



## AFX™ Series – Air Filtration Excellence Clean Air, Clean Performance

### AFX-PNL™ – Panel Filters Product Highlights

FiltraCore Asia's **AFX-PNL™ Panel Filters** are engineered for **stable performance**, **consistent airflow**, and **reliable particle capture** in commercial HVAC systems, pre-filtration stages, and general-purpose ventilation. Available in **Synthetic Nonwoven (AFX-PNL-SNW™)**, **Fibreglass (AFX-PNL-FG™)**, and **Activated Carbon (AFX-PNL-AC™)** media configurations, these filters integrate seamlessly into **standard holding frames** with **no housing modifications** required.



The synthetic nonwoven and fibreglass variants are supported by **high wet-strength beverage board**, **galvanised-steel U-channel**, or **ABS frames** (with expanded-metal backing where specified) to maintain structural integrity under variable air velocities. The activated-carbon variant incorporates a **carbon-loaded layer** for **comfort odour/VOC mitigation**, enabling combined particulate and molecular reduction in the same footprint (performance dependent on carbon loading and humidity).

Efficiency offerings align with flat-panel practice: **MERV 4–9** with corresponding **ISO 16890** classes (**ISO Coarse / ePM10**, model-dependent). For higher particulate grades (**ePM2.5/ePM1; MERV 11–13**), specify **AFX-PLT™ Pleated Panel Filters** to maintain airflow and lifecycle economics. Across the range, AFX-PNL™ combines **low initial Δp** with **progressive loading characteristics** to support practical service intervals while maintaining the stated efficiency class. All variants are tested to **ASHRAE 52.2** and **ISO 16890** (legacy **EN 779** nomenclature available on request). Dimensioned to **industry-standard nominal sizes**, AFX-PNL™ supports **form-fit-function replacement** across common OEM frame systems (e.g., AAF®, Camfil®, Parker®, Koch®, Flanders®, Viledon®) when size, depth, and class are matched.



**Engineered for Peak Performance.  
Tested for Real-World Conditions.**

## Technical Specifications

- **Media & construction:**  
Synthetic nonwoven (mechanical), fibreglass mat, or carbon-loaded nonwoven for comfort odour/VOC mitigation. Frames in high wet-strength beverage board, galvanised-steel U-channel, or ABS; expanded-metal/wire backing where specified for rigidity
- **Depths & geometry:**  
Standard depths 25 mm and 50 mm (other depths on request). Flat panel format for drop-in use in common holding frames and side-access housings
- **Efficiency classes (particulate):**  
MERV 4–9 (ASHRAE 52.2) with corresponding ISO 16890 classes (ISO Coarse / ePM10, model-dependent). For higher particulate efficiencies (ePM2.5/ePM1; MERV 11–13), select AFX-PLT™ Pleated Panel Filters
- **Initial differential pressure (clean; representative):**  
25 mm panels at  $\approx 1.5\text{--}2.0$  m/s: synthetic/fibreglass typically  $\sim 30\text{--}65$  Pa (grade-dependent). 50 mm panels at  $\approx 2.0$  m/s: synthetic/fibreglass typically  $\sim 60\text{--}85$  Pa (internally-supported formats near the upper end). Carbon-loaded panels (50 mm at  $\approx 2.0$  m/s): typically  $\sim 70\text{--}110$  Pa, increasing with carbon mass per area
- **Final resistance ( $\Delta p$ ):**  
Reference 200–250 Pa, subject to rack policy and downstream protection strategy
- **Operating conditions:**  
Non-condensing service. Typical temperature capability  $\sim 70\text{--}80$  °C (model-dependent). Frames and adhesives selected for moisture resistance in HVAC duty
- **Nominal sizes (metric):**  
Common modules  $592 \times 592$ ,  $592 \times 287$ ,  $610 \times 610$  mm; other sizes available. Actual size (mm) options supplied for tight rails
- **Rated airflow references (full-size panels):**  
25 mm at  $\approx 1.5\text{--}2.0$  m/s  $\rightarrow \sim 1,800\text{--}2,300$  m<sup>3</sup>/h (592–610 square formats). 50 mm at  $\approx 2.0$  m/s  $\rightarrow \sim 2,400\text{--}2,700$  m<sup>3</sup>/h (model-dependent). Airflow scales with frontal area
- **Mounting & sealing:**  
Front-load or side-access frames. Upstream or downstream gaskets in neoprene/EPDM; full-perimeter or selected edges to suit the rack
- **Activated-carbon variant (AFX-PNL-AC™):**  
Comfort-IAQ odour/VOC mitigation in panel format. Performance depends on carbon loading, contaminant mix, residence time, and relative humidity (adsorption efficiency decreases at high RH). Service life is determined by odour/VOC breakthrough (IAQ metrics) rather than  $\Delta p$
- **Compliance & documentation:**  
Tested to ASHRAE 52.2 (MERV) and ISO 16890 (ePM classes). Hygiene/statement of conformity available by model



**Nominal Dimensions & Recommended Airflow<sup>1</sup> – AFX-PNL™ Panel Filters**

Filter Size (mm)	Typical Depth (mm)	Recommended Airflow (m <sup>3</sup> /h)	Maximum Airflow (m <sup>3</sup> /h)
592 × 592 × 25	25	1,800 – 2,200	Up to 2,500
610 × 610 × 25	25	1,900 – 2,300	Up to 2,600
592 × 287 × 25	25	900 – 1,200	Up to 1,250
610 × 305 × 25	25	950 – 1,250	Up to 1,350

**Initial Pressure Drop<sup>2</sup> – AFX-PNL™ Panel Filters (Synthetic vs Fiberglass)**

Efficiency Class	Media Type	Initial Δp @ Rated Flow (Pa)
G3 / ISO Coarse 60%	Synthetic	30 – 40
G4 / ISO Coarse 80%	Synthetic	40 – 55
M5 / ISO ePM10 50%	Synthetic	55 – 75
G3 / ISO Coarse 60%	Fiberglass	35 – 45
G4 / ISO Coarse 80%	Fiberglass	50 – 65
M5 / ISO ePM10 50%	Fiberglass	65 – 85
G4 / ISO Coarse 80%	Activated Carbon Composite	70 – 110
M5 / ISO ePM10 50%	Activated Carbon Composite	70 – 110
ISO Coarse / ePM10 (carbon-loaded panel)	Activated Carbon Composite	70 – 110

<sup>1</sup> Clean filter; air -20 °C ( $\rho \approx 1.2 \text{ kg/m}^3$ ); full-size module scaling by frontal area; housing/duct losses excluded. "Recommended" = continuous design range; "Maximum" = upper operating limit (-2.0 m/s for 25 mm panels) and not a design point.

<sup>2</sup> Initial pressure drop values are measured with clean filters at rated airflow. Results may differ under real-world operating conditions due to dust loading, humidity, and duct velocity. Activated carbon media may show slightly higher resistance due to the carbon layer; exact values depend on carbon loading and configuration.

Actual performance depends on fluid viscosity, contaminant load, pressure differential, and system configuration. Operating above recommended flow may shorten filter life or reduce filtration efficiency.

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