



LFX™ Series – Liquid Filtration Excellence Engineered for Results

LFX-CACT™ Carbon Block & GAC Filter Cartridges Technical Overview

FiltraCore Asia's LFX-CACT™ Carbon Block & GAC Filter Cartridges are engineered for adsorptive removal of **free chlorine, dissolved organics/VOCs, and colour/taste/odour** compounds in industrial and utility water systems. Constructed from high-purity activated carbon with polypropylene structural components, they deliver **predictable outlet quality, low extractables, and stable differential pressure** throughout service life. Formats include **compressed carbon block** and **granular activated carbon (GAC)** with base carbon options of **DLPAC (coconut shell)** for high chlorine/VOC efficiency or **DLCTO (coal-based)** for broad-spectrum adsorption and cost-effective duty.



The carbon block format provides nominal particulate retention of **~5 µm** (variants **1–10 µm**) in addition to chlorine and organics adsorption, enabling dual functionality as both a polishing filter and an adsorbent stage. Typical chlorine reduction capacity is **15,000–40,000 L per 10"** cartridge at **2 ppm** influent, flow- and water-chemistry dependent.

The GAC format is adsorption-focused, with nominal particulate retention of **≥20 µm**, and excels in **bulk dechlorination** or **VOC polishing** where longer **EBCT** is required. GAC cartridges generally deliver **higher capacity** but **lower particulate control**

than carbon block designs.

By integrating LFX-CACT™ into pretreatment loops, engineering teams can **protect RO membranes, ion-exchange resins, and downstream process equipment while maintaining compliance with process water quality requirements**. With a maximum continuous service rating of **52 °C** and broad compatibility with standard cartridge housings, LFX-CACT™ is a robust, benchmarked solution for industrial adsorption applications.

Engineered for Versatility. Proven in Service. Built for Reliability.

Technical Specifications

- **Media & formats:**
Carbon Block – Compressed activated carbon with polypropylene prefilter layer, PP core/end caps, and PE outer netting; designed for fines control and combined particulate/adsorptive performance. **Base carbon options: DLPAC (coconut shell) or DLCTO (coal-based).** GAC – High-activity granular activated carbon (high iodine number) packed in a PP core/shell with PP retainers and PE outer netting; radial-flow internal diffusion path.
- **Micron ratings (nominal):**
Carbon Block **~5 µm** standard (**1–10 µm** variants).
GAC adsorption-focused; nominal particulate retention **≥20 µm**.
- **Lengths / diameters:**
Lengths: 9.75" (**≈248 mm**), 10" (**≈254 mm**), 20" (**≈508 mm**), 30" (**≈762 mm**); **40" (≈1,016 mm)** available on selected block formats (verify housing). **Outside diameters:** **~63 mm** (2.5" nominal); **114 mm** (4.5" "Big Blue") for high-capacity housings.
- **End styles / seals:**
DOE (double open end) standard. **SOE 222/Flat, 222/Fin, 226/Flat, 226/Fin** available on designated industrial block SKUs. Elastomers: **NBR (Buna-N), EPDM, Silicone, FKM (Viton®).**
- **Flow direction:**
Carbon Block **outside-to-inside**. GAC **radial flow** through packed bed.
- **Operating temperature (water service):**
Continuous up to **52 °C**; short excursions to **~60 °C** may be acceptable subject to housing and elastomer limits.
- **pH / chemistry envelope (guidance):**
Typical service **pH 2–11**. Not recommended for strong oxidisers (ozone, chlorine dioxide), aggressive solvents, or hydrocarbons. Chlorine reduction performance decreases at high pH; pre-oxidant levels and organics loading materially affect capacity.
- **Differential pressure:**
Recommended change-out **1.0–1.4 bar (15–20 psid)** per element. Maximum collapse rating up to **3.4 bar (50 psid)** at 25 °C, housing-dependent; do not exceed the lowest-rated component (cartridge/housing/elastomer).
- **Adsorption capacity (typical):**
Chlorine reduction **15,000–40,000 L per 10" element at 2 ppm** free chlorine (flow- and water-chemistry dependent). GAC formats generally provide higher capacity than blocks but lower particulate control.
- **Start-up / pre-flush:**
Flush to waste until effluent runs clear (**typically 5–10 minutes**) to remove initial carbon fines; do not use where water is microbiologically unsafe without adequate upstream disinfection.
- **Compliance:**
Food-contact compliant variants available (FDA 21 CFR; EU 1935/2004 & 10/2011) when specified at SKU level.
- **Packaging / identification:**
Individually wrapped; each element labelled with series (**LFX-CACT™**), format (Block/GAC), micron rating, length, end-cap style, and lot/traceability code.



Recommended vs. Maximum Flow Rates – LFX-CACT™ (per 2.5" Ø cartridge)

Length (in)	Recommended Flow ¹ Rate (m ³ /h)	Maximum Flow Rate ² (m ³ /h)
10"	0.48	0.72
20"	0.96	1.44
30"	1.44	2.16

¹ Recommended values based on clean water at 20 °C; ensure sufficient empty bed contact time (EBCT) for adsorption efficiency.

² Maximum values are housing-rated flows; operation near maxima will reduce adsorption efficiency and shorten service life.

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