Donaldson
FILTRATION SOLUTIONS

FOOD & BEVERAGE

Process Filtration

PROCESS FILTER ELEMENT QUICK REFERENCE

Donaldson Process Filtration has been providing food and beverage industries around the world with quality filtration products since 1972. From our initial beginnings to today, we have enhanced our offering with an ever-broadening product portfolio of sterile air, liquid, and steam filtration solutions. From pre-filtration to final, and from low capacity to high, Donaldson Process Filtration has the right product to meet your specific need.

			P-GSL N	P-GS	PP-FC	PP-FC 100	PP-TF N	PP N	PP100 N	PP100 CN	PES WN	PES BN	PF-PT N	P-SRF	P-SRF N	P-FF	P-MF	P-SMF	P-PE	P-SB
Application		Gases	X	X									X	X	X	X	X	X	X	X
		Liquids	X		X	X	X	X	X	X	X	X								
		Steam	X	X																
Media Type		Depth	X	X	X	X	X	X	X	X				X	X	X	X	X	X	X
		Pleated	X				X	X	X	X	X	X	X		X					
		Membrane									X	X	X							
Media Material	**Hydrophilic**	304 SS Mesh	X																	
		316 Sintered SS		X																
		Polypropylene			X	X	X	X	X	X										
		Polyethersulfone									X	X								
		Sintered Bronze																		X
	Hydrophobic	Polyethylene																	X	
		PTFE											X	X						
		Borosilicate												X	X	X	X	X		
Micron Rating		0.01												X	X	X	X	X		
		0.2									X		X	X	X					
		0.4 / 0.45						X			X	X								
		0.6							X		X									
		0.8							X											
		1	X	X	X	X	X	X	X	X										
		2.4							X											
		3			X	X	X	X												
		5	X	X	X	X	X	X	X											X
		10			X	X	X	X	X											
		15					X													
		20			X	X														
		25	X	X			X												X	X
		30			X	X		X												
		50	X		X	X	X													X
		75			X	X														
		100	X																	
		250	X																	
Rating Type		Absolute	X	X		X			X	X	X	X	X	X	X	X	X	X	X	X
		Nominal			X		X	X												

ENDCAP CONFIGURATIONS

Donaldson offers a variety of end adapter styles to fit not only our housings, but competitive units as well.

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

LIQUID FILTRATION

PP-FC & PP-FC 100 – MELTBLOWN POLYPROPYLENE

Donaldson has two meltblown depth filter elements that are produced with proprietary 100% pure polypropylene filter media. PP-FC meltblown polypropylene depth filter elements are an exceptional value for general applications where economical filtration is required.

- Particulate retention rates at 1 to 75 µm
- 100% pure polypropylene filter media
- PP-FC meltblown depth filter element for nominal efficiency
- PP-FC 100 meltblown depth filter element for absolute efficiency
- Contains no binders or chemical additives
- Meets U.S. FDA, CFR Title 21 and 1935/2004/EC requirements for food and beverage
- Recommended with P-FG, P-PT and P-KG housings

PP-TF N – NOMINAL POLYPROPYLENE

Donaldson PP-TF N filters utilize high capacity pleated depth media and are designed to provide cost-effective coarse filtration that protects and extends the life of the downstream equipment.

- Nominal particulate retention rates at 1 µm to 50 µm
- 100% polypropylene construction
- Provides broad chemical compatibility and low extractable levels in a wide range
- Contains no binders or adhesives
- 100% integrity tested at factory
- Can be repeatedly sterilized in-line with steam or in an autoclave
- Meets U.S. FDA, CFR Title 21 and 1935/2004/EC requirements for food and beverage
- Recommended with P-FG, P-PT and P-KG housings

PP-N – NOMINAL POLYPROPYLENE

For fine filtration down to 0.45 µm, the Donaldson PP-N filter will provide high dirt holding capacity along with a high flow rate.

- Nominal particulate retention rates at 0.45 to 30 µm
- 100% polypropylene construction
- Self-bonded hydrophilic media provides fixed pore structure, high containment of solid materials, no migration of media and no releasing of fibers
- Contains no binders or adhesives, and each filter is pre-rinsed at the factory
- Meets U.S. FDA, CFR Title 21 and 1935/2004/EC requirements for food and beverage
- Recommended with PF-EG, P-FG, P-PT, P-KG, PG-IL, PG-EG, and P-EG housings

LIQUID FILTRATION

PP100 N & PP100 CN – ABSOLUTE POLYPROPYLENE

For fine filtration with absolute retention rates down to 0.6 µm, we recommend the PP100 N pleated polypropylene filter element.

- Absolute particulate retention rates at 0.6 to 10 µm
- 100% polypropylene construction
- Self-bonded hydrophilic media provides fixed pore structure, high containment of solid materials, no migration of media and no releasing of fibers
- Contains no binders or adhesives
- Each filter is pre-rinsed at the factory
- Meets U.S. FDA, CFR Title 21 and 1935/2004/EC requirements for food and beverage
- Can be repeatedly sterilized in-line with steam or in an autoclave
- Recommended with PF-EG, P-FG, P-PT, P-KG, PG-IL, PG-EG, and P-EG housings

PES – POLYETHERSULFONE MEMBRANE

Designed specifically for food and beverage applications, Donaldson offers two grades of PES elements that utilize pleated polyethersulfone membrane media encased in polypropylene inner and outer cores.

PES-WN

- Absolute particulate retention rates at 0.2 to 0.6 µm
- Ideal when HIMA/ASTM validation is required
- Hydrophilic polyethersulfone membrane media with asymmetrically designed pore structure; pore size steadily decreases toward center of media for high dirt holding capacity and low pressure drop
- Contains no binders or adhesives
- Meets U.S. FDA, CFR Title 21 and 1935/2004/EC requirements for food and beverage
- Can be repeatedly sterilized in-line with steam or in an autoclave
- Recommended with PF-EG and PG-IL housings

PF-PES BN

- Absolute particulate retention rate at 0.45 µm
- Hydrophilic polyethersulfone membrane media with asymmetrically designed pore structure; pore size steadily decreases toward center of media for high dirt holding capacity and low pressure drop
- Contains no binders or adhesives
- Resistant to oxidizing agents
- Meets U.S. FDA, CFR Title 21 and 1935/2004/EC requirements for food and beverage
- Can be repeatedly sterilized in-line with steam or in an autoclave
- Recommended with PF-EG and PG-IL housings

STERILE AIR/GAS FILTRATION

PF-PT N – PTFE MEMBRANE

Donaldson PF-PT N filters utilize membrane media for use in harsh filtration applications such as highly acidic or alkali solutions.

- Absolute particulate retention rates at 0.2 µm
- Highly porous, hydrophobic, PTFE membrane media for high flow rates and high retention of particles
- Polypropylene end caps and support cores
- Contains no binders or adhesives
- 100% integrity tested at factory
- Meets U.S. FDA, CFR Title 21 and 1935/2004/EC requirements for food and beverage
- Can be repeatedly sterilized in-line with steam or in an autoclave
- Recommended with PG-IL, PG-EG, P-EG, and P-BE housings

P-SRF N – MICROFIBER

In addition to our line of high quality industrial compressed air filtration products, Donaldson offers one of the finest sterile air filters available—the P-SRF N. Although the P-SRF is already widely used around the world in numerous applications, we have redesigned it to further extend its range of chemical compatibility and have a lower pressure drop. You won't find a better sterile air filter on the market today.

- 99.9999998% efficient at 0.01 µm
- Binder-free borosilicate media
- Stainless steel end caps and support cores
- 100% integrity tested at factory
- Meets U.S. FDA, CFR Title 21 and1935/2004/EC requirements for food and beverage contact
- Can be repeatedly sterilized in-line with steam or in an autoclave
- Recommended with P-EG, PG-EG and P-BE housings

STEAM FILTRATION

P-GS – SINTERED STAINLESS STEEL

Improving the quality of steam used for filter sterilization ensures longer service life of those filters. When steam is used in culinary and other food applications such as cooking, sterilization and packaging, purifying that steam is essential to maintain integrity of the product and associated equipment.

- Absolute particulate retention rates of 1 µm, 5 µm and 25 µm
- Filter media is sintered 316L stainless steel with >50% porosity to ensure high dirt holding capacity and low pressure drop
- Can withstand a differential pressure of 75 psi
- Regenerable in an ultrasonic bath
- Meets U.S. FDA, CFR Title 21 and 1935/2004/EC requirements for food and beverage
- Recommended with P-EG and PG-EG housings

GAS, STEAM OR LIQUID FILTRATION

P-GSL N – STAINLESS STEEL

The Donaldson P-GSL N offers high dirt holding capacity combined with low differential pressure for a wide variety of applications in a highly durable, all stainless steel filter element. The P-GSL N is an ideal solution for low pressure steam.

- Absolute particulate retention rates at 1 to 250 µm in steam
- 100% stainless steel construction
- Approved for Food Contact according to U.S. FDA, CFR Title 21 & 1935/2004/EC
- Contains no binders, adhesives, additives, or surfactants
- Regenerable by back-flushing or ultrasonication
- Withstands differential pressure up to 75 psid
- Recommended with PG-EG and P-EG housings

FILTER HOUSINGS

P-EG GAS & STEAM FILTER HOUSING

An economical solution when filtering air, gases or steam.

- Available in 304 or 316L stainless steel
- 18 sizes in flow capacities from 35 to 13,000 scfm
- Low differential pressure at high flow rates
- Inner surface:
  - — Models 0006 – 0288, pickled and passivated Ra 63
  - — Models 0432 – 1920, bead blast
- Outer surface finish:
  - — Models 0006 – 0288, pickled, passivated and polished Ra 63
  - — Models 0432 – 1920, bead blast
- NPT & ANSI connections (alternative connections available upon request)

PG-EG SANITARY GAS & STEAM FILTER HOUSING

The PG-EG sanitary filter housing is designed for the purification of compressed air or technical gases in sanitary and hygienic applications.

- 3-A certification for Models 0006 - 0192
- Available in 304 or 316L stainless steel
- 12 sizes in flow capacities from 35 to 13,000 scfm
- Low differential pressure at high flow rates
- Inner & Outer Surface:
  - — Models 0006 – 0192, Electropolished to Ra 32
  - — Models 0432 – 1920, Nitric passivated Ra 32
- Connections:
  - — Models 0006 – 0192, Tri-clamp (alternate connections available upon request)
  - — Models 0432 – 1920, ANSI flange connection

P-BE VENT FILTER HOUSING

The P-BE filter is designed for venting of stationary or mobile storage tanks to atmosphere. The simple two-piece construction incorporates splash protection to prevent liquids from coming into contact with the filter medium. Sterile and non-sterile grade elements may be incorporated into this housing.

- Available in 304 or 316L stainless steel
- 12 sizes in flow capacities from 3 to 1,200 cfm at ambient pressure
- For sterile, low differential pressure at high flow rates when used with a P-SRF N sterile air filter element
- Will accommodate other filter elements with UF connection for chemical compatibility

PG-IL IN-LINE SANITARY GAS & LIQUID HOUSING

The PG-IL in-line filter housing has been designed for the purification of liquids and gases in sanitary and hygienic applications.

- 3-A certified and BPE compliant
- Available in 304 or 316L stainless steel
- 4 sizes in liquid flow capacities from 3 to 18 gpm and sanitary gases from 215 to 1290 SCFM
- Inner surface electropolished to Ra 15 and outer surface to an Ra 32

FILTER HOUSINGS

P-PT METAL LIQUID HOUSING

The P-PT single round filter housing is for water and corrosive liquids in industrial applications.

- Available in 316L stainless steel
- 6 sizes in flow capacities from 7 to 21 gpm
- Available in NPT, Flange, Tri-Clamp and welded end connection types
- Standard housings accept Code 7 and 2 elements
- Also available in DOE, Code 3 and Code 8 filter element connection types

P-FG METAL LIQUID HOUSING

The P-FG is designed for filtration of liquids such as process water, mineral water, beer, wine, soft drinks, juice and other liquids.

- Available in 304L and 316L stainless steel
- 7 sizes in flow capacities from 50 to 1,000 gpm
- Available in NPT and Flange connection types
- Inner surface finish: mill finish stainless steel
- Outer surface finish: bead blast

P-KG POLYPROPYLENE LIQUID HOUSING

The P-KG is designed for filtration of liquids such as process water, mineral water, beer, wine, soft drinks, juice and other liquids.

- Virgin polypropylene
- 2 sizes in flow capacities up to 20 gpm
- Accepts DOE elements only

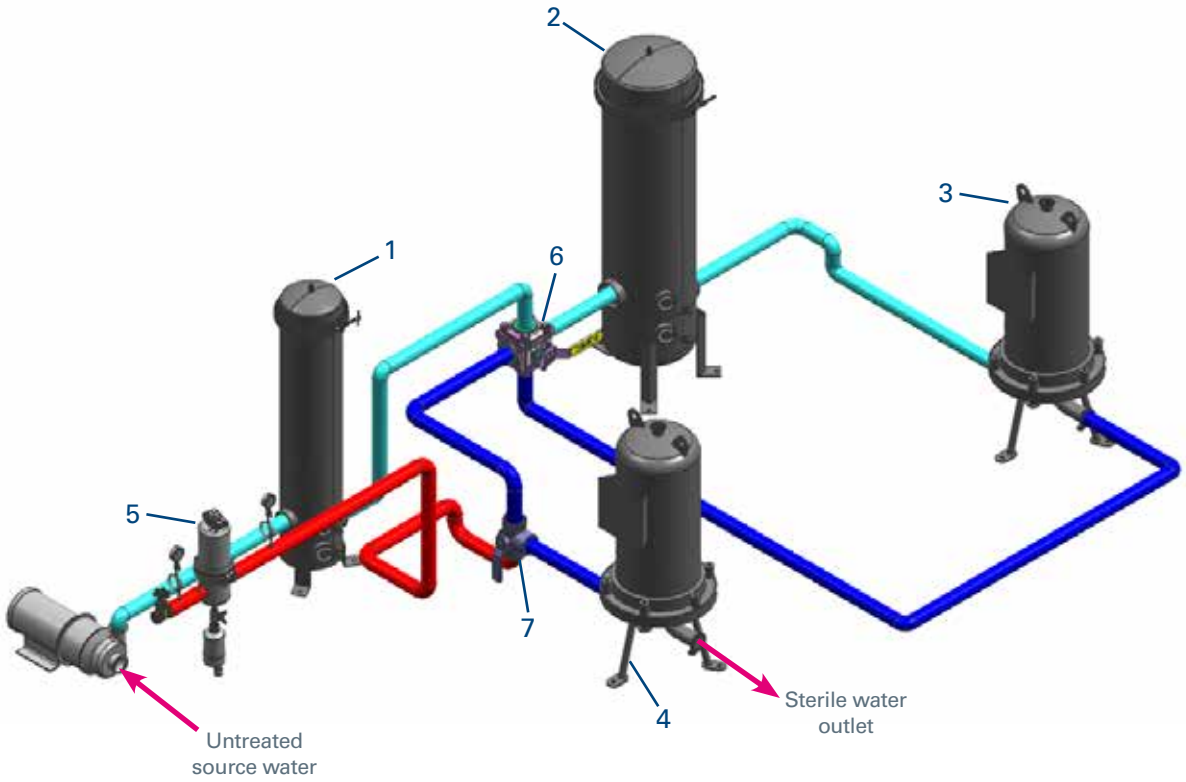
PF-EG SANITARY LIQUID FILTER HOUSING

The PF-EG filter housing is designed for the purification of liquids in sanitary applications.

- 3-A certified
- Available in 316L stainless steel
- 12 sizes in flow capacities from 1 to 215 gpm
- Low differential pressure at high flow rates
- Inner & Outer Surface:
  - — Models 0012 – 0075, Electropolished to Ra 32
  - — Models 0080 - 0900, Nitric passivated Ra 32

RECOMMENDED FILTER INSTALLATIONS

STERILE LIQUID

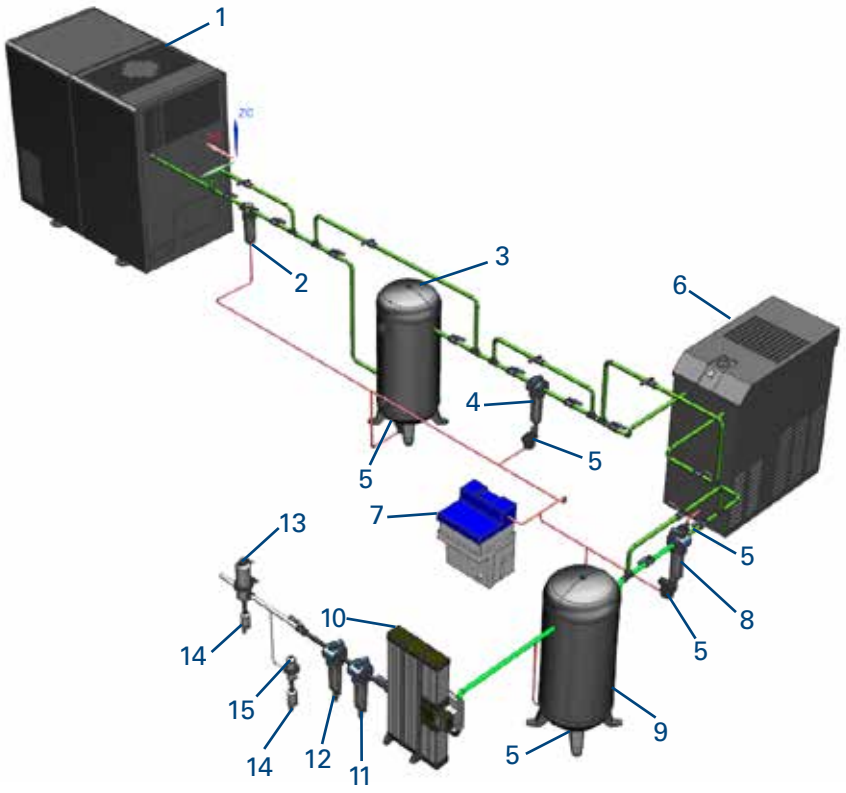


No.	Description	Purpose
1	P-FG Housing and PP-TF Element	Coarse water pre-filter removes sediment, rust and sand
2	P-FG Housing and Carbon Block Element	Pre-filter removes unwanted source water treatment chemicals such as chlorines
3	PF-EG Housing and PP100 Element	Membrane pre-filter protects more expensive 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

RECOMMENDED FILTER INSTALLATIONS

STERILE AIR

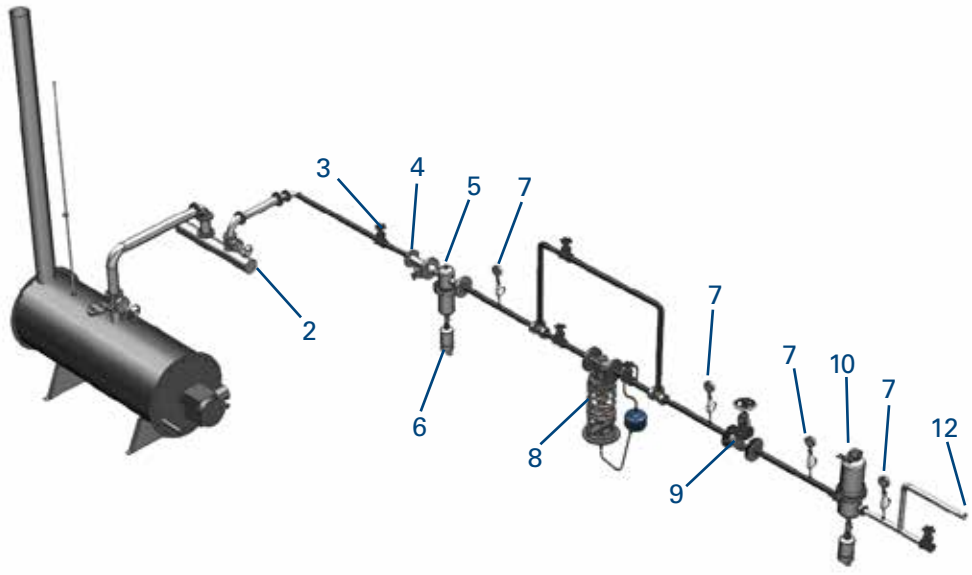
Installation with variable compressed air demand



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 PSA 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 N Sterile Filter
14	Condensate Drain
15	P-EG Housing with P-GS 5 µm Steam Filter

CULINARY STEAM

Installation with variable compressed air demand



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 CheckValve and Tubing to Process

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 ISO 9001:2008

Standard No. 10-04* 3-A

Member of CAGI Compressed Air & Gas Institute

Member of IDEA

Member of fpsa FOOD PROCESSING SUPPLIERS ASSOCIATION

Member of MWFPA

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.

Donaldson FILTRATION SOLUTIONS

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