

Clarity

clear solutions

**Biopharmaceutical and
Pharmaceutical Filtration**

The STRAINRITE
Companies | World Class
Filtration



Brevi-Cap

**SINGLE-USE, GAMMA STERILIZABLE
1-2 SQ FT FILTER CAPSULES**



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CONTENT

- 03 **Intro**
- 04 **Drawing**
- 05 **BRP-SG** (Pur-MAXX E SG PES sterilizing grade)
- 06 **BRP** (Pur-MAXX E PES prefilter / single layer)
- 07 **BRPA** (Poly-MAXX pleated polypro)
- 08 **BRGA** (Fiber-MAXX pleated glass)
- 09 **BRVM** (Vent-MAXX PTFE)
- 10 **BRVR** (Vent-Rite PTFE)
- 11 **BREDX** (Endo-MAXX charged nylon)



The Strainrite Companies

- Manufacturing and HQ in Auburn, ME USA
- Top-quality liquid filtration products
- Incorporated in 1978
- Clean room manufacturing
- 81,000 sq ft and growing
- 3rd Party GMP Accredited
- ISO9001

Brevi-Cap filter capsules

Uses

- Single use disposable systems
- Scale up/scale down benchtop studies
- OEM Equipment
- Avoidance of CIP and cross contamination
- Reducing operator exposure

Typical fluids filtered

- APIs
- Buffers
- Cell culture media
- Cell suspensions
- Cosmeceuticals
- Final drug product
- Injectables, parenterals
- Lysate suspensions
- Nutraceuticals
- Ophthalmics
- Oral dosage forms
- Ultrapure chemicals/sterile chemicals

Features

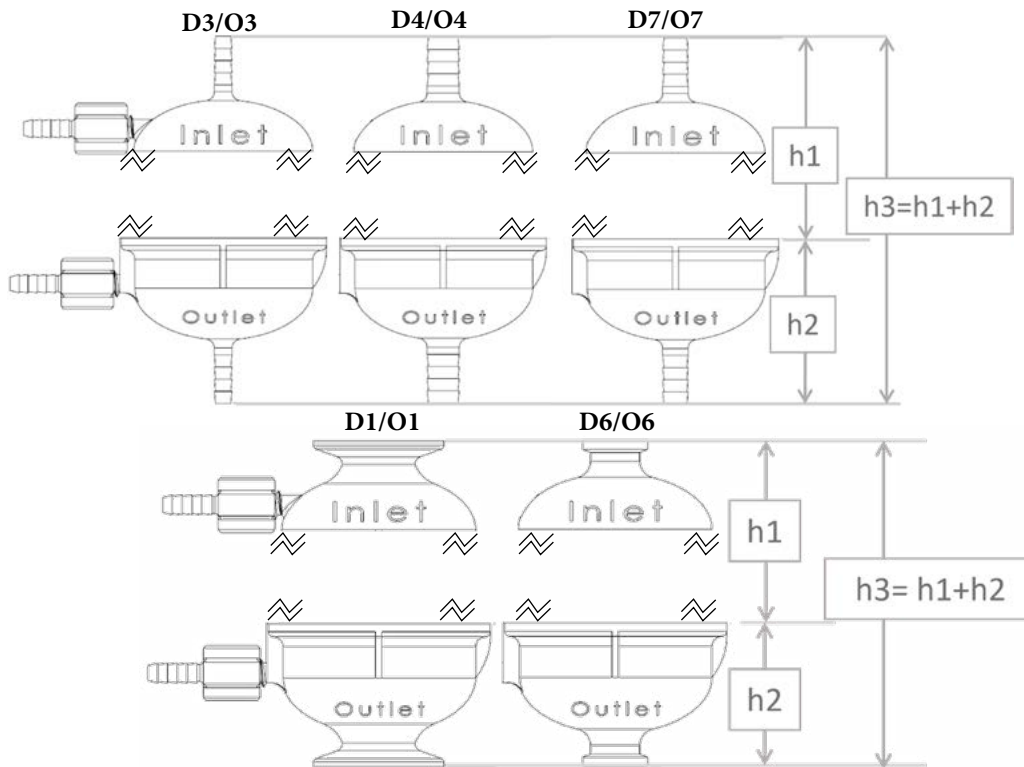
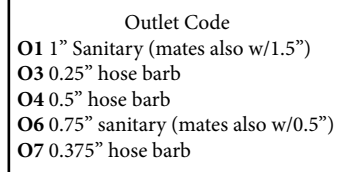
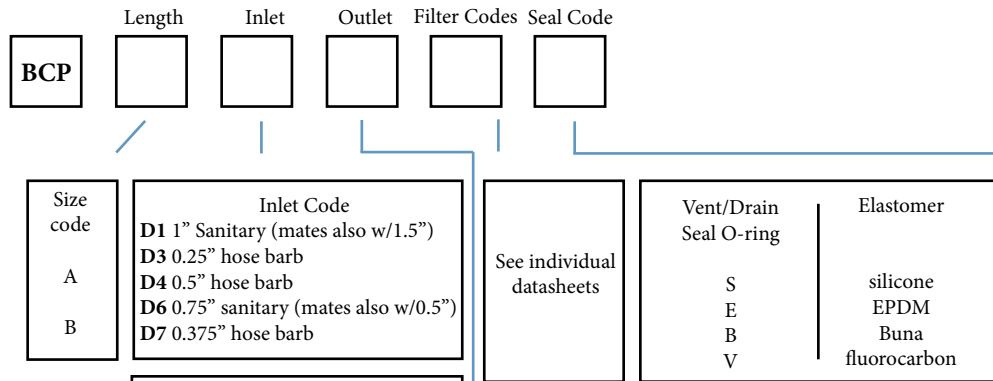
- Ultrapure polypropylene capsule
≈1 sq ft and ≈2 sq ft sizes
- Variety of Inlet and outlet connections
include sanitary flanges in ¾" and 1"
hose barbs for 1/8", 3/8" and 1/4" i.d. tubing.
- Gamma irradiatable (with select filter media)
- Autoclavable
- Material compliance
- USP Class VI
- 21 CFR
- BSE/TSE
- ROHS
- REACH
- Easy to scale up
- Low extractables
- Vent and drain are 1/4" hose barb with valve.
- Low fill volumes
- Low hold-up volume

Variety of filtration media available

- Sterilizing grade PES membrane
- Bioburden reduction and prefiltration
- PES membrane
- Charged nylon for endotoxin
- Polypropylene microfiber for prefiltration
- Glass microfiber for pre-filtration
- PTFE vent filter



Drawings



h1 dimension, Size A & B

	Size A	Size B
Inlet code	inches (mm)	inches (mm)
D1	2.8 (71)	4.4 (112)
D3	3.3 (84)	5.0 (127)
D4	3.3 (84)	5.0 (127)
D6	2.8 (71)	4.4 (112)
D7	3.3 (84)	5.0 (127)

h2 dimension, Size A & B

Outlet code	inches (mm)
O1	2.2 (56)
O3	2.7 (69)
O4	2.7 (69)
O6	2.2 (56)
O7	2.7 (69)

h3 dimension, Size A & B

	Size A	Size B
Inlet/Outlet code	inches (mm)	inches (mm)
D1/O1	5.0 (127)	6.6 (168)
D3/O3	6.0 (152)	7.7 (196)
D4/O4	6.0 (152)	7.7 (196)
D6/O6	5.0 (127)	6.6 (168)
D7/O7	6.0 (152)	7.7 (196)

Pur-MAXX E SG Sterilizing Grade PES Membrane Filters


Designed for:	Sterilizing-filtration of SVPs, biopharmaceuticals, ophthalmics, APIs, biologicals, therapeutics. For ultra-pure chemicals, buffers, water, nutraceuticals, media. Upstream & downstream processing.
Membrane:	Two layers polyethersulfone membrane
Support Layers:	Polypropylene
Filter Hardware:	Polypropylene
Toxicity / Material Compliance:	USP Class VI
	21 CFR
	REACH, ROHS, BSE/TSE
Validation:	Retains 1×10^7 / cm^2 cfu of <i>Brevundimonas diminuta</i>
Quality:	100% of filter units DI flushed
	100% of filter units integrity tested
	Certificate of Quality
Sterilization:	Autoclavable, Gamma Irradiatable
Surface Area:	A = 1.02 ft^2 (948 cm^2) B = 1.86 ft^2 (1,728 cm^2)




ORDER GUIDE: Brevi-Cap Capsule Filters with Sterilizing Grade Double-Layer PES 0.2 μm Membrane

BCP	Length B	Inlet D4	Outlet O4	BRE	Micron Rating <input type="text"/>	Config. <input type="text"/>	Grade SG	Seal Code S	Options <input type="text"/>
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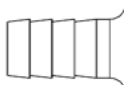
<p>Size code</p> <p>A</p> <p>hosebarb inlet/outlet: 6.0 in (152mm) sanitary flange inlet/outlet: 5.0 in (127mm)</p> <p>B</p> <p>hosebarb inlet/outlet: 7.7 in (196 mm) sanitary flange inlet/outlet: 6.6 in (168 mm)</p>	<p>Capsule length</p>	<p>Inlet Code</p> <p>D1 1" Sanitary (mates also w/1.5") D3 0.25" hose barb D4 0.5" hose barb D6 0.75" sanitary (mates also w/0.5") D7 0.375" hose barb</p>	<p>Outlet Code</p> <p>O1 1" Sanitary (mates also w/1.5") O3 0.25" hose barb O4 0.5" hose barb O6 0.75" sanitary (mates also w/0.5") O7 0.375" hose barb</p>	<p>Config. Code</p> <p>452</p> <p>Layering</p> <p>- 0.2/0.2 0.45/0.2</p>	<p>Vent/Drain Seal Code</p> <p>S E B V</p> <p>Elastomer</p> <p>silicone EPDM Nitrile fluorocarbon</p>	<p>Options</p> <p>[blank] none/non-sterile GI Gamma irradiation*</p> <p>*Check with Strainrite for availability</p>
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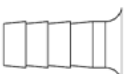
1" Sanitary



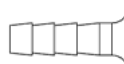
3/4" Sanitary



1/2" Hose Barb



3/8" Hose Barb



1/4" Hose Barb

INTEGRITY TESTING

Size	Wetting Fluid	Diffusive Flow Integrity Test			Bubble Point (psig)
		Test Pressure (psig)	Air Flow Limit (ml/min)		
A	Water	40	0.2/0.2	≤2.8	≥ 49
			0.45/0.45	≤4.6	
B	Water	40	0.2/0.2	≤5.0	≥ 49
			0.45/0.45	≤6.9	

Pur-MAXX E PES Membrane Pre - Filters and Bioburden Reduction Filters



Designed for:	Prefiltration and bioburden reduction of LVPs, SVPs, biopharmaceuticals, ophthalmics, APIs, biologicals, therapeutics, ultra-pure chemicals, buffers, water, nutraceuticals. Upstream and downstream processing. Protection of final filters to improve economics.
Membrane:	Polyethersulfone membrane
Support Layers:	Polypropylene
Filter Hardware:	Polypropylene
Toxicity / Material Compliance:	USP Class VI
	21 CFR
	REACH, ROHS, BSE/TSE
Quality:	100% of filter units DI flushed and integrity tested
	Certificate of Quality
Sterilization:	Autoclavable, Gamma Irradiatable
Surface Area:	A = 1.28 ft ² (1,189 cm ²) B = 2.32 ft ² (2,155 cm ²)

ORDER GUIDE: Brevi-Cap Capsule Filter with Pharmaceutical-Grade Bio-Reduction PES Membrane



Size code	Capsule length		Inlet Code		Absolute Micron Rating Code	Vent/Drain Seal Code		Elastomer		Options	
	A	hose barb inlet/outlet: 6.0 in (152mm) sanitary flange inlet/outlet: 5.0 in (127mm)	D1 1" Sanitary (mates also w/1.5") D3 0.25" hose barb D4 0.5" hose barb D6 0.75" sanitary (mates also w/0.5") D7 0.375" hose barb			S E B V	silicone EPDM Nitrile fluorocarbon	[blank] GI	none/non-sterile Gamma irradiation*	*Check with Strainrite for availability	
B	hose barb inlet/outlet: 7.7 in (196 mm) sanitary flange inlet/outlet: 6.6 in (168 mm)	Outlet Code			.04 0.1 0.2 0.45 0.65 0.8 1.2						
			O1 1" Sanitary (mates also w/1.5") O3 0.25" hose barb O4 0.5" hose barb O6 0.75" sanitary (mates also w/0.5") O7 0.375" hose barb								

INTEGRITY TESTING

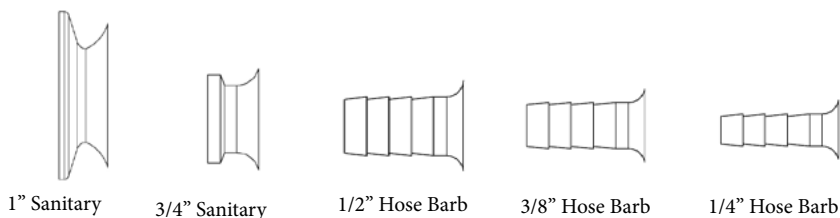
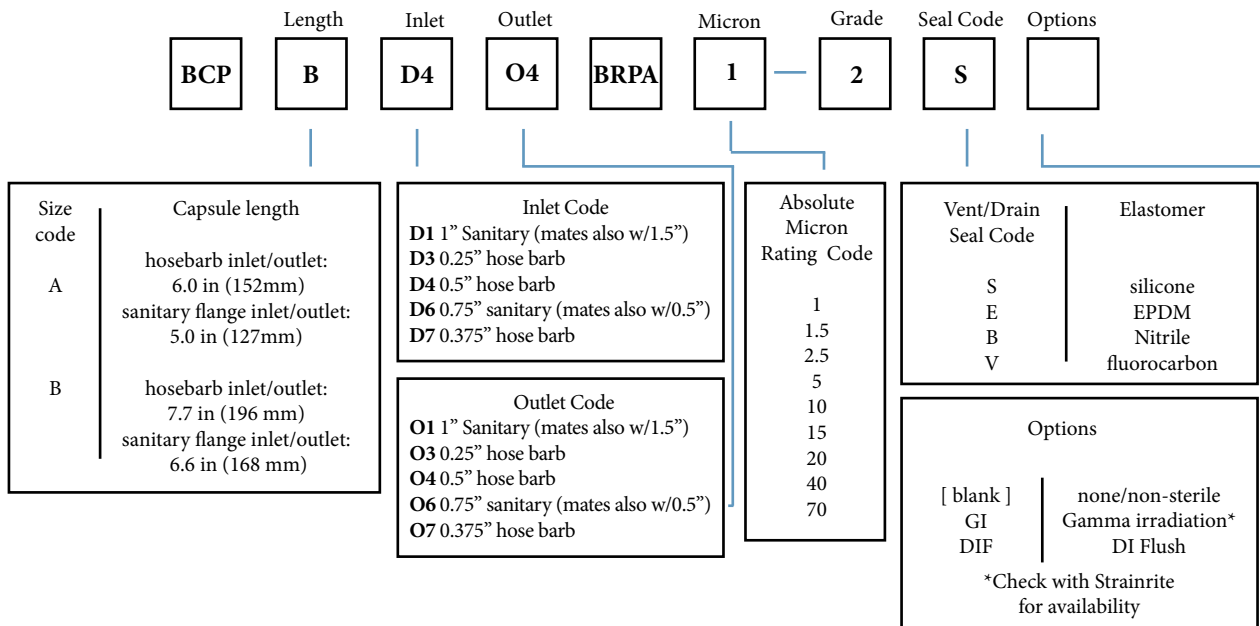
Micron Rating		0.04	0.1	0.2	0.45	0.65	0.8	1.2
Wetting Fluid		IPA	IPA	Water	Water	Water	Water	Water
Size A	Diffusive Flow Test Pressure	36 PSIG	24 PSIG	39.2 PSIG	30 PSIG	21 PSIG	12 PSIG	6 PSIG
	AIR Diffusive Flow Limit	≤18 (ml/min)	≤18 (ml/min)	≤18 (ml/min)	≤18 (ml/min)	≤18 (ml/min)	≤18 (ml/min)	≤18 (ml/min)
	Bubble Point	≥45 PSIG	≥30 PSIG	≥49 PSIG	≥38 PSIG	≥27 PSIG	≥16 PSIG	≥8 PSIG
Size B	Diffusive Flow Test Pressure	36 PSIG	24 PSIG	39.2 PSIG	30 PSIG	21 PSIG	12 PSIG	6 PSIG
	AIR Diffusive Flow Limit (ml/min)	≤33 (ml/min)	≤33 (ml/min)	≤33 (ml/min)	≤33 (ml/min)	≤33 (ml/min)	≤33 (ml/min)	≤33 (ml/min)
	Bubble Point	≥45 PSIG	≥30 PSIG	≥49 PSIG	≥38 PSIG	≥27 PSIG	≥16 PSIG	≥8 PSIG

Poly-MAXX Polypropylene Microfiber

Designed for:	Prefiltration and bioburden reduction of parenterals, biopharmaceuticals, ophthalmics, APIs, biologicals, therapeutics, ultra-pure chemicals, buffers, water, nutraceuticals. For upstream and downstream processing. Protection of downstream filters. Removal of gels.
Filter Medium:	Melt blown polypropylene microfiber – absolute rated
Support Layers:	Polypropylene
Filter Hardware:	Polypropylene
Toxicity / Material Compliance:	USP Class VI
	21 CFR
	REACH, ROHS, BSE/TSE
Quality:	DI flush - optional
	Certificate of Quality
Sterilization:	Autoclavable, Gamma Irradiatable
Surface Area:	A = 1.05 ft ² (975 cm ²) B = 1.91 ft ² (1,774 cm ²)



ORDER GUIDE: Brevi-Cap Capsule Filters with Pharmaceutical-Grade Polypropylene Microfiber Media

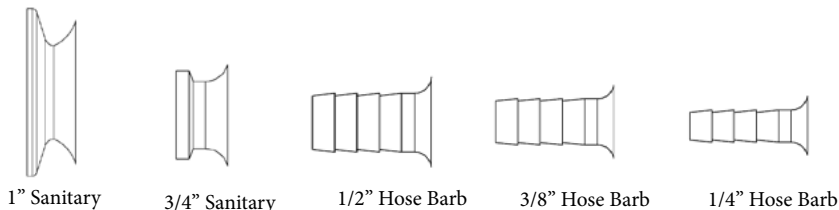
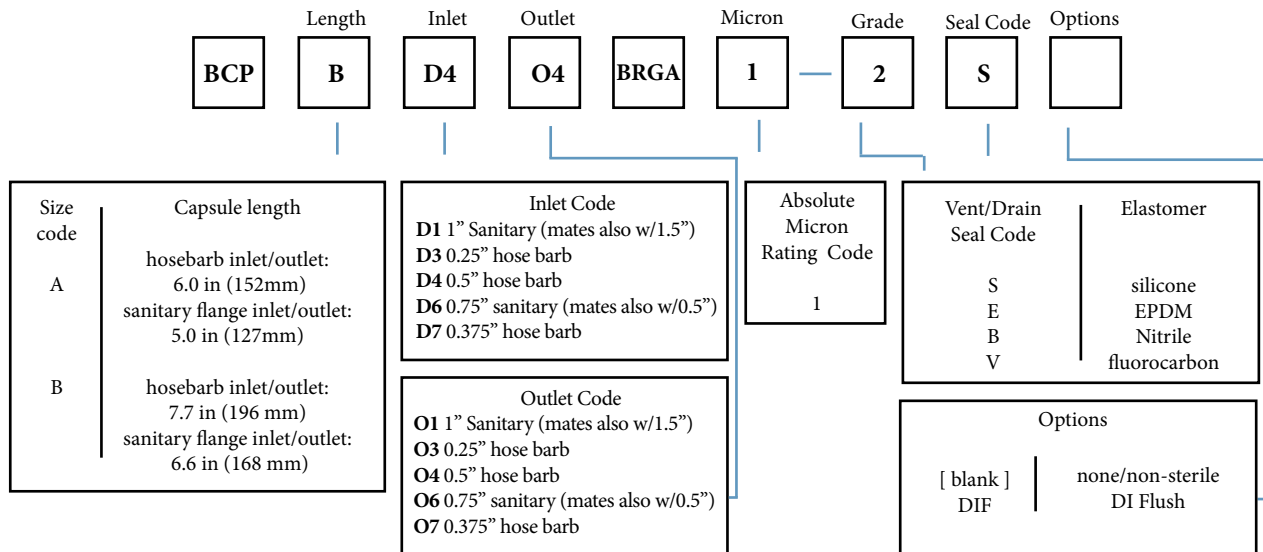


Fiber-MAXX Glass Microfiber Pre-Filters

Designed for:	Prefiltration and bioburden reduction, biopharmaceuticals, ophthalmics, APIs, biologicals, therapeutics, ultra-pure chemicals, buffers, water, nutraceuticals, upstream and downstream processing. Protection of downstream filters. Removal of gels.
Filter Medium:	Absolute rated microglass depth media
Support Layers:	Polypropylene and Polyester
Filter Hardware:	Polypropylene
Toxicity / Material Compliance:	USP Class VI
	21 CFR
	REACH, ROHS, BSE/TSE
Quality:	DI flush - optional
	Certificate of Quality
Sterilization:	Autoclavable
Surface Area	A = 0.78 ft ² (725 cm ²) B = 1.42 ft ² (1,319 cm ²)



ORDER GUIDE: Brevi-Cap Capsule Filters with Pharmaceutical-Grade Glass Microfiber Media

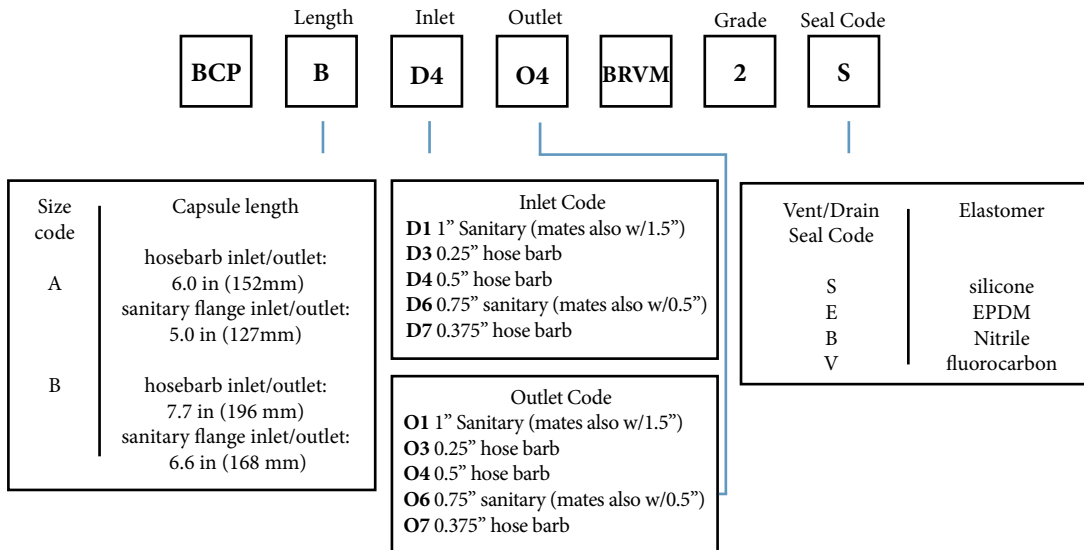


Vent-MAXX PTFE Membrane Sterile Air Filters

Designed for:	Critical sterilizing air and gas filtration for: bioreactor sterile inlet air, bio-reactor exhaust gas, sterile holding tanks, sterile blanketing. Common gasses sterile-filtered are air, nitrogen, and CO ₂ .
Membrane:	Two layers 0.2 µm PTFE membrane
Support Layers:	Polypropylene
Filter Hardware:	Polypropylene
Toxicity / Material Compliance:	USP Class VI
	21 CFR
	REACH, ROHS, BSE/TSE
Validation:	<i>Brevundimonas diminuta</i> retention: 10 ⁷ cfu /cm ² in liquid and aerosol challenges
Quality:	100% of filter units DI flushed
	100% of filter units integrity tested
	Certificate of Quality
Sterilization:	Autoclavable
Surface Area:	A = 1.28 ft ² (1,189 cm ²) B = 2.32 ft ² (2,155 cm ²)



ORDER GUIDE: Brevi-Cap Capsule Filters with Sterilizing Grade Vent-MAXX Double-Layer PTFE Membrane



INTEGRITY TESTING

Size	Wetting Fluid	Diffusive Flow Integrity Test	
		Test Pressure (psig)	Air Flow Limit (ml/min)
A	IPA	14	4.6
B	IPA	14	8.3

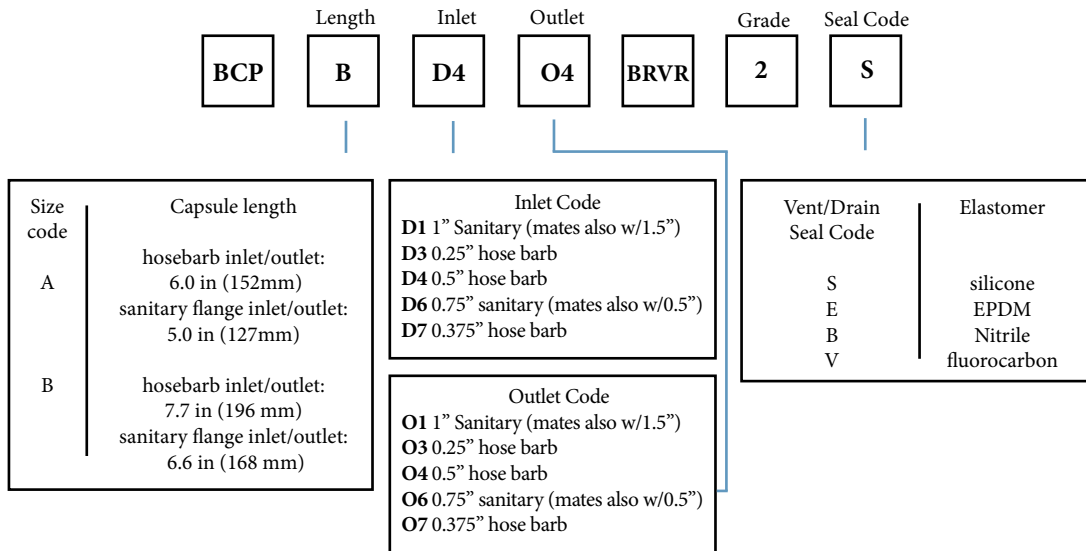
Vent-RITE PTFE Membrane Sterile Air Filters



Designed for:	Sterilizing air and gas filtration for: Sterile air where there is a very low probability of moisture or condensate, and absolute retention in liquids is not required. Common gasses sterile-filtered are air, nitrogen, and CO ₂ .
Membrane:	0.2 µm PTFE membrane
Support Layers:	Polypropylene
Filter Hardware:	Polypropylene
Toxicity / Material Compliance:	USP Class VI
	21 CFR
	REACH, ROHS, BSE/TSE
Validation:	<i>Brevundimonas diminuta</i> retention: 10 ⁷ cfu /cm ² in aerosol challenges
Quality:	100% of filter units DI flushed
	100% of filter units integrity tested
	Certificate of Quality
Sterilization:	Autoclavable
Surface Area:	A = 1.28 ft ² (1,189 cm ²) B = 2.32 ft ² (2,155 cm ²)



ORDER GUIDE: Brevi-Cap Capsule Filters with Sterilizing Grade Vent-Rite Single-Layer PTFE Membrane



INTEGRITY TESTING

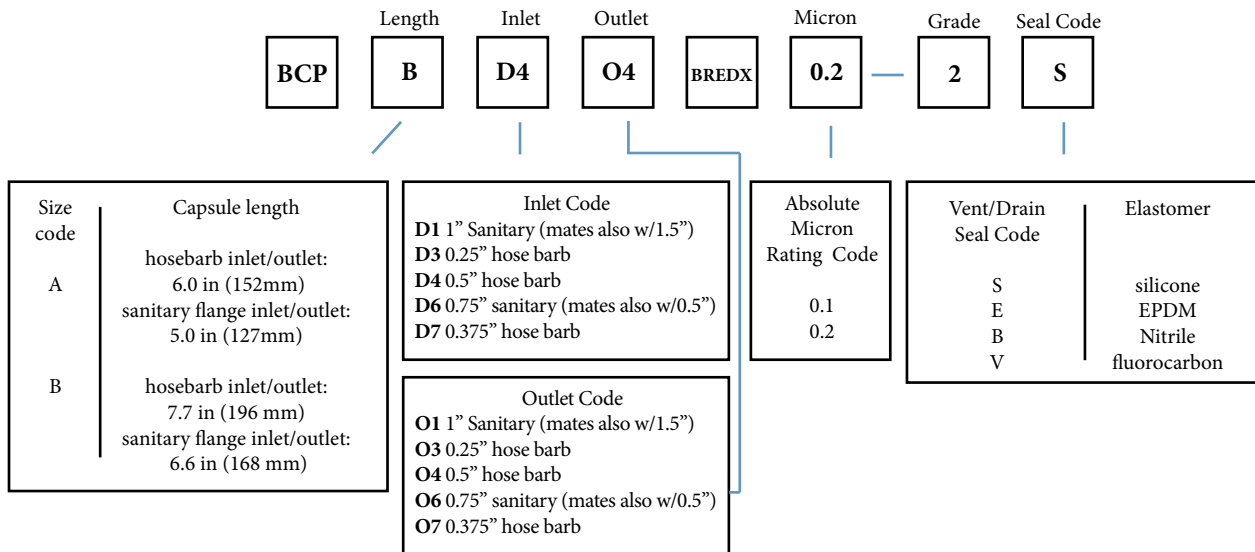
Size	Wetting Fluid	Diffusive Flow Integrity Test	
		Test Pressure (psig)	Air Flow Limit (ml/min)
A	IPA	14	≤16.1
B	IPA	14	≤28.8

Endo-MAXX CN Filters

Designed for:	Filtration of high purity water where a high degree of endotoxin control is required
Membrane:	Positive charge nylon 6,6 on polyester substrate
Support Layers:	Polypropylene
Filter Hardware:	Polypropylene
Toxicity / Material Compliance:	USP Class VI
	21 CFR
	REACH, ROHS
	BSE/TSE
Validation:	Typical endotoxin reduction in water: 2 log
Quality:	100% of filter units DI flushed
	100% of filter units integrity tested
	Certificate of Quality
Sterilization:	Autoclavable, Gamma Irradiatable
Surface Area:	A = 1.28 ft ² (1,189 cm ²) B = 2.32 ft ² (2,155 cm ²)



ORDER GUIDE: Brevi-Cap Capsule Filter with Endotoxin Reduction Charged Nylon Membrane



INTEGRITY TESTING

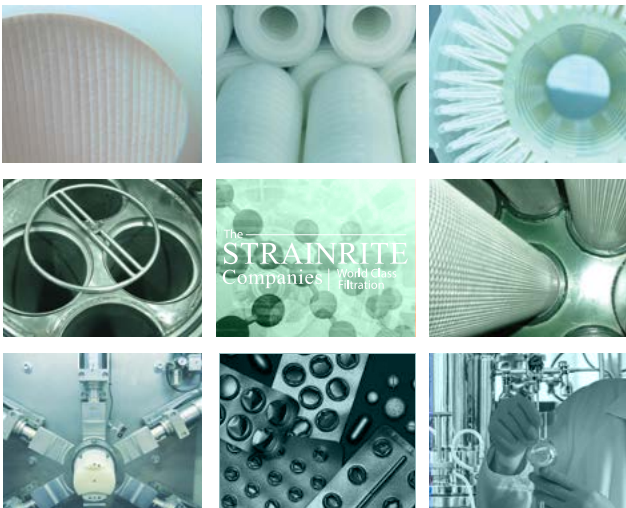
Micron Rating		0.1	0.2
Wetting Fluid		Water	Water
Size A	Diffusive Flow Test Pressure	Consult Strainrite	36 PSIG
	Air Diffusive Flow Limit	Consult Strainrite	≤18.6 (ml/min)
	Bubble Point	Consult Strainrite	≥ 46 PSIG
Size B	Diffusive Flow Test Pressure	Consult Strainrite	36 PSIG
	Air Diffusive Flow Limit (ml/min)	Consult Strainrite	≤33.4 (ml/min)
	Bubble Point	Consult Strainrite	≥ 46 PSIG



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Designing and Manufacturing Leading-edge
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