DFX Series

DFX™ Series – Dust Filtration Excellence Built for Industrial Demands

DFX-ANT™ – Antistatic Dust Filter Bags Technical Overview

DFX-ANT™ Antistatic Dust Filter Bag is engineered for **safe particulate collection in explosive or electrostatically hazardous environments**, where static build-up may trigger ignition. Constructed from **electrically conductive needlefelt**, incorporating **carbon, copper, or stainless-steel fibres** and **antistatic stitching**, the media is designed to maintain a **surface resistivity below 1.0 × 10^8 ohms**, in line with requirements for **ATEX Zone 21/22, NEC Class II, and IECEx classified areas**.

The filter medium combines **high dust retention** with **low emission performance**, while ensuring **controlled dissipation of static charges**. Options include **surface finishes** such as singeing, calendaring, or PTFE membrane lamination to further optimise particulate capture and cake release.

DFX-ANT™ bags are suitable for **pulse-jet, shaker, and reverse-air dust collectors**, and are applied in **food and grain processing, metal and coal handling, pharmaceuticals, chemicals, and other combustible dust environments**. The needlefelt structure provides **mechanical durability** and **stable dimensional performance** under frequent cleaning cycles.

The series is supplied in **OEM-equivalent constructions**, designed to fit **baghouse housings from Donaldson®, AAF®, Parker Hannifin®, BWF® Envirotec, Nederman MikroPul®, and other major suppliers**, with standard and custom sizes available to support both retrofit and new system requirements.

Engineered for Static Safety. Built for Dust Control. Trusted in Critical Zones.

DFX Series

Technical Specifications

- **Material:** Conductive needlefelt with carbon, copper, or stainless-steel fibres integrated into the media
- **Surface Resistivity:** < 1.0 × 10^8 ohms (measured per EN 60340; ATEX Zone 21/22 suitability)

- **Operating Temperature:** Continuous up to 120 °C; peaks up to 150 °C depending on fibre blend
- **Weight:** Typically 500–550 gsm (custom weights available)
- **Micron Ratings:** 5–50 µm, depending on application and finish
- **Finish Options:** Singed, calendered, oil & water repellent, PTFE membrane laminated
- **Construction:** Sewn with high-temperature antistatic thread; double or triple-stitched seams
- **Seam Style:** Standard double needle or reinforced triple seam for high-stress conditions
- **Air Permeability:** 8–14 $m^3/m^2/min$ (measured at 200 Pa, prior to conditioning)
- **Chemical Resistance:** Good resistance to acidic gases and hydrolysis; moderate resistance to alkalis; not recommended for strong oxidising environments
- **Hydrolysis Resistance:** High, particularly in humid or acidic dust atmospheres
- **Cage Compatibility:** Designed for use with standard round or oval support cages
- **Compliance:** Suitable for installation in ATEX Zone 21/22 and NEC Class II environments when used in compliant systems; IECEx applicability on request. Food-contact compliant variants available (FDA 21 CFR; EU 1935/2004 & 10/2011)
- **Add-Ons:** Wear pads, anti-collapse rings, top-load guides, spark-resistant cuffs
- **Pleated Option:** Available, providing 2–3× surface area, reduced pressure drop, and extended service intervals

Standard Dimensions

- **Bag Diameter:** Standard diameters include 120 mm, 125 mm, 130 mm, 150 mm, and 160 mm; custom diameters available on request
- **Bag Length:** 1000 mm to 6000 mm standard; longer lengths available upon request
- **Media Type:** Conductive felts incorporating carbon, copper, or stainless-steel fibres
- **Surface Resistivity:** Typically < 1.0×10^8 ohms (ATEX Zone 21/22 suitability)
- **Finishes & Treatments:** Options include singed, calendered, oil & water repellent, PTFE membrane laminated
- **Top Options:** Snap band, raw cuff, corded cuff, compression cuff, flange collar, or ring top (earthing provisions available if required)
- **Bottom Options:** Sewn disc (standard); reinforced bottoms or wear pads available for abrasion resistance
- **Seam Construction:** Sewn with high-strength antistatic thread; double or triple-stitched options
- **Cage Compatibility:** Designed for use with standard round or oval support cages
- **Compliance:** Antistatic versions supplied for installation in ATEX Zone 21/22 certified dust collection systems; food-contact compliant variants available (FDA 21 CFR; EU 1935/2004 & 10/2011)
- **Add-Ons:** Anti-collapse rings, wear pads, top-load guides, spark-resistant cuffs
- **Pleated Option:** Available on request for retrofit applications, providing 2–3× surface area, reduced pressure drop, and extended service intervals. Conductive integrity is maintained for suitability in ATEX-certified systems

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

Application	Cleaning System	Recommended A/C Ratio (m/min)	System Type	Media Type	Notes
Grain Handling & Milling	Pulse Jet	1.0 – 1.5	Baghouse	Antistatic Conductive Needlefelt	For explosive dust (flour, starch, sugar); ensure effective grounding.
Chemical Processing	Pulse Jet	0.8 – 1.2	Baghouse	Carbon or Stainless Fibre Felt	For chemical powders (pigments, resins, PVC); earthing required in ATEX areas.
Pharmaceuticals	Pulse Jet	1.0 – 1.3	Baghouse	Antistatic Polyester/Acrylic Needlefelt	For fine powder containment and pneumatic transfer; antistatic blends ensure static control.
Metals & Mining (Aluminium, Coal)	Reverse Air or Pulse Jet	0.8 – 1.2	Baghouse	Conductive Needlefelt	For metallic dust prone to ignition; ATEX Zone 21/22 compliance requires continuous grounding.

[1] *Recommended air-to-cloth (A/C) ratios are indicative and provided as general sizing guidelines. Actual performance depends on dust characteristics, system design, cleaning method, and media condition. For explosive dust environments or systems governed by ATEX (EU Directive 2014/34/EU), NEC Class II (U.S. NFPA 652/654), or IECEx standards, ratios should be validated against certified design parameters and reviewed by qualified safety professionals. Please consult FiltraCore Asia's technical team for application-specific guidance, custom modelling, or system retrofit planning for DFX-ANT™.*

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SINGAPORE | INDONESIA | JAPAN | SOUTH KOREA | DUBAI

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