

# Poliflo PTFE PLUS

## STERILE GAS FILTER WITH EXPANDED PTFE MEMBRANE



### Introduction

Envirogen has applied the latest in innovative microfiltration technology to develop its Poliflo PTFE Plus range of cartridges and provide filtration performance second to none. Designed to meet the requirements of the most demanding process applications, they are ideal for high flow rates, where excellent physical strength needs to be combined with minimal pressure drops. Incorporated in the cartridge is high integrity PTFE membrane which has a far higher degree of hydrophobicity than the commonly used PVD, leading to increased security. The high flow capacity of the cartridges is achieved by optimising the pleat design and using a high strength stainless steel core. All construction materials are FDA approved. Rated for gas applications at 0.01 micron, Poliflo PTFE Plus cartridges will remove all airborne bacteria, bacteriophage and a high percentage of viruses.

### Features and Benefits

- Absolute rated filtration assures bio-security
- Long steam life
- Hydrophobic PTFE with high voids volume
- ISO 9001 design and assembly
- High flow rates with low differential pressures
- Stainless steel inner core
- Patented fusion bonded assembly process for added strength

### Validation

Poliflo PTFE Plus cartridges are assembled from structural components manufactured from materials which conform to USP class VI regulations for plastics. The PTFE membrane is validated by a bacterial challenge with *Brevundimonas diminuta* in line with HIMA guidelines, which ensures that each cartridge is of a sterilising grade. Although intended for gas sterilisation applications, Envirogen consider that a bacterial challenge sets a more rigorous standard than the commonly adopted aerosol challenge. Experience from laboratory tests has shown that a PTFE membrane filter can pass an aerosol challenge or DOP test, but still fail a liquid challenge or bubble/pressure decay test.

### Applications

Poliflo PTFE Plus cartridges are ideal for the sterilisation of gases to remove both aerobic and anaerobic micro organisms down to a level of 0.01 micron.

Compressed gas applications include:

- Pharmaceutical fermenter air feeds
- Dairy fermenter air feeds
- Nitrogen filtration
- Carbon dioxide filtration

(For specific gas compatibility, contact Envirogen Technical Laboratory Services.)

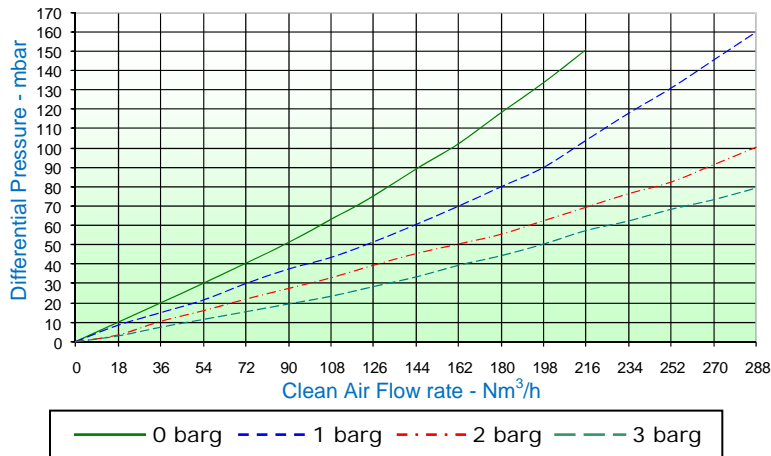
Sterile tank vent applications include:

- Water treatment storage tanks
- Pharmaceutical product tanks
- Dairy product tanks

### Integrity Testing

All Poliflo PTFE Plus cartridges are integrity tested prior to despatch. They can be retested by wetting the cartridge with a mixture of 60% IPA (or suitable wetting agent) and 40% water and tested using either the bubble point, pressure decay or diffusional flow methods.

## Poliflo PTFE Plus 0,2µm - Gas Flow Rate /250mm (10") Cartridges



### SPECIFICATION

Cartridge Length	Effective Filtration Area
250mm (10")	0.80m <sup>2</sup>
500mm (20")	1.60m <sup>2</sup>
750mm (30")	2.40m <sup>2</sup>
1000mm (40")	3.20m <sup>2</sup>

Note that the flow graph is based on an actual installation and includes housing pressure losses.

### Steam Sterilisation

Poliflo PTFE Plus cartridges can be repeatedly steam sterilised in line with the following recommended cycle times, after which they should be replaced.

### 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)

### Maximum Differential Pressure

5 barg at 21°C (70°F) flowing outside to in, through the cartridge.

### Ordering Guides

The Poliflo PTFE Plus can be ordered using the following codes:

F	20	P	1	V	R
PTFE Plus	Micron Rating	(Plus)	Cartridges Length (Nominal)	Adapter	Seal
	20=0.2 (0.01 gas)		1= 250mm (10")		(See Guide) E = PTFE Endcapsulated Viton

Note: Every cartridge is fully traceable via individual part, serial and lot number clearly marked on each cartridge.

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