DFX Series

# DFX™ Series – Dust Filtration Excellence Built for Industrial Demands

## DFX-ACR™ – Acrylic Dust Filter Bags Technical Overview

FiltraCore Asia's **DFX-ACR™ Acrylic Dust Filter Bag** is manufactured from **homopolymer acrylic needlefelt** with a typical basis weight of **500–550 g/m²**, supported on a woven scrim for dimensional stability. Optional finishing (singeing, calendering) improves dust cake release and reduces fibre migration, while **PTFE membrane lamination** is available where fine particulate capture and ultra-low emissions are required.

The media is classified as a **mid-temperature filtration material**, with a continuous operating limit of **120 °C** and short-term peaks to **150 °C**. It offers **enhanced hydrolysis resistance** compared to polyester, with strong performance in acidic environments containing SOx, NOx, and HCl. Resistance to alkalinity is moderate, and the material is not suited for strongly basic or high-pH dust streams.

For installations where extended service intervals are critical, **pleated DFX-ACR™ elements are available**. These pleated constructions increase surface area and reduce air-to-cloth ratios, lowering differential pressure and energy costs. However, due to the lower flex fatigue resistance of acrylic compared to polyester, pleated acrylic is best applied in systems with controlled cleaning cycles and stable operating conditions.

DFX-ACR™ integrates into **pulse-jet, shaker, and reverse-air collectors**, with robust needlefelt construction ensuring **mechanical integrity, predictable pressure drop behaviour, and long bag life** under demanding conditions.

***Reliable Mid-Temp Performance. Resistant to Chemicals. Built for Harsh Dust Streams.***

DFX Series

## Technical Specifications

- **Material:** 100% Homopolymer Acrylic Needlefelt
- **Operating Temperature:** Continuous up to 120 °C; peaks up to 150 °C
- **Weight:** 500–550 gsm standard
- **Micron Ratings:** Typically 10–50 µm, depending on application and finish
- **Finish Options:** Singed, calendered, or PTFE membrane laminated for low emissions
- **Construction:** Sewn with high-temperature thread; double or triple-stitched seams
- **Seam Style:** Standard double needle or reinforced triple seam for high-stress conditions
- **Air Permeability:** 10–15 $m^3/m^2/min$ (measured at 200 Pa, prior to conditioning)
- **Chemical Resistance:** Excellent against acidic gases (SOx, NOx, HCl); moderate resistance to alkalis; poor against strong oxidising agents
- **Hydrolysis Resistance:** High, especially in moist and acidic exhaust environments
- **Cage Compatibility:** Designed for standard round and oval support cages
- **Compliance:** Supplied for general industrial applications; food-contact compliant variants available (FDA 21 CFR; EU 1935/2004 & 10/2011). Antistatic versions can be offered for installation in ATEX-certified dust collection systems on request.
- **Add-Ons:** Wear pads, anti-collapse rings, top-load guides, spark-resistant cuffs

## Standard Dimensions

- **Lengths:** 1000 mm to 6000 mm (custom lengths available on request)

- **Diameters:** Standard diameters include 120 mm, 125 mm, 130 mm, 150 mm, and 160 mm; custom diameters available on request
- **Top Options:** Snap band, raw cuff, corded cuff, compression cuff, flange collar, or ring top
- **Bottom Options:** Sewn disc (standard); reinforced bottoms or wear pads available for abrasion resistance
- **Pleated Format:** Available as pleated filter **bags** in selected diameters; designed to increase surface area and lower air-to-cloth ratios, subject to system suitability
- **Customisation:** Sizes and designs can be tailored to fit specific baghouse housing requirements

## Recommended Air-to-Cloth (A/C) Ratios[1] for DFX-ACR™

| Application | Cleaning System | Recommended A/C Ratio (m/min) | System Type | Media Type | Notes |
|---|---|---|---|---|---|
| Cement Kilns | Pulse Jet | 1.0 – 1.5 | Baghouse | Homopolymer Acrylic Felt | Suitable only for conditioned/secondary gas streams; resistant to acidic dust and gas moisture |
| Waste Incineration | Reverse Air | 0.8 – 1.2 | Baghouse | Homopolymer Acrylic Felt | For cooled, quenched, or scrubbed flue gas; suited for corrosive and wet dust |
| Biomass Boilers | Pulse Jet | 1.0 – 1.4 | Baghouse | Homopolymer Acrylic Felt | Performs well under organic acid and hydrolytic dust exposure when <120 °C |
| Chemical Plants | Pulse Jet | 0.8 – 1.2 | Baghouse | Homopolymer Acrylic Felt | Effective against dust containing SOx, NOx, and HCl vapours at moderate temps |

[1] *Recommended air-to-cloth (A/C) ratios are indicative and provided as general sizing guidelines. Actual performance depends on dust characteristics, filter geometry, air velocity, cleaning intensity, and system design. For corrosive or chemically reactive dust environments, or where temperature exceeds 120°C, A/C ratios should be validated against process conditions and maintenance cycles. Please consult FiltraCore Asia's technical team for tailored application support, system sizing, or retrofit compatibility specific to DFX-ACR™.*

*Pleated variants of this media are sometimes promoted but are not considered commercially reliable due to fibre and service-life limitations. FiltraCore Asia supplies only proven bag constructions in line with global OEM standards.*

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SINGAPORE | INDONESIA | JAPAN | SOUTH KOREA | DUBAI

■ sales@filtracoreasia.com ■ www.filtracoreasia.com ■ +65 89-**FILTER** (+65 89-345837)