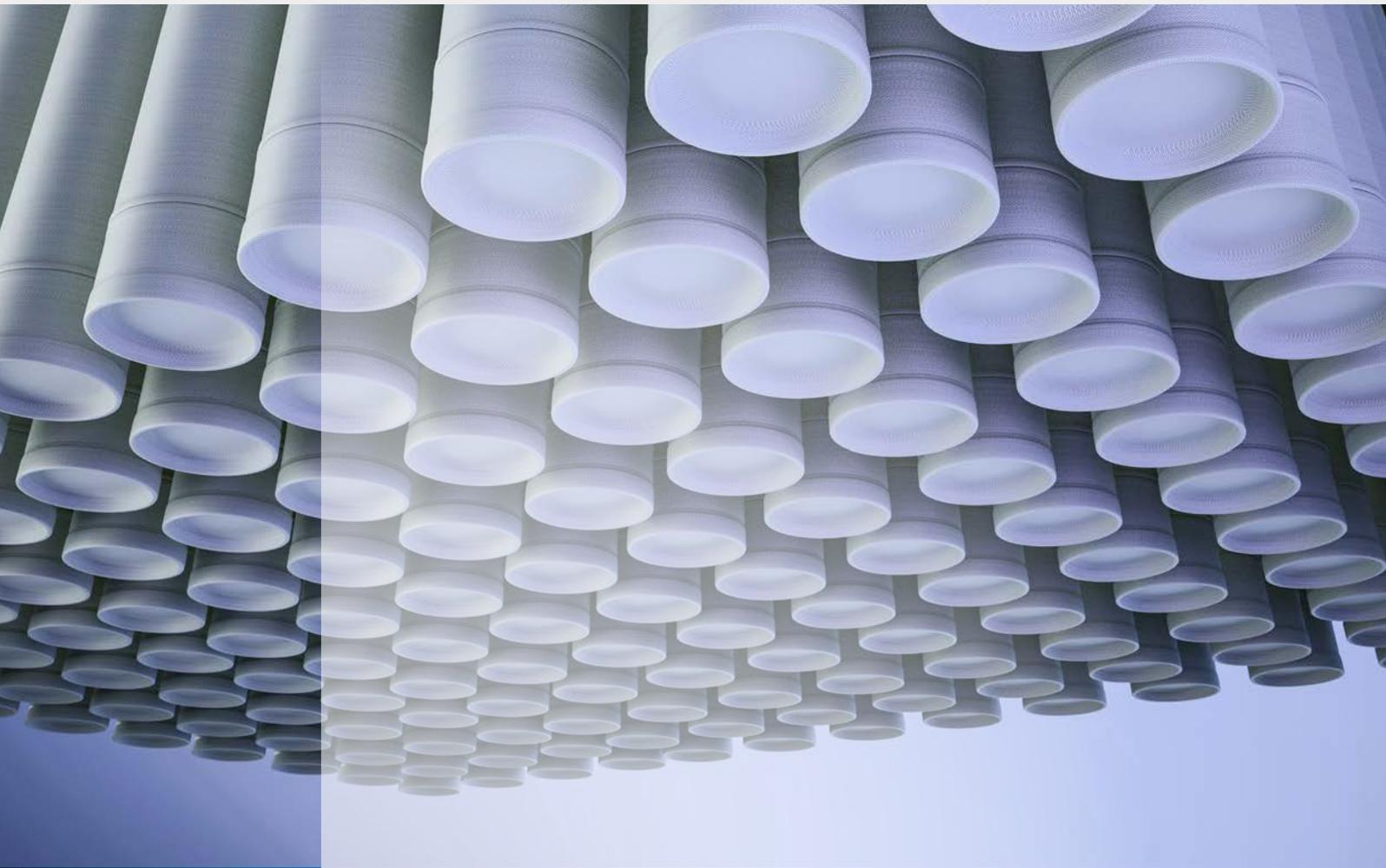


# AFT® Filter Bags

Cages and accessories



# Unmatched experience in filter bag manufacturing

Advanced Filtration Technologies® (AFT®) services can help you maintain regulatory compliance, reduce operating costs and eliminate unplanned outages so you can get the most out of your process with the least environmental impact.

## Key benefits

■  
World-class manufacturing  
facility and fabrication  
techniques

■  
Fabric filter performance-  
enhancing upgrades  
& retrofits

■  
Fabric filter inspections,  
process audits and  
bag testing

■  
Unique controller and  
digital advanced solutions  
for fabric filters

# Baghouse and filter bag products and services

Cleaner, greener pollution control

In early 2000, FLSmidth began manufacturing filter bags from their world-class facility in Augusta, Georgia, USA, under the name AFT (Advanced Filtration Technologies). In 2011 AFT established the bag and cage manufacturing facility in Arakkonam, India with the capability to serve the global market with FLSmidth high quality standards at competitive price. The range of products offered includes AFT™ filter bags, wire cages, baghouse parts and accessories, as well as a number of services to ensure customers' satisfaction and exceed performance expectations.

## Fabric filtration expertise

Our process engineers combine the knowledge in filter bags with the expertise in fabric filtration to help customers not only selecting the best filter media for the application, but also evaluating the filter performance, propose process optimizations and technological upgrades.

## CONTACT INFORMATION

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FLSmidth AFT in Augusta, Georgia, USA



FLSmidth AFT in Arakkonam, India

# Filter bags and cages

Unsurpassed filter media for more efficient dust collection

FLSmidth AFT supplies a wide range of filter media and finishes for all OEM baghouse and dust collector styles and types, such as pulse jet, reverse air, and shakers.

## ePTFE Membrane

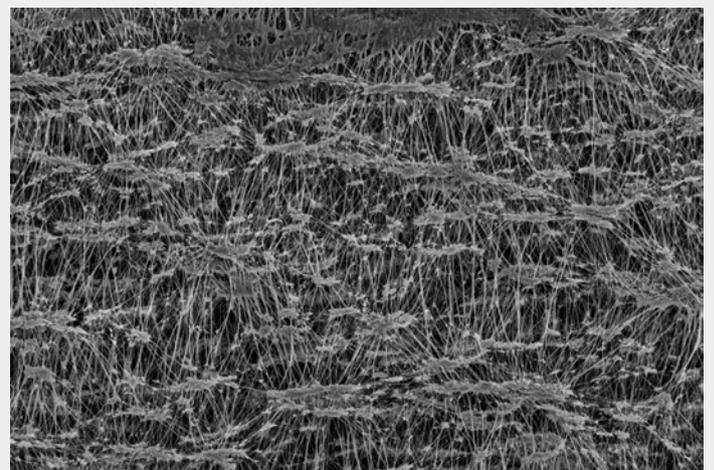
A wide range of woven and felt filter media with ePTFE membrane is available. The membrane lamination serves as a primary filter surface allowing air to pass through while the fine particulate is collected. The membrane allows for excellent dust release and particle retention, keeping the filter bags as clean as possible for longer life.

Benefits of ePTFE membrane:

- Very efficient in capturing submicron dust particles
- Better cleanability
- Lower differential pressure
- Higher throughput
- Longer bag life
- Full collection efficiency at start-up
- Reduced compressed air usage



Filter bags



e-PTFE membrane

### AFT™ filter media

- Polypropylene
- Acrylic
- Polyester
- Aramid
- PPS
- Polyimide / P-84®
- Fiberglass
- PTFE
- Huyglas®
- Mixed Felts
- Basalt
- Blends

### AFT™ finishes

- ePTFE Membrane
- PTFE
- Acid Resistant
- Singed
- Glazed
- Silicone
- Oleophobic
- Hydrophobic
- Many more

### Cages

Proper bag-to-cage fit is paramount in obtaining the longest possible service life. FLSmidth AFT offers a diverse variety of cage styles and reviews every order to ensure optimum bag-to-cage fit. The latest advancement in cage design options incorporates “star rings” to reduce the amount of contact area between the bag and cage.

Cages are fabricated from:

- Galvanized carbon Steel
- 304 Stainless Steel
- 316 Stainless Steel
- Coated

Connection styles:

- Twistlock
- Fingerlock
- Slidelock



Filter media



### Fiber selection

Fiber	Maximum temperature	Acid resistance	Alkali resistance	Abrasion resistance	Flex resistance
Polypropylene	212°F (100°C)	Excellent	Excellent	Excellent	Very Good
Acrylic	260°F (126°C)	Good	Average	Good	Very Good
Polyester	275°F (135°C)	Fair	Fair	Excellent	Very Good
Aramid	375°F (190°C)	Fair/Poor	Good	Excellent	Excellent
PPS	375°F (190°C)	Very Good	Very Good	Very Good	Very Good
Polyimide / P-84®	473°F (245°C)	Good	Fair	Good	Good
Fiberglass	500°F (260°C)	Good	Fair	Average	Average
PTFE	500°F (260°C)	Excellent	Excellent	Fair/Poor	Good

# Accessories

A wide range of accessories to refurbish and improve baghouse and dust collector equipment have been designed to meet or exceed the OEM specifications, increasing dependability and reduce costly downtime.



## Leak detector powder

Lite-Dust™ is a fluorescent powder that helps detect leaks from the fabric filter after a bag change out to ensure that the system is leak-free in the initial start-up or at any time throughout the life of the bags. It is introduced into the system with the fan running at a rate of 1 lb. per 1000 ft<sup>2</sup> (0.45 kg per 93 m<sup>2</sup>) of cloth area.



## Diaphragm valves and repair kits

Diaphragm repair kits are stocked to fit all standard pulse valves of the leading manufacturers. We can ship quickly from our inventory and each kit uses premium diaphragm material for maximum long-life performance. Repair kits fit: ASCO®, Autel®, Goyen®, Mecair®, Tae-Ha™, Trimec® and Turbo® pulse valves.



## Precoat

Using the precoat Quick-Start™ results in maximum, even, air flow and enhanced operational efficiency. Quick-Start™ is a chemically inert light density powder that is injected into the fabric filter to establish uniform porous dust cake on the filter bags. The amount of Quick-Start™ used should be a minimum of 0.05 lbs. per ft<sup>2</sup> (0.23 kg per m<sup>2</sup>) of filter bag cloth area.



### Door seals

We have a variety of door seals and gaskets that prevent outside air from leaking into your fabric filter. Properly sealed doors can prevent fugitive emissions, reduction of airflow and production loss condensation from in-leakage.



### Broken bag detectors

The broken bag detectors are used to monitor fugitive emissions during operation. It is essential to monitor and control solutions for fabric filters and cartridge dust collectors for optimum process control and meeting environmental regulations. Benefits include preventing particulate emissions, reduced maintenance costs, protecting downstream equipment, and preventing unforeseen downtime.



### Clamps

Clamps are often the cause of dust leakage and bag failure. There are different clamps for different applications – Worm Gear, Quick-Release, T-Bolt or Spring Latch – that our technical specialists can recommend.



### Tensioning assembly

Maintaining proper tension is very important to the life and performance of reverse air fabric filters and a full range of hanging hardware is available, including:

- Draw bar assemblies
- J bolts
- Chain S hook type
- Linear springs
- Conical springs
- Coined hangers
- Specialty hanging hardware

# OptiSize™ Filter Bags

## Increase your baghouse filter capacity

We offer a new concept of filter upgrade that can significantly improve your fabric filter operation. The OptiSize filter bag concept is based on the switch from the traditional circular bag shape to a square shape with rounded corners, increasing the perimeter of the filter bag and filtration surface at equal bag length. The result is an increase of filtration area up to 15 percent within the same filter casing volume compared to a “traditional” round bag. OptiSize is available in all type of felts and fiberglass media to replace the five inch and six inch filter bags.

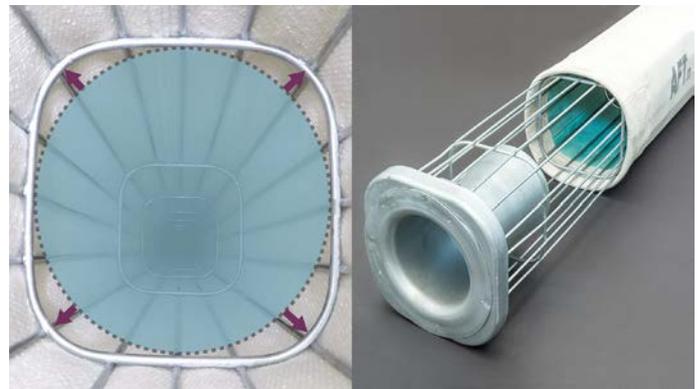
### OptiSize increases filtration area and save energy

#### Lower OPEX

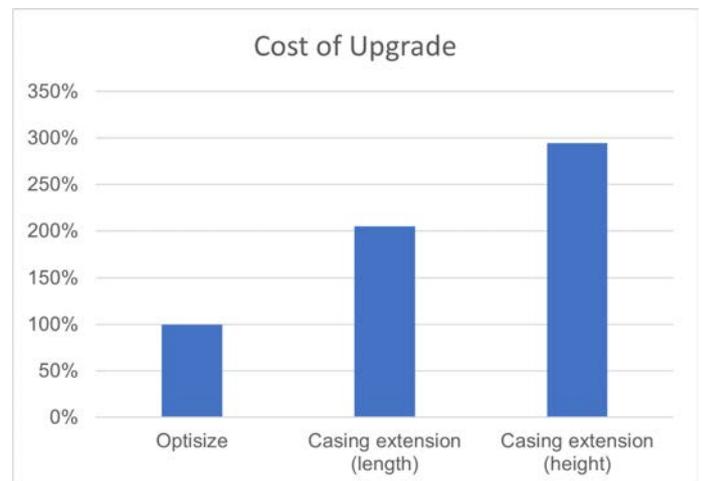
OptiSize from FLSmidth will give your baghouse increased capacity which you can choose to use for lowering the dP across the filter or increasing your production. The increase of filtering area at equal production capacity contributes to lower differential pressure (dP) across the filter bags which results in lower power consumption on the system fan. Furthermore, the reduction of dP has a positive effect on the lifetime of the bags with less internal bag and cages wear during cleaning cycles.

#### Lower CAPEX

You can install OptiSize™ in a new filter or upgrade an existing one to increase capacity. In case of upgrade you can reuse the filter casing, clean gas plenum, cleaning system, control system, dust extraction system and other auxiliaries on the baghouse filter; all you need is to replace the tubesheet and install new bags and cages. This will lower your investment cost significantly compared to extending your existing baghouse.



Increase of filtration area up to 15% within the same filter casing volume, compared to a traditional round bag.



CAPEX comparison between OptiSize and baghouse casing extension

# Site services, engineering support and process reviews

You can rely on AFT® to audit your fabric filter, supervise bag replacements and other maintenance activities.

FLSmidth provides assistance for anything between a standard filter bag replacement and a baghouse retrofit.

## Technical Field Services

Our field specialists offer assistance during the maintenance or modification of your fabric filter. To reduce costs and increase system reliability, it is recommended to have the filter serviced regularly. Our service offering includes among others:

- Technical advisory during bags replacement and commissioning, leak test, pre-coating, start-up
- Periodical scheduled inspections
- Troubleshooting both mechanical and electrical
- Media lab analysis
- Process audits
- Fabric filtration training

## Engineering support and process review

An A–Z system audit determines your equipment's requirements and limitations and facilitates the design of viable solutions to optimise operation and maximise capacity. FLSmidth AFT application engineers have valuable field experience in ventilation systems and can analyse your application in detail, regardless of the equipment style or manufacturer, determine the changes necessary to improve performances.

## Lab analysis

Analyzing bag failure is an important part of troubleshooting fabric filter problems and facilitating the ultimate media selection. Industry standard (ASTM) laboratory services performed by FLSmidth AFT lab technicians include:

- **Mullen burst and tensile strength** – provide information on the fabric resistance to pressure, elongation and tear
- **MIT flex testing** – to measure the ability of fabrics to withstand self-abrasion from flexing
- **Permeability** – to determine the amount of air that can flow through a given cloth area, whether clean or dirty.
- **Microscopic examination** – useful for examining both fabric and coatings and can yield data such as particle size, retention, shape, abrasiveness or agglomerating tendencies



## Baghouse and fabric filtration training

Our Baghouse and Fabric Filtration Training provides a working understanding of fabric filtration and how to identify typical operating and maintenance problems associated with a baghouse. Seminars can be tailored to your specific application, and the types of baghouses at your facility. Seminars can be performed on- or off-site.

# SmartPulse Controller® EVO II

Work smarter, not harder: SmartPulse Controller EVO II for baghouse optimisation

The dust load from your process varies, so why is your differential pressure at a constant level? The AIRTECH SmartPulse Controller® EVO II automatically adjusts dP according to process conditions, reducing fan energy and compressed air consumption, extending the life of your filter bags and minimising downtime.

Compliance with your strict local and corporate emissions standards is top priority. But your baghouse isn't just reducing your plant's emissions – it's also an energy user. And there's definitely room for more efficiency in your system. With more refined fabric filter controls, you can achieve compliance, reduce energy consumption and increase the life of your filter bags – all while saving money.





The EVO II's plug-and-play system saves on installation costs: it comes pre-wired, making it easy to install in hours.

### Advanced control and diagnostics

SmartPulse Controller® is the FLSmidth fast and efficient microprocessor-based controller for fabric filters that controls all equipment related to the filter by combining various software controllers in one box – including the master controller, valve controller, hopper controller and fresh air damper controller.

The EVO II optimiser is an easy-to-install, plug-and-play device that dynamically adjusts the filter cleaning parameters by evaluating the response of the fabric filter to the specific filter operating conditions. As the operating conditions vary within the plant, the EVO II enables optimal cleaning at any time, automatically, without the intervention of the operator.

The auto-adjusting features of differential pressure and compressed air pressure are complemented by an advanced broken bag detection loop that reduces the maintenance time required to identify failed bags.

### Lower Operating Expenditure

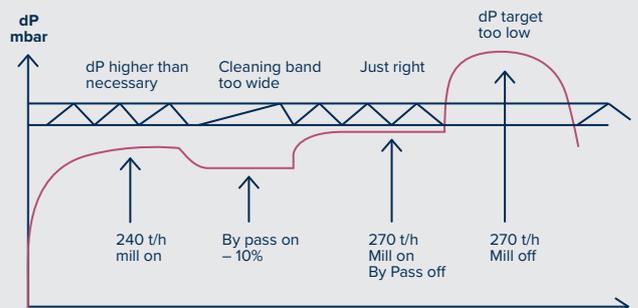
The dynamic adjustment of cleaning parameters results in lower operating expenditures for the fabric filter operator, not only by increasing the bags lifetime, but also decreasing the energy consumption related to compressed air generation and filter fan power. EVO II is a step forward to the achievement of MissionZero goals set by FLSmidth.

## Key features

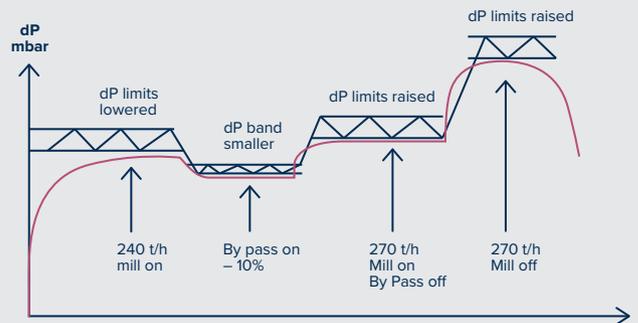
The SmartPulse Controller® EVO II system consists of a master controller, pressure regulator and broken-bag detectors.

- Platform-independent design
- Autonomous system
- Centralised control and monitoring
- Plug-and-play design

### Normal operation with fixed dP start and stop limits



### EVO II auto adjusting dP start and stop limits



FLSMIDTH

# Mission Zero

TOWARDS ZERO EMISSIONS IN CEMENT AND MINING



Zero emissions



100% fuel substitution



Zero waste

Contact us



[flsmidth.eco/contact](https://flsmidth.eco/contact)



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