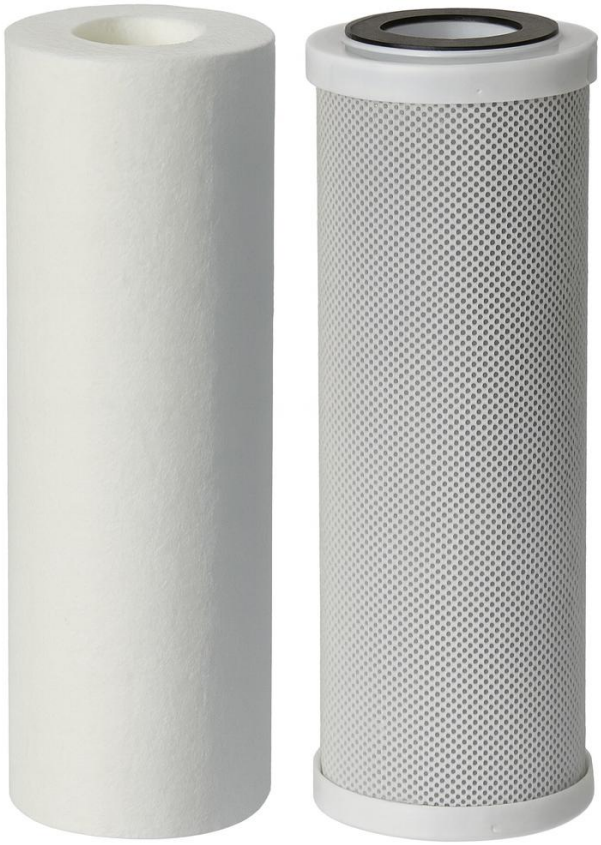
LFX Series

LFX™ Series – Liquid Filtration Excellence Engineered for Results

LFX-CBIG™ Big Blue High-Flow Depth Filter Cartridges
Technical Overview

FiltraCore Asia's **LFX-CBIG™ Big Blue High-Flow Depth Filter Cartridges** provide bulk-sediment reduction and pretreatment for commercial and light-industrial water systems where **low initial Δp**, **high dirt-holding**, and **stable pressure behaviour** drive total cost of ownership. Each element fits large-diameter Big Blue–style housings (≈ **114 mm OD**) in **254 mm** and **508 mm** lengths (10″/20″ class) with **DOE ends and end gaskets**, and runs **outside-to-inside** to maximise contaminant accommodation.



Two depth-media options cover the mainstream high-flow envelope. **LFX-CBIG-MB™** uses **graded-density melt-blown polypropylene** for progressive capture across nominal **1–100 µm**, giving predictable Δp and long service life in municipal/groundwater polishing, RO/EDI guard duty, and general process-water loops. **LFX-CBIG-SW™** employs **string-wound polypropylene yarn on a PP core** for coarser or more viscous service in the **0.5–150 µm** range, handling fines, rust, and scale in make-up water, parts-washing lines, and side-stream cooling-water filtration.

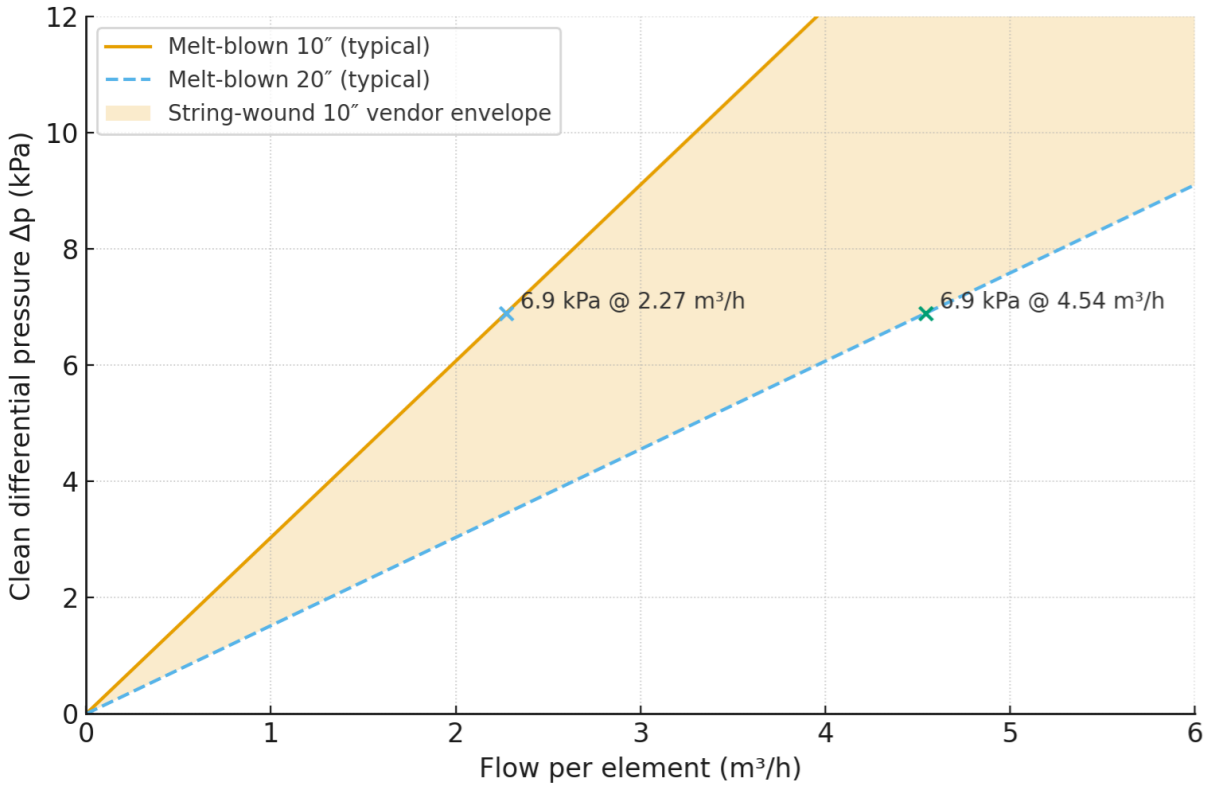
All wetted parts are **polypropylene** on the standard builds (thermally bonded/binder-free for melt-blown), supporting broad aqueous chemical compatibility and **low extractables** for plant utilities. Operating limits are governed by the installed Big Blue housing; the LFX-CBIG™ construction is designed to perform within the temperature and pressure envelopes typical of polypropylene Big Blue systems while delivering the extended run lengths expected from a large-diameter, high-area depth cartridge.

Depth Filtration. High Dirt-Holding. Big Blue–Standard Compatibility.

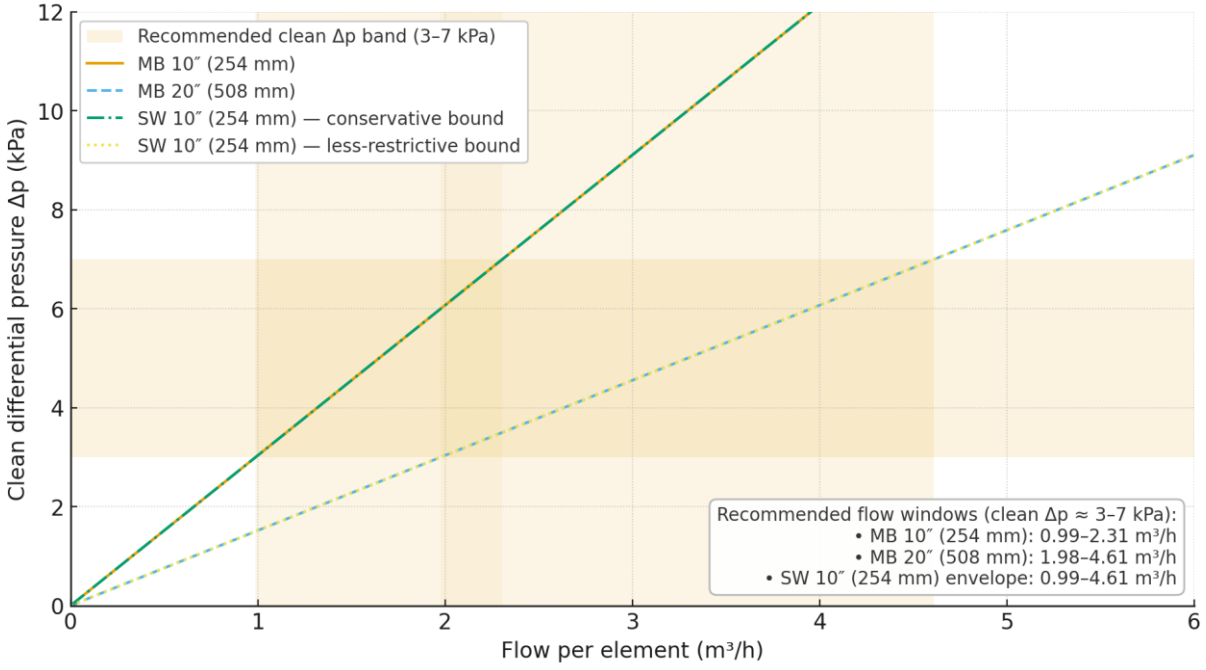
Technical Specifications

- **Media & construction**
  LFX-CBIG-MB™: graded-density melt-blown polypropylene depth media (thermally bonded, binder-free). LFX-CBIG-SW™: string-wound polypropylene yarn on a polypropylene core. All wetted parts polypropylene on standard builds
- **Formats / nominal ratings**
  MB (melt-blown): 1, 5, 10, 20, 50, 100 µm
  SW (string-wound): 0.5, 1, 5, 10, 20, 30, 50, 75, 100, 150 µm *(availability and Δp by model)*
- **Lengths / diameter (Big Blue class)**
  Lengths: 254 mm and 508 mm (10″ / 20″ class)
  Nominal outside diameter: ≈114 mm (4.5″). Typical inside diameter: ≈28 mm (≈1.1″)
  End style: DOE (double open end) with end gaskets (Big Blue standard)
- **Elastomers (end gaskets)**
  EPDM standard; Silicone, NBR (Buna-N), FKM (Viton®) available by model
- **Flow direction**
  Outside → inside (depth configuration)
- **Operating envelope (system alignment)**
  Operate within the lowest rated component among cartridge, housing, and seals. Polypropylene Big Blue housings paired with 4.5″ elements are moderate-temperature designs; confirm the installed housing's maximum working pressure and maximum temperature, and apply temperature derating as required
- **Differential pressure / structural**
  Recommended change-out (clean-water reference): ~1.4–2.4 bar per element, or per process criticality. Maximum continuous forward Δp (outside→inside) for the cartridge: up to ~2.4 bar at 25 °C. Reverse Δp not intended for depth elements. Do not exceed housing limits
- **Clean pressure-drop sizing (water ~20 °C)**
  Clean Δp per 254 mm element scales approximately linearly with flow (Δp ≈ m·Q, grade-dependent). The larger cross-section of 4.5″ elements yields a lower m than 2.5–2.75″ cartridges at the same flow. For 508 mm elements operated at the same per-element flow, clean Δp ≈ ½. Add housing and piping losses; for fluids ≠ water, scale Δp approximately with viscosity (cP) at operating temperature
- **Chemical compatibility**
  Broad compatibility with aqueous acids/alkalis and plant-utility waters for all-PP constructions. Avoid strong oxidisers and halogenated hydrocarbons unless specifically validated
- **Cleanliness / traceability**
  Low-extractables design; each element supplied with lot/traceability code
- **Compliance**
  Food-contact compliant variants available (FDA 21 CFR; EU 1935/2004 & 10/2011) when specified. Manufactured under ISO 9001 quality systems
- **Related formats**
  2.5″ OD melt-blown and wound cartridges available as LFX-CMB™ and LFX-CSW™

Clean Δp vs Flow[1] – LFX-CBIG™ (MB 10″/20″; SW 10″ envelope; clean water, 25 °C)



Recommended Operating Flow[2] – LFX-CBIG™ (MB 10″/20″; SW 10″; clean water, 25 °C)



[1] Clean-water, element-only values at 25 °C. Curves are anchored to published large-diameter PP depth cartridge data for Big-Blue-class elements: 254 mm element at 6.9 kPa when Q = 2.27 m³/h and 508 mm element at 6.9 kPa when Q = 4.54 m³/h. Clean differential pressure is shown as an approximate linear relation (Δp ≈ m·Q) for typical sizing; string-wound performance is shown as an envelope to reflect winding density and micron-grade variability. Figures exclude housing and piping losses and are not a specification. Final selection should use grade-specific curves for the exact SKU. Do not exceed the lowest rated limit among cartridge, housing, and seals; change-out is typically set by a higher Δp per site policy.

[2] Basis: clean water, 25 °C; element-only differential pressure. Recommended flow windows are derived from a clean Δp band of ~3–7 kPa using the same anchors (254 mm → 6.9 kPa at 2.27 m³/h; 508 mm → 6.9 kPa at 4.54 m³/h) and a linear clean relation (Δp ≈ m·Q). The string-wound window is presented as a band to cover vendor-published variability by grade. Housing and piping losses are additional. For non-water service, scale Δp with fluid viscosity at operating temperature. Values are typical and not a specification; confirm performance on the grade-specific curve for the supplied element and observe cartridge/housing/seal limits.

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