





Parker domnick hunter commitments

Air & Gas collection

The treatment of gases in food and beverage production and packaging processes is of critical importance to protect the food from hazards which could otherwise deteriorate food quality or even worse, endanger human health.

With particular expertise in sterile gas filtration technology, Parker domnick hunter have continually innovated novel gas filtration solutions for the food industries. The range of gas filtration products and services have been designed to deliver optimum operational performance and maintain the commitments of; protecting food quality, reducing production costs and providing specialist support for the food industries.



HIGH FLOW BIO-X Air & Gas

Filter Cartridges



HIGH FLOW BIO-X sterile gas filters combine proven depth filter technology and a pleated construction to provide retention down to 0.01 micron in gas.

Flow rates typically 2-3 times that of membrane filters make HIGH FLOW BIO-X the filter that can dramatically reduce cartridge usage and installation size within the fermentation, food and beverage industries.

The specially developed PTFE impregnation process imparts greater strength and permanent hydrophobicity to the borosilicate microfibre media. This leads to excellent performance in applications such as the provision of sterile gas in filling machines.

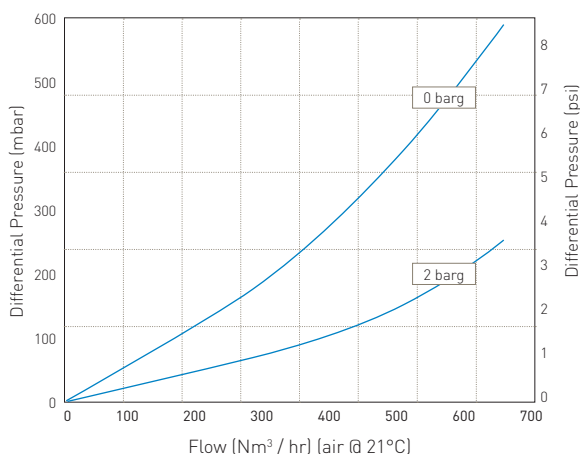
Features

- High flowing hydrophobic PTFE impregnated media
- Fully validated by aerosolized bacterial and viral challenge
- Stainless steel inner core
- 100% integrity testable by Valairdata 3 aerosol challenge

Benefits

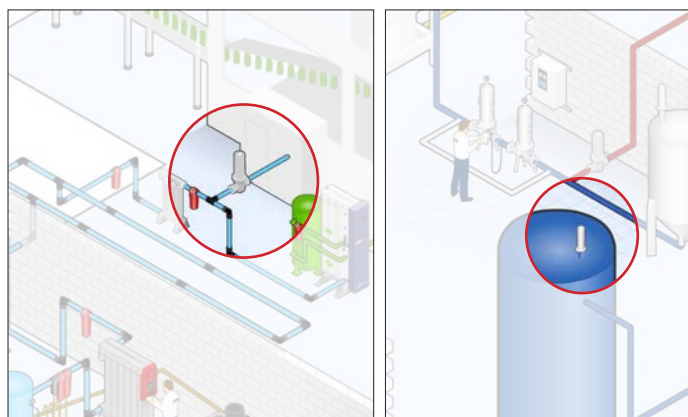
- Reduce system size and reduced total cost of ownership.
- Provides complete process security
- Strong and robust for extended service life
- Guaranteed performance in-situ

Performance Characteristics



Filtration Stage

Sterile Gas and Vent Filtration





Specifications

Materials of Construction

- Filtration Media: PTFE Impregnated Borosilicate Microfibre
- Upstream Support: Polypropylene
- Downstream Support: Polypropylene
- Inner Support Core: 316L Stainless Steel
- Outer Protection Cage: Polypropylene
- End Caps: Polypropylene
- End Cap Insert: Polyethersulphone
- Standard o-rings/gaskets: Silicone

Effective Filtration Area (EFA)

10" (250 mm) Up to 0.38 m² (4.09 ft²)

Sterilization

HIGH FLOW BIO-X cartridges can be in-situ steam sterilized or autoclaved up to 142 °C (287.6 °F) for a maximum of 150 steam cycles.

For detailed operational procedures and advice on cleaning and sterilization, please contact the Technical Support Group through your usual Parker domnick hunter contact.

Integrity Test Data

All cartridges are integrity tested prior to despatch by the aerosol challenge test method using the Parker domnick hunter VALAIRDATA 3.

Manufacturing Traceability

Each filter cartridge displays the product name, product code and lot number. Additionally, each module displays a unique serial number providing full manufacturing traceability.

Food Contact Compliance

Parker domnick hunter's range of HIGH FLOW BIO-X filters are



intended for indirect food contact and as such are manufactured from materials suitable for the sterilization of compressed gasses within food and beverage applications. Materials conform to the relevant requirements of the United States FDA 21 CFR part 177 and USP Plastics Class VI – 121°C.

Retention Characteristics

The HIGH FLOW BIO-X range of cartridges has been fully validated by aerosol bacterial challenge with challenge levels of 10¹² *Brevundimonas diminuta* per 10" (250 mm) filter cartridge. Independent test work also shows full retention to *MS-2 Coliphage*.

Recommended Operating Conditions

The maximum differential pressure in direction of flow (outside to in) is 3.5 barg (50.76 psig) at 70 °C (158 °F).

The maximum recommended continuous operating temperature is 70 °C (158 °F).

Ordering information

ZCHB - [] - [] - []

Code	Length (Nominal)	Code	End Cap (10 inch)	Code	O-rings
B*	2.5" (65 mm)	C	P-7	E	EPDM
A*	5" (125 mm)	P	BIO-X Retrofit	S	Silicone
K	5" (125 mm)	H	UF Retrofit	V	Viton
1	10" (250 mm)			*Silicone o-ring supplied as standard without having to specify 'S' code	
2	20" (500 mm)				
3	30" (750 mm)				
4	40" (1000 mm)				
*Supplied in packs of 3		Code	End Cap (Demi)		
		H	UF Retrofit		
		T	TRUESEAL		
		Y	Demi MCY		
		Z	Demi A & B Std		

HBA & HPG
HOUSING RANGE
AVAILABLE



BIO-X II Air & Gas

Filter Cartridges



BIO-X II air sterilization filter cartridges utilize a borosilicate microfibre media. This media has proven to be particularly effective in the removal of sub-micron particles as small as 0.01 micron, therefore ensuring the removal of all microorganisms, including bacteria and viruses.

The media is sandwiched between polyaramid support materials to provide additional strength and prevent media migration. This is rigidly held between stainless steel support cylinders and finally encapsulated into stainless steel end caps. The result is a filter cartridge with the exceptional strength and efficiency necessary for absolute security in the most testing of applications.

BIO-X II filter cartridges are particularly suitable for the increasing number of high temperature applications. They also fulfil the sterile compressed air and gas requirements of the dairy, brewery and food processing industries.

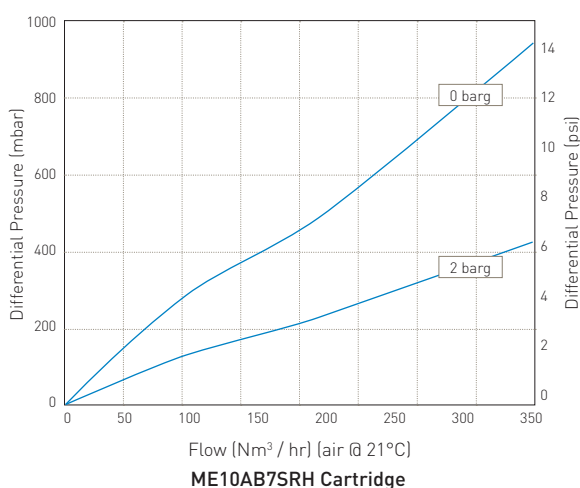
Features

- Robust stainless steel componentry
- Fully validated by aerosolized bacterial and viral challenge
- 100% integrity testable by Valairdata 3 aerosol challenge

Benefits

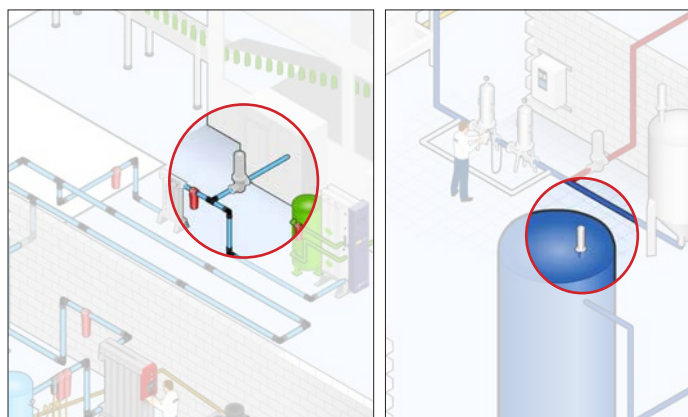
- High temperature operation up to 200°C (392°F)
- Process security under demanding conditions
- Guaranteed performance in-situ

Performance Characteristics



Filtration Stage

Sterile Gas and Vent Filtration





Specifications

Materials of Construction

■ Filtration Media:	Borosilicate Microfibre
■ Upstream Support:	Polyaramid
■ Downstream Support:	Polyaramid
■ Inner Support Core:	Stainless Steel
■ Outer Protection Cage:	Stainless Steel
■ End Caps:	Stainless Steel
■ Encapsulant:	Epoxy Resin
■ Standard o-rings/gaskets:	Silicone

Food and Biological Safety

Parker domnick hunter's range of BIO-X II filters are intended for indirect food contact and as such are manufactured from materials suitable for the sterilization of compressed gasses within Food and Beverage applications. Materials conform to the relevant requirements for non-fibre release as laid down in the United States FDA 21 CFR 211.72 and 210,3(b).(6).



Maximum Continuous Inlet Air Temperature

200 °C (392 °F) Intermittent
170 °C (338 °F) Continuous

Sterilization

BIO-X II filter elements can withstand a maximum of 100 in-line sterilization cycles with purified saturated steam. In-line sterilization 142 °C (287.6 °F), 2.8 barg (40.7 psig) for 30 minutes.

For detailed operational procedures and advice on cleaning and sterilization, please contact the Technical Support Group through your usual Parker domnick hunter contact.

Integrity Test Data

All cartridges are integrity tested prior to despatch by the aerosol challenge test method using the Parker domnick hunter Valairdata 3.

Retention Characteristics

The BIO-X II range of cartridges have been fully validated by bacterial challenge of aerosolized *Brevundimonas diminuta*.

Recommended Operating Conditions

The maximum differential pressure is 700 mbar for economical element change.

Ordering information

Element Code	Cartridge Length	End Cap Location
MER-BZ	2.5" (65 mm)	Demi A & B Std (Z)
MER-AZ	5" (125 mm)	Demi A & B Std (Z)
ME10-AB7SRH	10" (250 mm)	BS226 (C)
ME20-AB7-SRH	20" (500 mm)	BS226 (C)
ME30-AB7-SRH	30" (750 mm)	BS226 (C)

All BIO-X cartridges are supplied as single units

HBA, HPG & HSV
HOUSING RANGE
AVAILABLE

BIO-X II Retrofit Cartridge Part Numbers

Parker domnick hunter Cartridge	ME3/1	ME3/1.5	ME4/1.5	ME4/2.5	ME5/2.5	ME5/3	ME10/3	ME15/3	ME20/3	ME30/3	ME30/5	
Retrofit Cartridge	SRF3/1	SRF3/1.5	SRF4/1.5	SRF4/2.5	SRF5/2.5	SRF5/3	SRF10/3	SRF15/3	SRF20/3	SRF30/3	SRF30/5	
Parker domnick hunter Cartridge	MER2/10	MER3/10	MER4/20	MER5/20	MER5/25	MER7/25	MER7/30	MER10/30	MER15/30	MER20/30	MER30/30	MER30/50
Retrofit Cartridge	SRF02/10	SRF03/10	SRF04/20	SR05/20	SRF05/25	SRF07/25	SRF07/30	SRF10/30	SRF15/30	SRF20/30	SRF30/30	SRF30/50
Parker domnick hunter Cartridge	ME2/10	ME3/10	ME4/20	ME5/20	ME5/25	ME7/25	ME7/30	ME10/30	ME15/30	ME20/30	ME30/30	ME30/50
Retrofit Cartridge	P-SRF02/10	P-SRF03/10	P-SRF04/20	P-SRF05/20	P-SRF05/25	P-SRF07/25	P-SRF07/30	P-SRF10/30	P-SRF15/30	P-SRF20/30	P-SRF30/30	P-SRF30/50



TETPOR AIR Air & Gas

Filter Cartridges



TETPOR AIR sterilization filter cartridges offer exceptional filtration performance while providing the highest levels of biosecurity throughout the process industry.

Operating at ambient temperature conditions, TETPOR AIR filter cartridges provide a cost-effective filtration solution. A unique polypropylene prefilter layer extends service life in heavily contaminated environments.

TETPOR AIR filter cartridges also utilize a well-proven, inherently hydrophobic expanded PTFE membrane validated as sterilizing grade in liquid in accordance with ASTM F838-05. This ensures the removal of all airborne bacteria, viruses and bacteriophage.

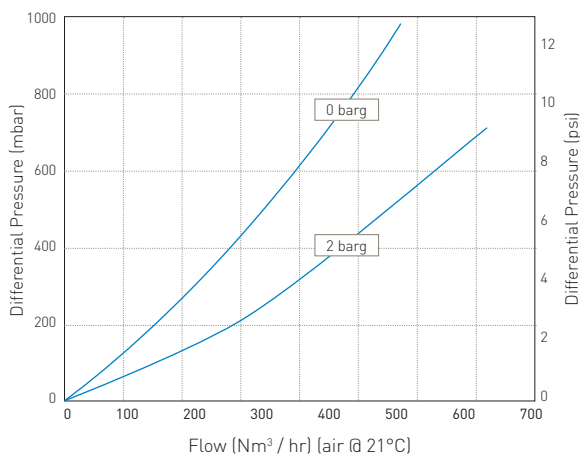
Features

- Highly hydrophobic PTFE membrane
- Fully validated to ASTM F838-05 liquid bacterial challenge
- Fully validated to aerosol and viral challenge

Benefits

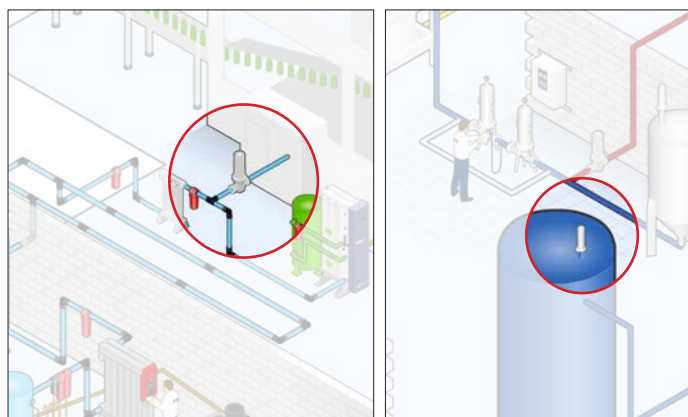
- Prevents membrane blinding during high humidity conditions
- Provides sterile effluent in high humidity environments and increased product protection
- Can be integrity tested in-situ using Valairdata 3

Performance Characteristics



Filtration Stage

Sterile Gas and Vent Filtration





Specifications

Materials of Construction

- Filtration Membrane: Expanded PTFE
- Upstream Support: Polypropylene
- Downstream Support: Polypropylene

Filter Cartridges

- Inner Support Core: Polypropylene
- Outer Protection Cage: Polypropylene
- End Caps: Polypropylene
- End Cap Insert: 316L Stainless Steel
- Standard o-rings/gaskets: Silicone

Food Contact Compliance

Parker domnick hunter's range of TETPOR AIR filters are intended for indirect food contact and as such are manufactured from materials suitable for the sterilization of compressed gasses within Food and Beverage applications. Materials conform to the relevant requirements of the United States FDA 21 CFR part 177 and USP Plastics Class VI – 121°C.



Recommended Operating Conditions

Filter Cartridges

Up to 60 °C (140 °F) continuous operating temperature and higher short-term temperatures during CIP to the following limits:

Temperature		Max Forward dP	
°C	°F	(bar)	(psil)
20	68	5.0	72.5
40	104	4.0	58.0
60	140	3.0	43.5
80	176	2.0	29.0
90	194	1.7	24.6

Parker Hannifin certify that this product complies with the European Council Pressure Equipment Directive (PED) 97/23/EC Article 3, Paragraph 3 - Sound Engineering Practice (SEP). This product is intended for use with Group 1 & 2 Dangerous and Harmless Liquids and Group 2 Harmless Gases at the operating conditions stated in this document: In compliance with PED Article 3, Paragraph 3, SEP, this product does not bear the CE mark.

Effective Filtration Area

10" (250 mm):	0.77m ²	(8.28 ft ²)
K Size:	0.36m ²	(3.87 ft ²)
A Size:	0.25m ²	(2.69 ft ²)
B Size:	0.12m ²	(1.29 ft ²)
E Size:	0.06m ²	(0.64 ft ²)

Sterilization

	Autoclave		Steam-in-place	
	Cycles	Temp	Cycles	Temp
Cartridges	120	142°C (287°F)	120	142°C (287°F)
DEMICALP	100	135°C (275°F)	-	-

For detailed operational procedures and advice on cleaning and sterilization, please contact the Technical Support Group through your usual Parker domnick hunter contact.

Integrity Test Data

All modules are integrity tested prior to despatch by diffusional flow. Values are for cartridges wetted with 60 / 40 IPA / Water.

Cartridge	Test Pressure (barg)	(psig)	Diffusional Flow (ml / min)
E	0.8	11.6	1.5
B	0.8	11.6	3.0
A	0.8	11.6	6.0
K	0.8	11.6	8.3
10"	0.8	11.6	17.7

Retention Characteristics

TETPOR AIR filter cartridges are validated by bacterial challenge testing with Brevundimonas diminuta to current ASTM F838-05 methodology (10⁷ organisms / cm² EFA minimum) with typical in-house challenge levels being 1011 organisms per 10" (250 mm) filter cartridge.

In addition, TETPOR AIR filter cartridges are also validated by aerosol bacterial and MS-2 coliphage challenge testing.

Ordering information

ZCMT



Code | Length (Nominal)

B*	2.5"	(65 mm)
A*	5"	(125 mm)
K	5"	(125 mm)
1	10"	(250 mm)
2	20"	(500 mm)
3	30"	(750 mm)

*Supplied in packs of 3

Code | Micron

020	0.2
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Code | End Cap (10")

B*	dh DOE
C	BF / 226 Bayonet
D	Fin / 222
E	Flat Top / 222
F	BF / 216 / 218
G	Recess / 222
H	UF Retrofit
R	BF / 222 Bayonet

*EPDM gaskets supplied as standard

Code | End Cap (Demi)

SK	Retrofit
T	TRUESEAL
X	116
Y	Demi Sub
Z	Demi A & B Std

Code | Variant

A	Air / Gas
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Code | O-rings

E	EPDM
P	PTFE Encapsulated Silicone
S*	Silicone
V	Viton

*Silicone o-ring supplied as standard without having to specify the 'S' code

HBA, HPG & HSV
HOUSING RANGE
AVAILABLE



HIGH FLOW TETPOR II Air & Gas

Filter Cartridges



HIGH FLOW TETPOR II gas sterilization filters have been developed to benefit from technological advances within the manufacture of PTFE membranes. This new generation of filter sets the standard with an unrivalled combination of efficiency, flow rate and strength.

The HIGH FLOW TETPOR II is validated as a 0.2 micron sterilizing grade filter in liquids through ASTM F838-05 and 0.01 micron in gas through full retention to an aerosol challenge of MS2 phage. This ensures the filter will guarantee the sterility of your process in the worst-case scenario where the filter may be subjected to bulk liquid due to a process problem. Subtle changes to the structure of the hydrophobic PTFE have also resulted in the production of an extremely robust product now validated for 225 steam sterilization cycles @ 142 °C (287.6 °F). The combination of non-woven supports upstream of the membrane and an expanded net layer downstream has significant benefits. It provides increased protection and service life while guaranteeing zero fibre shedding into the process.

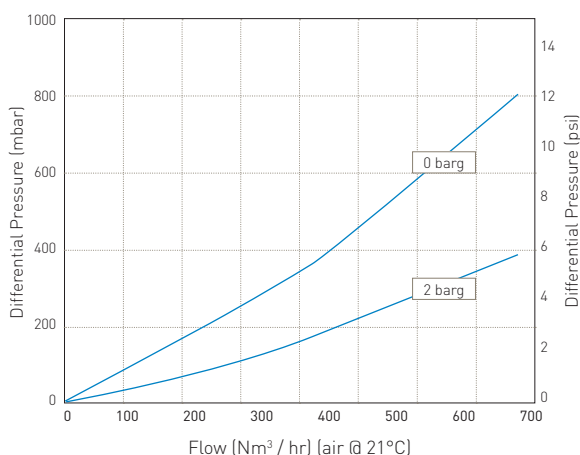
Features

- Highly hydrophobic PTFE membrane
- Fully validated to ASTM F838-05 liquid bacterial challenge
- Fully validated to aerosol and viral challenge
- Unique high flowing PTFE membrane
- Can be in-situ steam sterilized for up to 225 cycles at 142°C

Benefits

- Prevents membrane blinding during high humidity conditions
- Provides sterile effluent in high humidity environments and increased product protection
- Increased energy savings due to reduced pressure loss
- Long service life under aggressive processing conditions

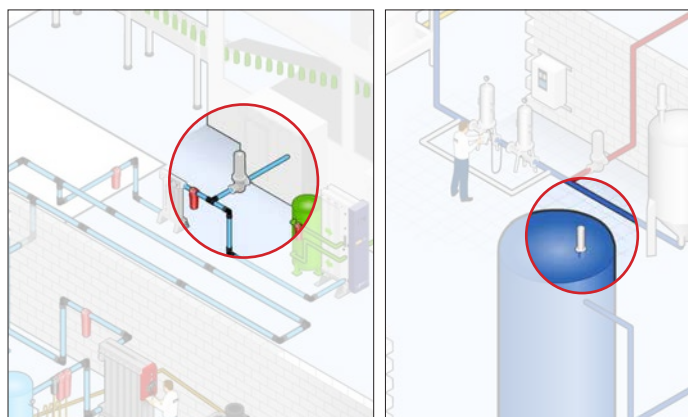
Performance Characteristics



For A size filter, multiply dP by factor of 3 at same flow

Filtration Stage

Sterile Gas and Vent Filtration





Specifications

Materials of Construction

- Filtration Media: Expanded PTFE
- Upstream Support: Polypropylene
- Downstream Support: Polypropylene
- Inner Support Core: 316L Stainless Steel
- Outer Protection Cage: Polypropylene
- End Caps: Polypropylene
- End Cap Insert: Polysulphone
- Standard o-rings/gaskets: Silicone

Food Contact Compliance

Parker domnick hunter's range of HIGH FLOW TETPOR II filters are intended for indirect food contact and as such are manufactured from materials suitable for the sterilization of compressed gasses within Food and Beverage applications. Materials conform to the relevant requirements of the United States FDA 21 CFR part 177 and USP Plastics Class VI – 121°C .



Sterilization

HIGH FLOW TETPOR II cartridges can be in-situ steam sterilized for up to 225 cycles at 142 °C (287.6 °F).

For detailed operational procedures and advice on cleaning and sterilization, please contact the Technical Support Group through your usual Parker domnick hunter contact.

Retention Characteristics

HIGH FLOW TETPOR II cartridges have been fully validated as 0.2 micron sterilizing grade filter cartridges, for compressed air and gas applications. They exceed liquid bacterial challenge levels as recommended by ASTM+. In addition, HIGH FLOW TETPOR II is also validated by aerosol bacterial and MS-2 Coliphage challenge testing.

+ASTM American Society for Testing and Materials

Integrity Test Data

All modules are integrity tested prior to despatch by diffusional flow. Values are for cartridges wetted with 60 / 40 IPA / Water.

Cartridge	Test Pressure		Diffusional Flow (ml / min)
	(barg)	(psig)	
D	0.8	11.6	0.6
C	0.8	11.6	1.1
B	0.8	11.6	2.8
A	0.8	11.6	5.6
K	0.8	11.6	7.70
10"	0.8	11.6	16.5
20"	0.8	11.6	33.0
30"	0.8	11.6	49.5

Recommended Operating Conditions

The maximum differential pressure in direction of flow (outside to in) is 3.5 barg (50.76 psig) at 60 °C (140 °F).

The maximum recommended continuous inlet air temperature is 60 °C (140 °F).

Note: HIGH FLOW TETPOR II cartridges can be used as WFI vents in heated housings if changed on a 4-6 monthly basis.

Ordering information

ZHFT



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Code	Length (Nominal)
D*	1.5" (35 mm)
C*	2.5" (65 mm)
B*	2.5" (65 mm)
A*	5" (125 mm)
K	5" (125 mm)
1	10" (250 mm)
2	20" (500 mm)
3	30" (750 mm)

*Supplied in packs of 3

Code	End Cap (10 inch)
C	P-7
P	BIO-X Retrofit
H	UF Retrofit

Code	End Cap (Demi)
H	UF Retrofit
W	HF Demi C & D
T	TRUESEAL
Y	Demi MCY
Z	Demi A & B Std

Code	O-rings
E	EPDM
P ⁽¹⁾	PTFE Encapsulated Silicone
S ⁽²⁾	Silicone
V	Viton

⁽¹⁾Not available on C and D length variants
⁽²⁾Silicone o-ring supplied as standard without having to specify the 'S' code

HBA, HPG & HSV HOUSING RANGE AVAILABLE



HIGH FLOW PREPOR GFA Air & Gas

Filter Cartridges



HIGH FLOW PREPOR GFA is a high capacity glass fibre prefilter specifically designed for the removal of bulk particulate from compressed air and gases.

It is used extensively for prefiltration duties in dry compressed air systems and provides excellent protection for final sterile filters.

HIGH FLOW PREPOR GFA utilizes pleated glass fibre filter media encased within an upstream and downstream expanded polypropylene mesh filter support. The pleat pack is supported by an inner stainless steel core and outer heat stabilized polypropylene cage, heat bonded to heat stabilized polypropylene end caps.

The combination of high voids volume filter media and pleated construction results in a filter cartridge with exceptional dirt holding capacity, able to operate at very low differential pressures.

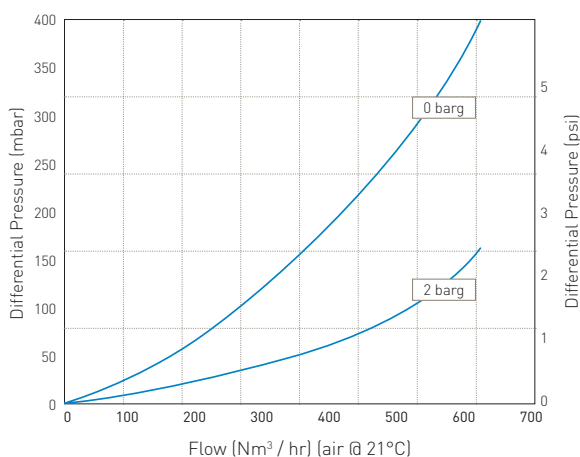
Features

- High surface area and voids volume filter media
- Reliable efficient protection of final sterilization filters
- Retention to 1.0µm in gas

Benefits

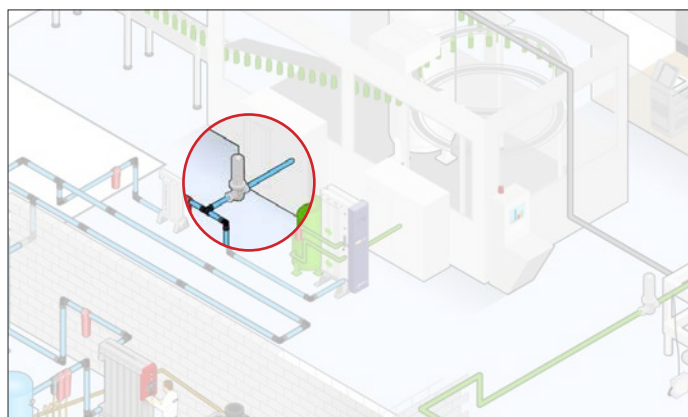
- Exceptionally high flow rates with low pressure drops
- Reliable efficient protection of final sterilization filters
- Heat stabilized componentry to allow operation at elevated temperatures

Performance Characteristics



Filtration Stage

Particulate Removal





Specifications

Materials of Construction

- Filtration Media: Glass Microfibre
- Upstream Support: Polypropylene
- Downstream Support: Polypropylene
- Inner Support Core: 316L Stainless Steel
- Outer Protection Cage: Polypropylene
- End Caps: Polypropylene
- End Cap Insert: Stainless Steel
- Standard o-rings/gaskets: Silicone

Recommended Operating Conditions

The maximum differential pressure in direction of flow (outside to in) is 3.5 barg (50.76 psig) at 20 °C (68 °F).

The maximum recommended continuous operating temperature is 70 °C (158 °F).

Note: For temperatures from 70 °C (158 °F) to 100 °C (212 °F) a special product with polyester supports is available.

Food Contact Compliance

Parker domnick hunter's range of HIGH FLOW PREPOR GFA filters are intended for indirect food contact and as such are manufactured from materials suitable for the sterilization of compressed gasses within Food and Beverage applications. Materials conform to the relevant requirements of the United States FDA 21CFR part 177 and USP Plastics Class VI – 121°C .



Effective Filtration Area (EFA)

10" (250 mm) 0.48 m² (5.16 ft²)

Ordering information

ZCHP

Code	Length (Nominal)	Code	End Cap (10 inch)	Code	O-rings
1	10" (250 mm)	C	BF / 226 Bayonet	E	EPDM
2	20" (500 mm)	P	BIO-X Retrofit	S	Silicone
3	30" (750 mm)			V	Viton®
		Code Variant*			
		S4*		High temperature	

HBA
HOUSING RANGE
AVAILABLE



PEPLYN AIR Air & Gas

Filter Cartridges



PEPLYN AIR filter cartridges have been specifically designed to guarantee removal of particulate from gas streams.

They can be used to protect sterilizing grade filters in pressurized systems or in exhaust gas vent applications.

PEPLYN AIR is particularly suitable for:

- Inlet gas in the fermentation industry as protection to sterilizing grade filters where polypropylene media is preferred
- As protection to sterilizing grade filters in exhaust gas systems
- Vent applications
- Systems where high particulate loading is expected

PEPLYN AIR has the ability to be steam sterilized and has a broad range of chemical compatibility

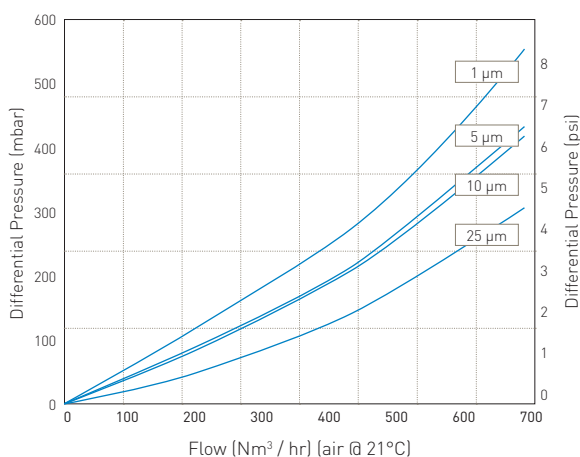
Features

- Strong and durable polypropylene filtration media
- Graded density, pleated construction

Benefits

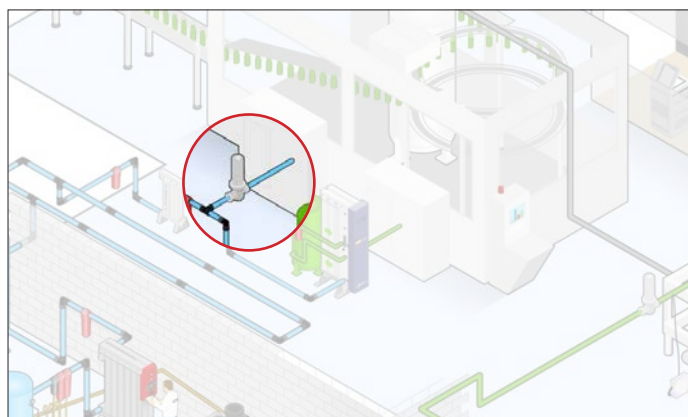
- Effective particle retention and steam sterilizable capability
- High flow rate and long service life

Performance Characteristics



Filtration Stage

Particulate Removal





Specifications

Materials of Construction

- Filtration Media: Meltblown Polypropylene
- Upstream Support: Polypropylene
- Downstream Support: Polypropylene
- Inner Support Core: 316L Stainless Steel
- Outer Protection Cage: Polypropylene
- End Caps: Polypropylene
- Standard o-rings/gaskets: Silicone

Food Contact Compliance

Parker domnick hunter's range of PEPLYN AIR filters are intended for indirect food contact and as such are manufactured from materials suitable for the sterilization of compressed gasses within Food and Beverage applications. Materials conform to the relevant requirements of the United States FDA 21CFR part 177 and USP Plastics Class VI – 121°C .



Recommended Operating Conditions

The maximum differential pressure in direction of flow (outside to in) is 3.5 barg (50.76 psig) at 20 °C (68 °F).

The maximum recommended continuous operating temperature is 50 °C (122 °F).

Effective Filtration Area (EFA)

10" (250 mm) Up to 0.48 m² (5.16 ft²)

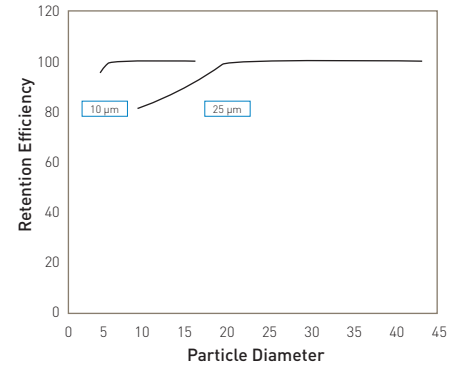
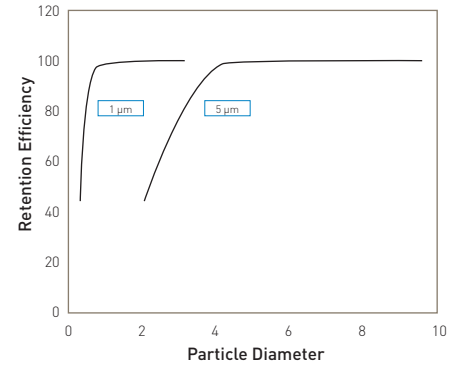
Cleaning and Sterilization

PEPLYN AIR cartridges can be repeatedly in situ steam sterilized or autoclaved up to 142 °C (287.6 °F).

Determination of Micron Ratings

Particle removal efficiencies of PEPLYN AIR cartridges have been determined independently by challenging with a cut silica test dust, generated by BUS1701 dust injector used in conjunction with laser particle counters.

Micron Efficiency Ratings



Ordering information

ZCPH

	-			-			
Code	Length (Nominal)	Code	Micron	Code	End Cap (10 inch)	Code	O-rings
B*	2.5" (65 mm)	1.0	1.0 µm	C	BF / 226 Bayonet	E	EPDM
A*	5" (125 mm)	005	5.0 µm	H	UF Retrofit	P	PTFE Encapsulated Silicone
K	5" (125 mm)	010	10.0 µm			S	Silicone
1	10" (250 mm)	025	25.0 µm			V	Viton®
2	20" (500 mm)						
3	30" (750 mm)						
* Supplied in packs of 3							
Code	End Cap (Demi)						
T	TRUESEAL						
Y	Demi Stub						
Z	Demi A & B Std						

* Silicone o-ring supplied as standard without having to specify the 'S' code

HBA
HOUSING RANGE
AVAILABLE