



## LFX™ Series – Liquid Filtration Excellence Engineered for Results

### LFX-ACT™ – Activated Carbon Filter Bags Technical Overview

Filtracore Asia's **LFX-ACT™ Activated Carbon Filter Bags** deliver **dual-function liquid purification** by combining adsorption of dissolved contaminants with **nominal particulate retention** in a single-pass configuration. The bags use a **multi-layer felt body with an internal activated-carbon lining**, supported by a **polypropylene matrix** and **bonded** to minimise fibre migration and carbon shedding. Standard nominal retention is **25 µm (50 µm available on request)**. A brief **pre-flush at start-up** is recommended to remove trace fines



and stabilise the effluent.

Available carbon bases include **coconut shell powdered activated carbon (DLPAC grade)** for high chlorine/taste/odour and low-molecular-weight organics, and **coal-based powdered activated carbon (DLCTO grade)** for broad-spectrum organics/colour bodies and cost-effective duty.

**Intended use** is polishing, final filtration and contaminant-reduction stages where both adsorption and particulate control are required. Typical deployments include water treatment, chemical processing and beverage production. As with any carbon system, **performance depends on carbon grade and loading, target species, fluid chemistry, temperature, viscosity, flow rate and available contact time**; sizing should be based on breakthrough targets and validated by pilot trials under representative conditions. LFX-ACT™ is supplied in **industry-standard trade sizes #01, #02, #03 and #04**, integrating into existing bag filter housings without hardware changes. **Moulded-ring (PP/PET)** and **metal snap-ring (galvanised steel/stainless steel)** options provide secure sealing in restrainer baskets and help limit carbon migration under normal service.

For feeds with elevated suspended solids, **upstream pre-filtration is recommended** to protect adsorption capacity and manage differential-pressure rise. **Temperature and chemical compatibility** are governed by the selected polymer/elastomer/adhesive system; specify materials to suit the process (e.g., PP media with EPDM or FKM elastomers, stainless-steel rings) and verify suitability against the intended operating envelope.

***Engineered to Purify. Designed for Simplicity. Trusted in Every Drop.***

**Technical Specifications**

**Media & construction:**

Multi-layer felt body with internal activated-carbon lining, polypropylene support matrix, and bonded layers to limit fibre migration and carbon shedding. Moulded-ring (PP/PET) or galvanised-steel / stainless-steel snap-ring options for secure sealing.

**Carbon base options:**

DLPAC (coconut shell PAC) or DLCTO (coal-based PAC); specify iodine number, particle size/mesh grade, and carbon loading per bag to meet EBCT and performance targets.

**Operating limits:**

Maximum operating temperature ≤ 80 °C (short-term excursions to 90 °C).  
 pH range 4–10 continuous, short-term 2–11.  
 Recommended change-out differential pressure (ΔP) 0.8–1.5 bar.  
 Maximum differential pressure 2.5 bar.

**Filtration performance:**

Nominal particulate retention 25 µm standard; 50 µm available on request.  
 Adsorption targets include free chlorine, taste/odour compounds, volatile organic compounds (VOCs), hydrocarbons and other dissolved organics.  
 Carbon migration controlled by bonded multi-layer design; brief pre-flush recommended at start-up to remove trace fines.

**Housing compatibility:**

Industry-standard trade sizes. Fits leading OEM bag housings when trade size and ring style match.

**Chemical compatibility:**

Excellent resistance to most dilute acids, bases and aqueous solutions.  
 Suitable for adsorption of chlorine, organics, VOCs and hydrocarbons.  
 Not recommended for strong oxidising agents (e.g., concentrated nitric acid, aqua regia).



**Nominal Dimensions & Effective Filter Area<sup>2</sup>**

Size Code	Nominal Dimensions (mm/inches)		Effective Filter Area (m <sup>2</sup> )
Size 01	ø 180 x 430	ø 7 x 17	0.20–0.22
Size 02	ø 180 x 810	ø 7 x 32	0.40–0.45
Size 03	ø 100 x 230	ø 4 x 9	0.07
Size 04	ø 100 x 380	ø 4 x 15	0.14

## Recommended vs. Maximum Flow Rates

Size Code	Recommended Flow Rates <sup>3</sup> (m <sup>3</sup> /h)	Maximum Flow Rates <sup>4</sup> (m <sup>3</sup> /h)	Carbon Loading <sup>5</sup>
Size 01	2.5 to 5.0	Up to 12	500 – 600 g
Size 02	4.8 to 9.0	Up to 22	950 – 1,100 g
Size 03	0.8 to 1.5	Up to 3.5	150 – 200 g
Size 04	1.4 to 2.8	Up to 7.0	250 – 350 g

<sup>1</sup> Compatibility is based on housing dimensions and functional equivalence.

<sup>2</sup> Activated-carbon bags use a dual-layer construction that slightly reduces the effective liquid-filtering surface area compared with plain felt bags. The internal carbon matrix limits open flow area but increases residence time and adsorption contact, which is essential for chlorine, odour and VOC removal.

<sup>3</sup> Recommended flow rates based on water at 20 °C, 1 mPa·s, new bag, 25 µm support felt; adjust for viscosity, temperature, and target breakthrough.

<sup>4</sup> Maximum flow rates shown are LFX-ACT bag limits for clean water; housing capacities may be higher (e.g., Size #01 ≈ 20 m<sup>3</sup>/h, Size #02 ≈ 40 m<sup>3</sup>/h per Eaton). Do not exceed process ΔP, residence-time, or media migration constraints.

<sup>5</sup> Carbon loading values are typical for carbon-lined construction and vary with carbon grade and build; filled styles can be substantially higher.

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