

# **Fluorofil™Plus**

High Flow Sterile Gas Filters with ePTFE Membrane



Fluorofil™ Plus cartridges are manufactured using a highly hydrophobic ePTFE membrane. The enhanced ePTFE membrane offers exceptionally high gas flow rates at low pressure differentials.

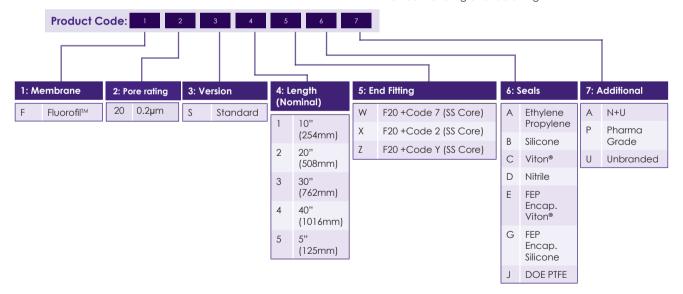
Fluorofil<sup>TM</sup> Plus cartridges are recommended for sterile gas filtration and venting applications. The hydrophobic characteristics of the ePTFE membrane makes the Fluorofil<sup>TM</sup> Plus filter cartridge particularly suitable for wet gas sterilising applications, such as fermenter air feed.

**Ordering Information** 

The construction of the Fluorofil<sup>TM</sup> Plus cartridge has design features that allow higher membrane surface area, lower pressure drops and incorporates a stainless steel core for greater mechanical strength when operated at higher temperatures.

# **Typical Applications**

- Sterile process gases
- Sterile vents
- Biotechnology
- · Powder handling and tabletting



## **Features and Benefits**

- Guaranteed microbial ratings
- Bacterial spores and viruses
- · Mechanical strength
- Steam sterilisation
- Cartridge integrity and low TOC levels
- Full traceability
- · Controlled manufacturing environment

# **Specifications**

#### **Materials of Manufacture**

Filter membrane: ePTFE

Membrane support: Polypropylene Irrigation mesh (support): Polypropylene Drainage layer: Polypropylene

Inner core: 316/316L stainless steel

Outer support: Polypropylene
End fittings: Polypropylene
Sealing: Fusion bonding

## **Cartridge Dimensions (Nominal)**

Effective Filtration Area:

0.8m<sup>2</sup> (8.6ft<sup>2</sup>) per 10" module

Diameter: 70mm (2.8")

Length: 1 module: 127mm (5")

1 module: 254mm (10") 2 modules: 508mm (20") 3 modules: 762mm (30") 4 modules: 1016mm (40")

#### **Cartridge Treatment**

Standard: Cleaned and flushed, without further

treatment

#### Gaskets and O-Rings

Ethylene Propylene, FEP encapsulated, Silicone, Viton® or Nitrile

## **Maximum Differential Pressure**

Normal flow direction at:

 20°C (68°F):
 6.0bar (87psi)

 80°C (176°F):
 4.0bar (58psi)

 100°C (212°F):
 3.0bar (44psi)

 120°C (248°F):
 2.0bar (29psi)

 125°C (257°F):
 1.5bar (22psi)

Reverse flow direction at:

 20°C (68°F):
 2.1bar (30psi)

 80°C (176°F):
 1.0bar (15psi)

 100°C (212°F):
 0.5bar (7psi)

#### **Operating Temperature**

Maximum continuous: 80°C (176°F)

#### **Sterilisation**

In situ steam 500 x 30 minute cycles at 135°C (275°F). In situ steam cycles for 200 hours at 142°C (286°F).

#### Extractables

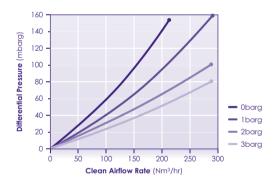
Minimum total extractables. Please refer to the Fluorofil<sup>TM</sup> Plus Validation Guide.

#### **Integrity Testing**

Each Fluorofil™ Plus module of every cartridge is individually integrity tested using the Diffusive Flow Test, which correlates to the HIMA and ASTM F838-05 bacterial challenge tests. Non-destructive integrity tests, such as Diffusive Flow, Water Intrusion, Pressure Hold and Bubble Point, can be performed by customers. Please contact us for procedural details.

#### **Gas Flow Rates**

Typical clean air flow rate:
 A 254mm (10") Fluorofil<sup>™</sup> Plus single cartridge exhibits the flow-ΔP characteristics indicated below.



PFG708/Rev13:Dec24