Novasip™ Capsule with Emflon® PFR Membrane Assemblies

The Clear Choice for Steam-in-Place of Air and Gas Filters

The unique **Novasip** capsule filter combines Pall cartridge technology with the latest engineered polymers in an all–plastic filter assembly that can provide all of the benefits of a capsule filter with SIP (steam-in-place) capability. **Novasip** filters, therefore, provide an alternative to stainless steel housings in many applications. This enables filter users to reduce capital and labor costs and to minimize maintenance costs.

Novasip filters consist of a standard design filter cartridge permanently sealed in a clear polyetherimide housing.

Polyetherimide is an advanced plastic selected for its high-strength at elevated temperatures and pressures. This ensures that **Novasip** filters can be used under a wide range of operating conditions including multiple steam-in-place cycles. **Novasip** filters are supplied with inlet/outlet connections compatible with sanitary flange fittings. Vents and drains are available with integral valves.

Novasip filters with **Emflon** PFR filter membranes are purpose-designed for use in critical air and vent applications.

Comprehensive Validation Documentation

Novasip filters with **Emflon** PFR filter membrane have been extensively tested to ensure consistent and reliable performance under a range of process conditions.

A full validation guide is available on request.

Installation and operating instructions, including information on steam-sterilization, are available from Pall.

Features and Benefits

- Low installation cost — up to 80% less than a comparable stainless steel system
- Integrity testable in situ using the water intrusion test (WIT)
- Integral Stäubli-compatible vent valve enables direct in-line connection to electronic test equipment
- Repeatedly steam-sterilizable for long service life and low operating costs
- Suitable for use in high pressure air systems up to 6.5 barg (94 psig) at temperatures up to 40 °C (104 °F)
- Supplied with a numbered disc which can be fitted easily to the capsule and used to help record the number of times the filter is sterilized

High Quality Standards

- Validated in liquids with *Brevundimonas diminuta* (ATCC 19146) at a challenge level of 10^7 organisms/cm^2 of filter area
- 100 % integrity tested during manufacturing
- Identified by a lot number with a unique serial number for complete traceability of manufacturing history and for user traceability systems
- Each filter supplied with a Certificate of Test
- Comprehensive validation guide available
- Manufactured under a Quality Management System certified to ISO 9000
- Meets USP Biological Reactivity Tests in vivo, in accordance with USP Class VI plastics at 121 °C

Novasip Capsule with **Emflon** PFR Membrane Assemblies

Technical Specifications

Materials of Construction

Membrane	Hydrophobic PTFE
Membrane Support and Drainage Layer Assembly	Polypropylene
Endcaps	Polypropylene
Core and Cage	Polypropylene
Housing Bowl	Polyetherimide
Housing Head	Polyetherimide with TiO_2
O-rings	Silicone elastomer

Maximum Accumulated Steam Life[1]

Temperature	125 °C (257 °F)	135 °C (275 °F)	142 °C (287 °F)
Maximum Steam Exposure[2]	100 cycles	50 cycles	5 cycles

[1] Validated using 30 minute cycles.
[2] Maximum values determined in laboratory tests. Actual steam life may vary with conditions of use.

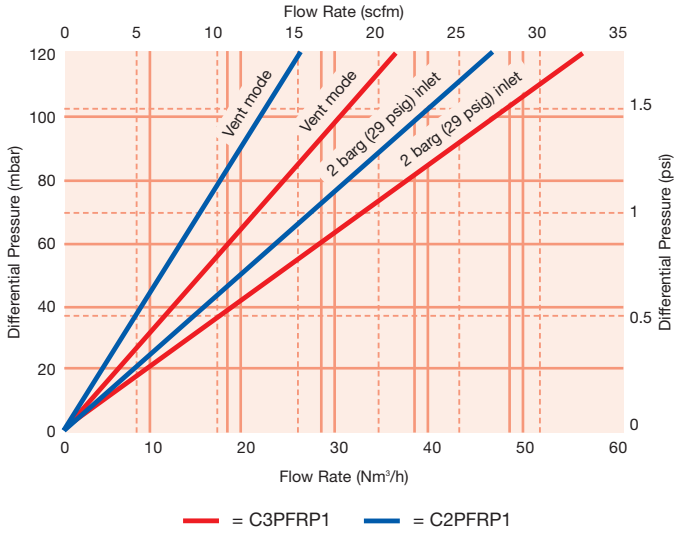
Operating Conditions[3]

Maximum Operating Pressure	6.5 barg (94 psig) at 40 °C (104 °F)
Maximum Differential Pressure	5.2 barg (75 psig) at 40 °C (104 °F)

Note: Maximum differential pressure during steam sterilization at up to 142 °C (287 °F) is 300 mbar (4.3 psid).

[3] With fully compatible fluids that do not soften, swell or adversely affect the filter or its materials of construction.

Typical Air Flow Rates[4]



[4] Typical initial clean ΔP, air at 20 °C (68 °F).
Contact your local Pall representative for assistance.

Nominal Dimensions

Maximum Diameter (Including Valves)	123 mm (4.84 in.)
Length	157 mm (6.18 in.)

Ordering Information

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Code	Nominal Filter Area
2	0.17 m² (1.8 ft²)
3	0.23 m² (2.5 ft²)

Code	Connection
1	25 – 38 mm (1 – 1½ in.) Sanitary flange fittings

Code	Vent, Drain and Valves
Blank	**Vent:** Quick connect and disconnect coupling (compatible with Stäubli* fitting) with valve **Drain:** Hose barb for 4 – 6 mm (⅛ – ¼ in.) i.d. tube, with valve
A	**Vent and Drain:** Quick connect and disconnect coupling (compatible with Stäubli fitting) with valve
B	**Vent and Drain:** 13 mm (½ in.) sanitary flange, no valve

* Stäubli is a trademark of Stäubli AG.