



LFX™ Series – Liquid Filtration Excellence Engineered for Results

LFX-PTFE™ – PTFE Liquid Filter Bags Technical Overview

FiltraCore Asia's LFX-PTFE™ Liquid Filter Bags are engineered for chemical and thermal environments that degrade conventional polymer-based filter media. Constructed from **100 % PTFE (Polytetrafluoroethylene) felt or woven media**, LFX-PTFE™ provides near-universal chemical resistance across the full **pH 0–14 spectrum** and maintains structural and dimensional stability under exposure to **strong acids, alkalis, organic solvents, and oxidising agents**.

Unlike polypropylene or polyester media, PTFE does not undergo swelling, hydrolysis, or softening under aggressive chemical exposure. This ensures **consistent pore structure, stable retention accuracy, and mechanical integrity** throughout the filtration cycle, even under fluctuating process conditions.

LFX-PTFE™ operates at continuous temperatures up to **260 °C**, with short-term excursions to approximately **280 °C** when fully supported. This enables reliable performance in high-temperature process streams where conventional materials lose strength or deform.

Available in nominal micron ratings from 1 µm to 50 µm (standard), with extended ratings up to 200 µm on request, LFX-PTFE™ delivers **predictable particulate retention** while maintaining stable flow and low differential pressure. The inherently low surface energy and hydrophobic nature of PTFE minimise particle adhesion and fouling, supporting **extended filtration cycles and stable ΔP profiles**.

Full PTFE construction, including media and stitching, ensures **uniform chemical compatibility throughout the filter assembly**, eliminating material mismatch risks at seams and preventing localised degradation in aggressive service conditions. PTFE flange and ring configurations are recommended for highly corrosive environments to maintain sealing integrity and long-term operational reliability.

These characteristics make LFX-PTFE™ suitable for high-purity, corrosive, solvent-based, and high-temperature applications across chemical processing, pharmaceuticals, semiconductor manufacturing, and aggressive water-treatment systems.

Prepared in standard trade sizes (#01–#04) and compatible¹ with industry-standard housings, LFX-PTFE™ combines chemical inertness with dimensional precision, ensuring consistent installation, sealing performance, and operational reliability.

Chemical Proof. High-Purity Certified. Engineered for Extreme Conditions.

Technical Specifications

- **Material:** 100 % PTFE (Polytetrafluoroethylene) – needle-punched felt or woven mesh
- **Micron Ratings:** 1 µm to 50 µm nominal (common: 1, 5, 10, 25, 50 µm); extended ratings up to 200 µm available on request
- **Operating Temperature:** Continuous service up to 260 °C; short-term surges to approximately 280 °C when fully supported
- **Construction:** Sewn with PTFE thread (standard) for full chemical compatibility and high-temperature service
- **Collar / Ring Options:** PTFE flange mechanically secured or sewn (standard); 304 or 316 stainless steel snap ring sewn into reinforced PTFE cuff; other specialty configurations available on request
- **Surface Characteristics:** Low surface energy, non-stick, non-fouling, and non-fibre-shedding
- **Compliance:** Food-contact compliant variants available (FDA 21 CFR; EU 1935/2004 & 10/2011), subject to certification
- **Recommended ΔP Change-out:** Typically 0.8 – 1.5 bar, depending on application conditions, fluid properties, and filtration requirements
- **Maximum Differential Pressure:** 2.5 bar at 20 °C
- **Chemical Compatibility:** Excellent with strong acids, alkalis, solvents, and oxidising agents; suitable across the full pH 0 – 14 spectrum
- **Flammability:** Inherently non-flammable and self-extinguishing under normal operating conditions; suitable for use in flammable liquid environments
- **Add-Ons:** Extended length bags, custom sizing, integrated handles, batch and lot traceability, and specialty housings available on request

Nominal Dimensions & Effective Filter Area

Size Code	Nominal Dimensions (mm/inches)		Effective Filter Area (m ²)
Size 01	∅ 180 x 430	∅ 7 x 17	0.24
Size 02	∅ 180 x 810	∅ 7 x 32	0.46
Size 03	∅ 100 x 230	∅ 4 x 9	0.07
Size 04	∅ 100 x 380	∅ 4 x 15	0.16

Recommended vs. Maximum Flow Rates

Size Code	Recommended Flow Rates ² (m ³ /h)	Maximum Flow Rates ³ (m ³ /h)
Size 01	4.4 to 7.3	Up to 16
Size 02	8.2 to 14	Up to 30
Size 03	1.3 to 2.2	Up to 5
Size 04	2.1 to 3.6	Up to 8

¹ Compatibility is based on standard dimensions, ring configurations, and micron ranges common across major housing manufacturers. Final fit and sealing performance must be verified against the specific housing design and operating conditions.

² Recommended flow rates assume clean water at approximately 20 °C and a new filter bag installed with the correct restrainer basket. For elevated temperatures (≥ 80 °C), higher viscosity fluids, or fine micron ratings (≤ 10 μm), reduce flow by approximately 20–40 % to maintain differential pressure control and filtration efficiency. In aggressive chemical environments, PTFE flange or ring configurations are recommended; any metallic components must be selected based on corrosion resistance and temperature limits.

³ Maximum flow rates represent reference housing capacity for water-like fluids and should not be used as continuous operating conditions. Actual operating flow must be determined based on fluid viscosity, temperature, micron rating, contaminant loading, and allowable differential pressure.

Actual performance depends on system design, fluid properties, contaminant characteristics, and operating conditions. Operation above recommended parameters may reduce filtration efficiency and shorten service life.

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