AFX Series

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

AFX-PLT™ – Pleated Panel Filters
Technical Overview

FiltraCore Asia's **AFX-PLT™ Pleated Panel Filters** are **extended-surface prefilters** for commercial HVAC, clean-critical support spaces, and industrial ventilation where **low initial resistance**, **stable airflow**, and **robust construction** protect coils and downstream fine/HEPA stages. The line is built around the market's standard **1" / 2" / 4" depths** (≈ **25 / 50 / 95 mm**) for true **drop-in** use in existing frames and side-access housings.

Media options include **mechanical synthetic (AFX-PLT-SF™)** for **maintained efficiency** in humid conditions, **electret synthetic (AFX-PLT-ES™)** where charged media is acceptable, and an **activated-carbon composite (AFX-PLT-AC™)** for **light-duty odour/VOC comfort control** in the same footprint. The pleated geometry maximises effective area for **high dust-holding capacity** and **predictable ΔP** behaviour under both **constant- and variable-air-volume** operation.

Grades are available up to **MERV 13** with corresponding **ISO 16890 ePM classes** (model-dependent). For retrofit continuity, AFX-PLT™ is engineered as a **form-fit-function replacement** when **nominal size, depth, and efficiency class** are matched – mirroring the positioning of leading pleated families from AAF, Camfil, Parker, and Viledon without over-stating cross-standard equivalence.

Reliable Prefiltration. Maintained Efficiency. True Drop-In Fit.

Technical Specifications

- **Media & construction:**
  Mechanical synthetic pleat (maintained efficiency), electret synthetic pleat (charged media), and activated-carbon composite pleat for light-duty odour/VOC comfort control. Frames in high wet-strength beverage board (standard) or galvanised-steel U-channel (heavy duty). Pleat support as self-supported (no wire) or expanded-metal/wire-backed per model
- **Efficiency grades (particulate):**
  MERV 8–13 (ASHRAE 52.2) with corresponding ISO 16890 ePM10 / ePM2.5 / ePM1 classes by model. (No one-to-one mapping between MERV and ISO 16890.)
- **Depths & rating points:**
  25 / 50 / 95 mm standard depths. Typical rating velocities used by tier-one pleats: ≈1.8 m/s (25 mm) and ≈2.5 m/s (50 / 95 mm)
- **Initial pressure drop (clean, representative):**
  At the rating velocity for full-size 592 × 592 mm panels (model-dependent):
  – 25 mm, MERV 8 @ ≈1.8 m/s: ~55–65 Pa
  – 50 mm, MERV 8 @ ≈2.5 m/s: ~75–85 Pa
  – 50 mm, MERV 13 @ ≈2.5 m/s: ~90–100 Pa
  – 95 mm, MERV 8 @ ≈2.5 m/s: ~65–75 Pa
  – 95 mm, MERV 13 @ ≈2.5 m/s: ~70–85 Pa
  – Activated-carbon pleats (same depth/velocity): typically +15–25 Pa vs particulate-only equivalents
- **Final resistance / change-out:**
  250 Pa (reference value). Project set-points may differ by energy policy and downstream protection
- **Operating temperature**:
  Up to ~80–100 °C, dependent on frame/adhesive and media construction (model-specific)
- **Humidity & moisture:**
  High wet-strength frames are moisture-resistant but not intended for condensing/wet service. Activated-carbon adsorption efficiency declines at high RH; service life is determined by odour/VOC breakthrough, not Δp alone
- **Nominal sizes (metric):**
  Common modules 592 × 592, 592 × 287, 610 × 610 mm; other sizes on request. For tight fits, provide actual size (mm) required by the rail
- **Rated airflow reference (592 × 592 mm):**
  ≈2,250 m³/h @ 1.8 m/s (25 mm rating point); ≈3,200 m³/h @ 2.5 m/s (50 / 95 mm rating point). Scale flows by frontal area for other sizes.
- **Mounting & sealing:**
  Front-load or side-access banks. Gasket location (upstream/downstream), material (neoprene/EPDM), and frame thickness to match rack
- **Activated-carbon variant (AFX-PLT-AC™):**
  Pleated carbon for comfort-IAQ odour/VOC mitigation in 25–95 mm depths; not a substitute for process-grade molecular systems
- **Compliance & documentation:**
  ASHRAE 52.2 (MERV) and/or ISO 16890 (ePM classes). Hygiene/compliance documentation available on request.

Initial Pressure Drop[2] by MERV Rating & Depth – Particulate Media

MERV Rating	Filter Depth	Initial Δp @ Rated Flow	Notes
MERV 8	50mm	55 – 85 Pa	Low resistance, coarse pre-filtration
MERV 9	50mm	60 – 85 Pa	Medium dust load applications
MERV 11	50mm	80 – 100 Pa	Higher efficiency for finer particulates

Initial Pressure Drop[3] – Activated Carbon Media

Filter Depth	Initial Δp @ Rated Flow	Notes
50mm	90 – 150 Pa	MERV 8–11 particulate rating (depending on base media) with additional VOC and odour adsorption capability

Nominal Dimensions & Airflow Ratings[4] – AFX-PLT-SF™ (Synthetic Fibre)

Nominal Size (mm)	Typical Depth (mm)	Recommended Airflow (m^3/h)	Maximum Airflow (m^3/h)
592 × 592 × 50	50	1,800 – 2,400	Up to 3,000
610 × 610 × 50	50	1,900 – 2,500	Up to 3,200
592 × 287 × 50	50	800 – 1,200	Up to 1,500
610 × 305 × 50	50	850 – 1,300	Up to 1,600

Nominal Dimensions & Airflow Ratings[4] – AFX-PLT-ES™ (Electret Synthetic)

Nominal Size (mm)	Typical Depth (mm)	Recommended Airflow (m^3/h)	Maximum Airflow (m^3/h)
592 × 592 × 50	50	1,700 – 2,300	Up to 2,900
610 × 610 × 50	50	1,800 – 2,400	Up to 3,000
592 × 287 × 50	50	750 – 1,150	Up to 1,450
610 × 305 × 50	50	800 – 1,250	Up to 1,500

Nominal Dimensions & Airflow Ratings[4] – AFX-PLT-AC™ (Activated Carbon)[5]

Nominal Size (mm)	Typical Depth (mm)	Recommended Airflow (m³/h)	Maximum Airflow (m³/h)
592 × 592 × 50	50	1,500 – 2,000	Up to 2,600
610 × 610 × 50	50	1,600 – 2,100	Up to 2,800
592 × 287 × 50	50	700 – 1,000	Up to 1,300
610 × 305 × 50	50	750 – 1,050	Up to 1,350

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[1] Compatibility is based on dimensional and functional equivalence to the listed manufacturers' products. Users should verify fit, performance, and regulatory compliance prior to installation.

[2] Clean filter; full-size module; face velocity ≈ 2.5 m/s; air ~20 °C (ρ ≈ 1.2 kg/m³); housing/duct losses excluded.

[3] Activated carbon media performance may decline more quickly in high-humidity environments (>80% RH) or in air streams with high concentrations of target gases. Actual adsorption capacity and service life will vary depending on contaminant type, concentration, and system operating conditions. Initial Δp @ rated flow rates of 90-120 pa and 120-150 pa refer to standard carbon pleat and high-loading carbon pleat respectively.

[4] Clean filter; air ~20 °C (ρ ≈ 1.2 kg/m³); 50 mm depth unless stated; full-size module (e.g., 592 × 592 mm or 610 × 610 mm); housing/duct losses excluded. "Recommended Airflow" denotes the continuous design range; "Maximum Airflow" is an upper operating limit and not a design point. For other sizes, scale by frontal area; for other depths or grades, refer to Δp–velocity curves.

[5] Activated-carbon variants are humidity-sensitive; service life is governed by odour/VOC breakthrough (IAQ metrics) rather than Δp.

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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