tank ventilation	Sterile filtration of compressed air and gases
Industries	 Food  Paintings/Coatings  Environment  Pharmaceutical  Chemical	 Food  Breweries  Packaging & Bottling  Chemical  Medical	 Food  Breweries  Packaging & Bottling  Chemical  Medical	 Food  Dairies  Breweries  Packaging & Bottling  Chemical	 Food  Water & Soft Drinks  Dairies  Pharmaceutical  Chemical

RECOMMENDED STERILE AIR SYSTEM



No.	Description
1	Air Compressor with Aftercooler
2	DF-C Cyclone Separator
3	Wet Storage Tank
4	DF Filter with V-Grade Coalescing Filter
5	UFM-D Zero-Loss Condensate Drain
6	Refrigerated Dryer
7	DS Oil/Water Separator
8	DF Filter with M-Grade Coalescing Filter
9	Dry Storage Tank
10	Ultrapac 2000 Dryer
11	DF Filter with S-Grade Particulate Filter
12	DF Filter with A-Grade Carbon Adsorption Filter
13	PG-EG Sanitary Housing with P-SRF V Sterile Filter
14	Condensate Trap/Drain
15	P-EG Housing with P-GS 5 µm Steam Filter

STEAM FILTRATION WITH HIGH FLOW RATES



STEAM FILTER ELEMENTS

Steam Filter P-GSL N

The P-GSL N filter element removes contaminants such as particles, abrasion of valve, seats and seals, 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. In addition, the P-GSL N filter element is particularly efficient since the filter medium can be regenerated by ultrasonic bath or by back washing. This is especially important where there is a particularly high particle load. The pleated stainless steel filter media provides high particle or dirt-holding capacity and a high flow rate at low differential pressures.

Outstanding Features

- High dirt-holding capacity at a low differential pressure and a high flow rate
- Can be regenerated by back washing and ultrasonication
- Retention rate > 99.996 at 0.01 µm
- Suitable for temperatures from -68°F up to 410°F
- Also available as 5 µm grade for culinary steam
- Suitable for food contact use according to CFR Title 21 & 1935/2004/EC

Filter Media	304 SS
Retention Rate (µm)	1, 5, 25, 50, 100, 250 absolute
End Caps	304 SS
Element O-Ring	EPDM (Alternate materials available upon request.)
Element Size	03/10, 04/10, 04/20, 05/20, 07/20, 05/30, 07/30, 10/30, 15/30, 20/30, 30/30
Connections	UF, Code 7
Recommended Housings	P-EG, PG-EG
Conformity	FDA
Temperature Range	-68°F to 410°F > 300°F special O-Rings are required
Maximum Differential Pressure	145 psid, independent of the system pressure or temperature
Application Examples	Filter for liquids, gases and steam


Food


Dairies


Paints and Coatings


Pharmaceutical


Industrial Machinery


Brewery

HIGH PROCESS SAFETY

STEAM FILTER ELEMENTS

General Guidelines for the Design of Steam Filtration Installations

The type of the steam filter and the retention rate to be selected depends on the quality of the steam which is required for the specific application. To prevent rapid clogging of the steam filter, it is important to consider the particle load in the pipes. This may require the use of pre- and fine filters.

In addition, the flow rate of the steam in an installation should not exceed 25 m/s. In special circumstances, velocities up to 40 m/s are okay, but the resulting turbulent currents and higher differential pressures must be taken into account.

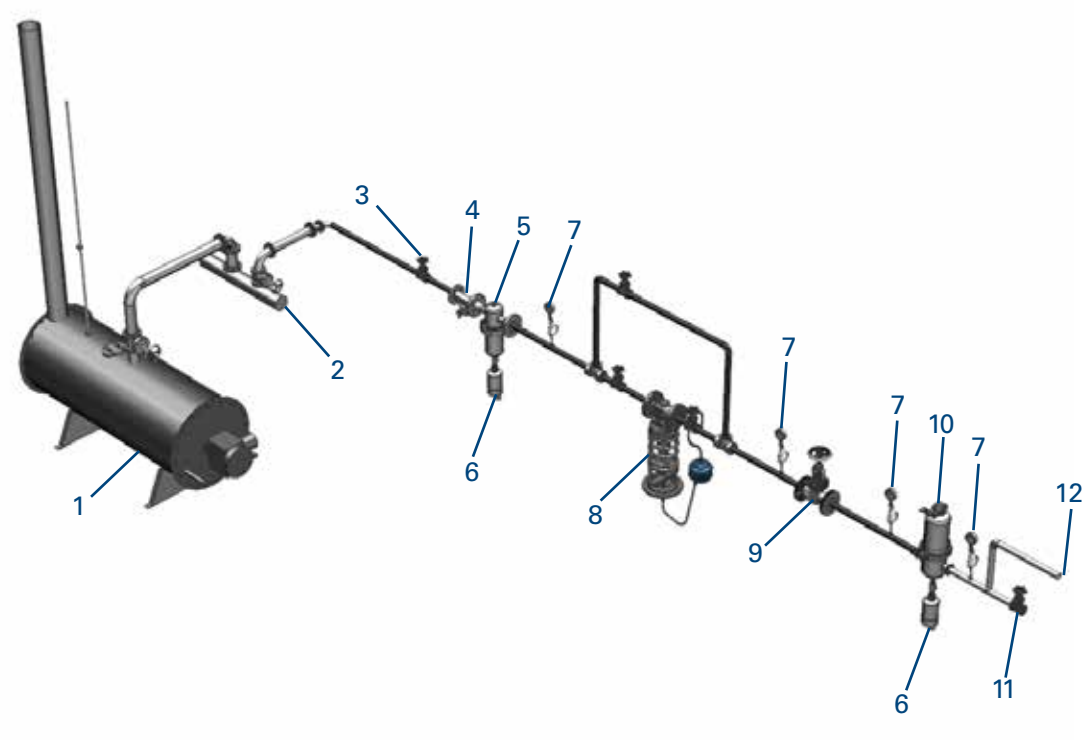
The differential pressure in a new steam filter installation should be within a range of 1.45 psi to 4.35 psi. Higher temperatures (> 302°F) require special higher temperature O-Rings.

Filter Media	316L Sintered SS
Retention Rate (µm)	1, 5, 25 absolute
End Caps	304 SS
Element O-Ring	EPDM (Alternate materials available upon request.)
Element Size	03/10, 04/10, 04/20, 05/20, 05/25, 05/30, 07/25, 07/30, 10/30, 15/30, 20/30, 30/30, 30/50
Connections	UF, Code 7
Recommended Housings	P-EG, PG-EG
Conformity	FDA
Temperature Range	Up to 356°F (EPDM O-Rings) Up to 400°F (Fluoraz O-Rings)
Maximum Differential Pressure	72 psid, regardless of the system pressure or temperature
Application Examples	Filter for gases and steam
Industries	 Food  Pharmaceutical  Dairies  Chemical

Choice of Steam Filters

Culinary Steam		Plant Steam	
Filters for culinary steam should retain > 95% of 2 µm particles (3-A standard 609)		Plant steam not for direct food contact, but for indirect heating	
Particles ≤ 1 µm		Particles ≥ 5 µm	
Sintered P-GS 5 µm	Pleated P-GSL N 1-5 µm	Sintered P-GS 5-25 µm	Pleated P-GSL N 5-250 µm

RECOMMENDED CULINARY STEAM SYSTEM



No.	Description
1	Boiler
2	Steam Header
3	Stop Valve
4	Strainer
5	Entrainment Separator (P-EG housing with 25 µm P-GSLN element)
6	Condensate Trap
7	Pressure Gauge
8	Pressure Reducing Valve
9	Steam Throttling Valve
10	Culinary Steam Filter (PG-EG housing with 5 µm P-GS element)
11	Sampling Valve
12	Sanitary Check Valve and Tubing to Process

HIGH QUALITY SANITARY DESIGN

LIQUID FILTER HOUSINGS

Sanitary Stainless Steel Housings for Liquids

PF-EG stainless steel housings have been developed for the filtration of liquids. In combination with various Donaldson code 7 filter cartridges, all liquid filter housings can be used within different application areas. The standard series PF-EG consists of six different housing sizes for flow rates up to 20 gpm – the series PF -EG Multiple of 17 housing sizes for flow rates up to 215 gpm. Donaldson PF -EG Superplus filter housings (Single, clamp connection) are certified 3-A as standard.

Tri-Clamp® Housings – 3-A Certified - 316L SS

Model Number	Capacity (gpm)	Connections			Dimensions (inches)		Design Pressure and Temperature	Surface Finish Inner	Surface Finish Outer	Weight w/o Element (lbs)	Element (Code 7 Connection)	
		Tri-Clamp®	Type	Vent/Drain	Height	Width (±.125)					Size	Qty
PF-EG 0025	7	1"	Tri-Clamp®	Vent 1-1/2" Tri-Clamp® with a 1 1/4" BSP Pharma Valve Drain 1/4" BSP Pharma Valve	22.2	9.8	150 psig @ 356°F	Electro-polished to RA 32	Electro-polished to Ra 30	11.5	10/30	1
PF-EG 0050	15	1"			32.2	9.8				14.5	20/30	1
PF-EG 0075	20	1"			42.2	9.8				17.4	30/30	1
PF-EG 0080	24	1-1/2"		Vent 1 1 /2" Tri-Clamp® Drain 1/2" Tri-Clamp®	25.7	13.0		Nitric passivated to Ra 32	Nitric passivated to Ra 30	70.0	10/30	3
PF-EG 0150	40	1-1/2"			38.0	14.0				78.0	20/30	3
PF-EG 0225	60	1-1/2"			48.0	14.0				85.0	30/30	3
PF-EG 0250	75	2"			37.0	17.0				131.0	20/30	5
PF-EG 0375	110	2"			47.0	14.5				144.0	30/30	5
PF-EG 0400	120	2-1/2"			43.0	20.0				200.0	20/30	8
PF-EG 0600	180	3"			53.0	20.0				225.0	30/30	8
PF-EG 0900	215	3"			52.4	25.5				270.0	30/30	12

Materials

Filter Housing	316L SS
Attachment Parts	304 SS
Housing Gasket	PF-EG 0012 to PF-EG 0075: EPDM PF-EG 0080 and larger: Silicone class VI (Other gasket materials available.)
Pharma Valve	PF-EG 0012 - 0075: Pharma valve drains on both inlet and outlet tubes and a pharma plug at top of housing for vent, gauge or other attachment

Donaldson also provides non-3A sanitary liquid housings that can meet your needs.

ECONOMICAL LIQUID FILTRATION SOLUTIONS

LIQUID FILTER HOUSINGS

Stainless Steel Housings for Liquids

P-FG stainless steel housings are designed for the filtration of liquids such as process water, mineral water, beer, wine, soft drinks, juice and other liquids. The standard P-FG is built with 304 stainless steel and is also available in 316 stainless steel, as well as ASME. Housings are available for a wide variety of connection styles.

FNPT Housings – 304 SS

Model Number	Capacity (gpm)	Connection	Connections		Dimensions (inches)		Design Pressure and Temperature	Surface Finish Inner	Surface Finish Outer	Weight w/o Element (lbs)	Element (DOE Connection)	
			Type	Vent/Drain	Height	Width (±.250)					Size	Qty
P-FG 0050	50	2" FNPT	FNPT	Vent 1/4" FNPT Drain 1/2" NPT	33.1	9.9	150 psig @ 300°F	Mill finish stainless steel	Bead blast	33	20/30	4
P-FG 0100	100	2" FNPT			43.1	9.9				41	30/30	5
PF-G 0150	150	3" FNPT			42.9	12.3				65	30/30	7
P-FG 0250	250	3" FNPT			49.6	14.3				92	30/30	12
PF-EG 0450	450	4" ANSI Flange	ANSI/ASME flange, Class 150	Vent 1/2" FNPT Drain 1/2" NPT	49.2	21.0				146	30/30	22
PF-G 0700	700	6" ANSI Flange		Vent 1/2" FNPT	68.9	25.8				336	30/30	36
P-FG 1000	1000	8" ANSI Flange		Drain 3/4" NPT	70.0	30.0				581	30/30	52

Materials

Filter Housing	304 SS (316 SS available upon request)
Housing Gasket	EPDM (FDA grade) standard
Pressure Gauge	304 SS, glycerin filled

VERSATILE HOUSING DESIGNED FOR TIGHT SPACES

LIQUID FILTER HOUSINGS

Stainless Steel Housings for Water and Corrosive Liquids

P-PT stainless steel housings are designed for industrial applications that require 316L SS construction. The single nut closure provides a positive radial seal and easy element replacement. All housings are built to accept Code 7 and 2 filter elements; housings are also available in DOE, Code 3 and Code 8 filter elements.

NPT Housings – 316L SS

Model Number	Capacity (gpm)	Connection (FNPT)	Code 2, 7, 3, 8 Housings					DOE Housings					Design Pressure and Temperature	Weight w/o Element (lbs)	Element	
			Dimensions (inches)		Surface Finish	Connection Types	Drain	Dimensions (inches)		Surface Finish	Connection Types	Drain			Size	Qty
			Height	Width				Height	Width							
P-PT 0007	7	3/4"	17.4	3.5	Filter head: bead blast, cast stainless steel Filter bowl: industrial electropolished	3/4" and 1" FNPT 1" Flange 1" Tri-Clamp® 1" Welded End	1/4" NPT drain w/plug	13.6	3.5	Filter head: bead blast, cast stainless steel Filter bowl: polished	3/4", 1/2" and 1" FNPT 1" Flange 1" Tri-Clamp®	1/8" NPT drain w/plug	300 psi @ 200°F	7	10/30	1
P-PT 0007	7	1"	17.4	3.5				13.6	3.5					7	10/30	1
P-PT 0014	14	3/4"	27.4	3.5				23.6	3.5					9	20/30	1
P-PT 0014	14	1"	27.4	3.5				23.6	3.5					9	20/30	1
P-PT 0021	21	3/4"	37.4	3.5				33.6	3.5					12	30/30	1
P-PT 0021	21	1"	37.4	3.5				33.6	3.5					12	30/30	1

Flange Housings – 316L SS

Model Number	Capacity (gpm)	Connection (Flange)	Code 2, 7, 3, 8 Housings					DOE Housings					Design Pressure and Temperature	Weight w/o Element (lbs)	Element	
			Dimensions (inches)		Surface Finish	Connection Types	Drain	Dimensions (inches)		Surface Finish	Connection Types	Drain			Size	Qty
			Height	Width				Height	Width							
P-PT 0007	7	1"	17.4	7.8	Same as NPT	Same as NPT	Same as NPT	13.6	7.9	Same as NPT	Same as NPT	Same as NPT	150 psi @ 200°F	8	10/30	1
P-PT 0014	14	1"	27.4	7.8				23.6	7.9					10	20/30	1
P-PT 0021	21	1"	37.4	7.8				33.6	7.9					13	30/30	1

Tri-Clamp® Housings – 316L SS

Model Number	Capacity (gpm)	Connection (Flange)	Code 2, 7, 3, 8 Housings					DOE Housings					Design Pressure and Temperature	Weight w/o Element (lbs)	Element	
			Dimensions (inches)		Surface Finish	Connection Types	Drain	Dimensions (inches)		Surface Finish	Connection Types	Drain			Size	Qty
			Height	Width				Height	Width							
P-PT 0007	7	1"	17.4	5.7	Same as NPT	Same as NPT	Same as NPT	13.6	5.7	Same as NPT	Same as NPT	Same as NPT	150 psi @ 200°F	8	10/30	1
P-PT 0014	14	1"	27.4	5.7				23.6	5.7					10	20/30	1
P-PT 0021	21	1"	37.4	5.7				33.6	5.7					13	30/30	1

Materials

Filter Head	316L SS
Sealing Nut	Nickle plated brass
Filter Bowl	316L SS
Housing Gasket	EPDM (also available in Viton®[1], Buna and silicone)

1 Viton is a registered trademark of DuPont Performance Elastomers, L.L.C.

INNOVATIVE ALTERNATIVE TO METAL HOUSINGS

LIQUID FILTER HOUSINGS

Polypropylene Housings for Liquids

P-KG polypropylene housing is an economical alternative to low flow, stainless steel filter housings. The P-KG distinguishes itself by using 100% virgin polypropylene without color, adders, fillers, reinforcements or lubricants. In critical applications, these all natural housings ensure pure, cost-effective filtration of water, acids, alcohols, and chemicals without leaching or bacterial build up.

Polypropylene Thread Connection (Viton® gasket)

Model Number	Capacity (gpm)	Connection (FNPT)	Dimensions (inches)		Design Pressure and Temperature	Weight (lbs)	Element (DOE Connection)	
			Height	Width			Size	Qty
P-KG 0072	10	3/4"	12	4.7	125 psi @ 125°F	1.54	10/3	1
P-KG 0144	20	3/4"	22	5.4		2.64	20/3	1

Materials

Filter Housing	Virgin polypropylene
Housing Gasket	Viton® (EPDM is available as an option)
Housing Thread	Polypropylene

EFFICIENT CLEANING

END CAP CONFIGURATIONS

UF CONNECTION

- 2 x 226 O-Rings
- 2”plug connection
- Flat end cap
- Integrated reinforcement ring

DOE

- Double open end
- EPDM gasket

CODE 2

- 2 x 226 O-Rings
- 2 bayonet locking tabs
- Flat end cap
- Integrated reinforcement ring

CODE 7

- 2 x 226 O-Rings
- 2 bayonet locking tabs
- Locating fin
- Integrated reinforcement ring

CODE 3

- 2 x 222 O-Rings
- Plug connection
- Flat end cap
- Integrated reinforcement ring

CODE 8

- 2 x 222 O-Rings
- Plug connection
- Locating fin
- Integrated reinforcement ring

PLAIN END

- Double open end
- No gasket

CODE 9

- 2 x 222 O-Rings
- 3 bayonet locking tabs
- Locating fin
- Integrated reinforcement ring

BEST QUALITY FORYOUR PROCESS

LIQUID FILTER ELEMENTS

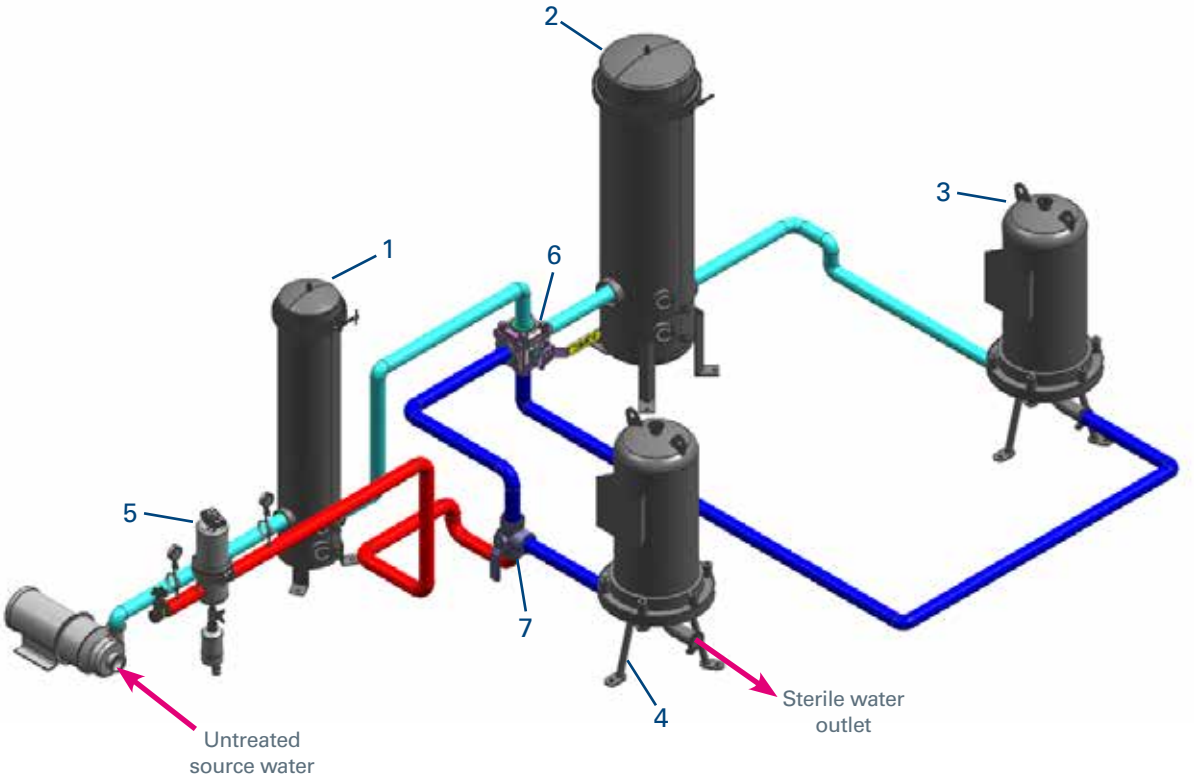
Category	Sterile Membrane Filters	Absolute Membrane Filters	Absolute Depth Filters	
Filter element	**PES WN**	**PES BN**	**PP 100 N**	**PP 100 CN**
				
Filter Media	Pleated polyethersulfone membrane	Pleated polyethersulfone membrane	Pleated polypropylene	Pleated polypropylene
Retention rates [µm]	0.2 sterile; 0.45, 0.6 LRV > 7/cm² absolute	0.45 absolute	0.6, 0.8, 1, 2.4, 5, 10 absolute	1 absolute, Crypto retentive acc. to NSF/ANSI 53 §7
Support Liner	Polypropylene	Polypropylene	Polypropylene	Polypropylene
End Caps	Polypropylene	Polypropylene	Polypropylene	Polypropylene
O-Rings (others on request)	EPDM	EPDM	EPDM	EPDM
Element Sizes	10“, 20“, 30“, 40“	10“, 20“, 30“, 40“	10“, 20“, 30“, 40“	10“, 20“, 30“, 40“
Connections	Code 2, 3, 7, 8, 9, UF, DOE	Code 2, 3, 7, 8, 9, UF, DOE	Code 2, 3, 7, 8, 9, UF, DOE	Code 2, 3, 7, 8, 9, UF, DOE
Recommended Housings	PF-EG, P-FG, PG-IL	PF-EG, P-FG, PG-IL	PF-EG, P-FG, PG-IL	PF-EG, P-FG, PG-IL
Conformity	FDA	FDA	FDA	FDA
Operating Temperature	Up to198°F	Up to198°F	Up to198°F	Up to198°F
Maximum Differential Pressure	100°F @ 80 psi 150°F @ 60 psi 180°F @ 30 psi	100°F @ 80 psi 150°F @ 60 psi 180°F @ 30 psi	100°F @ 80 psi 150°F @ 60 psi 180°F @ 30 psi	100°F @ 80 psi 150°F @ 60 psi 180°F @ 30 psi
Application Examples	Sterile filter for water and soft drinks	Final filter for beer and wine	Fine filter for liquids	Fine filter for liquids
Industries	 Food  Beverages  Water & Soft Drinks  Chemical  Dairies  Medical	 Breweries  Wineries  Water & Soft Drinks  Chemical	 Breweries  Wineries  Environment  Water & Soft Drinks  Chemical	 Breweries  Wineries  Environment  Water & Soft Drinks  Dairies

HYGIENE AT THE HIGHEST LEVEL

LIQUID FILTER ELEMENTS

Category	Absolute Depth Filters		Nominal Depth Filters		
Filter element	**PP N** 	**PP-FC 100** 	**PP-TF N** 	**P-GSL N** 	**PP-FC** 
Filter Media	Pleated polypropylene	Polypropylene	Pleated polypropylene	Stainless steel fiber or stainless steel mesh 1.4301 (304)	Polypropylene
Retention Rates [µm]	0.45, 1, 3, 5, 10, 30 nominal	0.5, 1, 3, 5, 10, 20, 30, 50, 75	1, 3, 5, 10, 15, 25, 50 nominal	1 nominal; 5, 25, 50, 100, 250 absolute*	1, 3, 5, 10, 20, 50, 75 nominal
Support Liner	Polypropylene		Polypropylene	304 SS	
End Caps	Polypropylene		Polypropylene	304 SS	Polypropylene
O-Rings (others on request)	EPDM	EPDM	EPDM	EPDM	EPDM
Element Sizes	10“, 20“, 30“, 40“	10“, 20“, 30“, 40“	10“, 20“, 30“, 40“	10“, 20“, 30“	10“, 20“, 30“, 40“
Connections	Code 2, 3, 7, 8, 9, UF, DOE	Code 7, DOE, Plain End, Spring End	DOE	Code 7, UF	Code 7, DOE, Plain End, Spring End
Recommended Housings	PF-EG, P-KG, P-PT, PG-IL, P-FG	PF-EG, P-KG, P-FG	P-KG, P-FG, P-PT	PF-EG	P-KG, P-FG
Conformity	FDA	FDA	FDA	FDA	FDA
Operating Temperature	Up to198°F	Up to 140°F	Up to198°F	Up to 392°F	Up to 140°F
Maximum Differential Pressure	100°F @ 80 psi 150°F @ 60 psi 180°F @ 30 psi	140°F @ 35 psi	100°F @ 80 psi 150°F @ 60 psi 180°F @ 30 psi	145 psid, independent of the system pressure or temperature	140°F @ 35 psi
Application Examples	Prefilter for liquids	Fine filter for liquids	Prefilter for liquids	Prefilter for liquids	Coarse and prefilter for liquids
Industries	 Food  Beverages  Environment  Pharmaceutical  Chemical * Retention rates in water	 Food  Beverages  Industrial Machinery  Environment  Chemical	 Food  Beverages  Environment  Chemical	 Food  Beverages  Paints & Coatings  Environment  Pharmaceutical  Chemical	 Food  Beverages  Industrial Machinery  Environment  Chemical

RECOMMENDED STERILE LIQUID SYSTEM



No.	Description	Purpose
1	P-FG Housing and PP-TF Element	Coarse water pre-filter removes sediment, rust and sand
2	P-FG Housing and Carbon Block Element	Pre-filter removes unwanted source water treatment chemicals such as chlorines
3	PF-EG Housing and PP100 Element	Membrane pre-filter protects more expensive membrane from fouling
4	PF-EG Housing and PES-WN Element	Final sterilizing membrane filter removes micro-organisms from process stream
5	P-EG Housing and P-GS Element	Steam sterilization of sterile liquid membrane filters PES-WN
6	Four-way Sanitary Valve	Allows for isolation of carbon filter and membrane pre-filter for servicing without interruption of process flow
7	Three-way Sanitary Valve	Allows steam to be introduced to final sterile filter assembly for sterilization

SUPERIOR FILTRATION. MAXIMUM PROTECTION.

Extensive Product Portfolio

- Process air, steam and liquid filtration products
- Performance engineered to sanitary guidelines
- Wide range of filtration media for any application
- Housings, elements, and parts in-stock, ready to ship

Advanced Technology

- Optimized filtration performance and efficiency
- Extensive research and development capabilities
- Advanced design and testing capabilities
- Over 1,000 engineers and scientists worldwide

Unrivaled Support and Expertise

- Expert technical specialists available as resource
- Comprehensive pre- and post-sale support
- Extensive filter analysis and trouble-shooting
- 100 years of successful global manufacturing

Registered

Standard No. 10-04*

Member of CAGI Compressed Air & Gas Institute

Member of IDEA

Member of fpsa FOOD PROCESSING SUPPLIERS ASSOCIATION

Member of IWFPA

Important Notice
Many factors beyond the control of Donaldson can affect the use and performance of Donaldson products in a particular application, including the conditions under which the product is used. Since these factors are uniquely within the user's knowledge and control, it is essential the user evaluate the products to determine whether the product is fit for the particular purpose and suitable for the user's application. All products, product specifications, availability and data are subject to change without notice, and may vary by region or country.

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