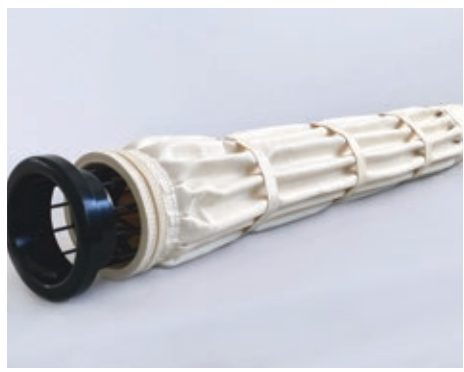


## Pioneering Innovation in Filter Bag Technology For Demanding Industries

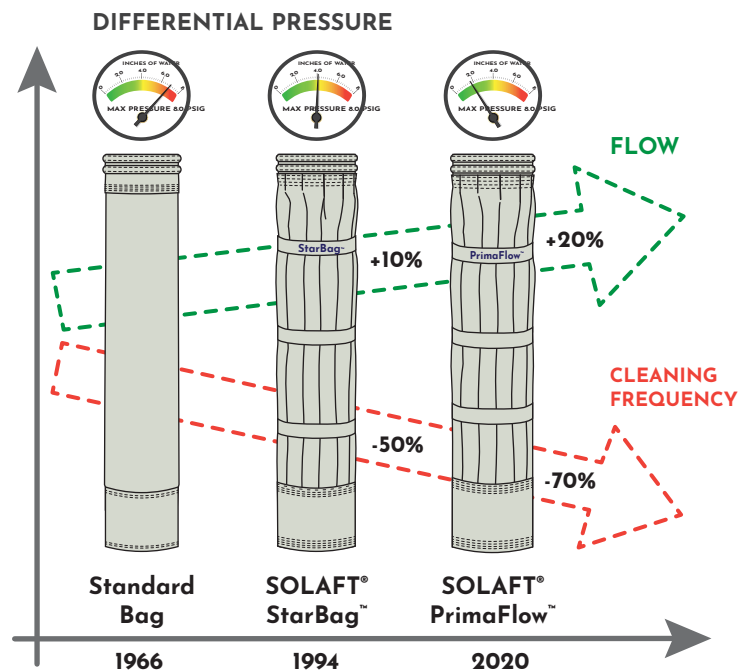
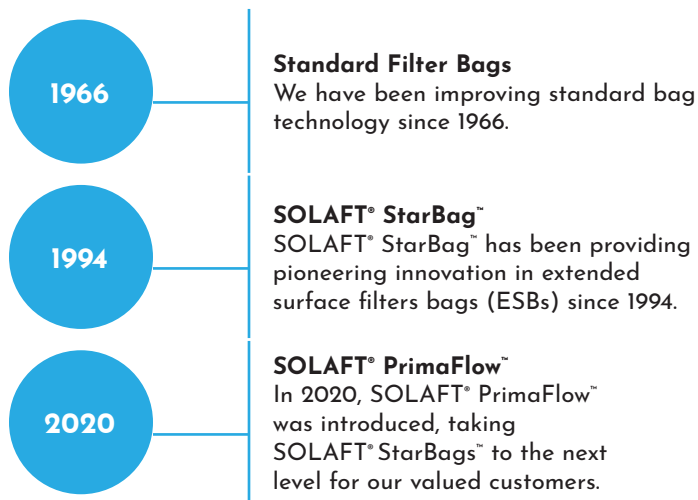


# SOLAFT® PrimaFlow™

SOLAFT® PrimaFlow™ is a revolutionary combination of proprietary filter bag, filter cage, and customized filtration media, and is the next generation of Extended Surface Bags (ESBs), building on the SOLAFT® StarBag™ legacy.

The unique SOLAFT® PrimaFlow™ design improves the gas inflow into the baghouse filter, and increases the internal core space, allowing the effective flow of gas along the entire length of the filter bag. This enables higher gas flow, lower differential pressure, and lower emissions, resulting in significant improvements to operations.

Key industries that benefit from our SOLAFT® PrimaFlow™ include Aluminium, Coal-Fired Power Generation, Iron & Steel, and Cement Plants.



\*Improvement percentages when compared to standard bags

## The Evolution of Filter Bag Technology

The Micronics Engineered Filtration Group has been at the forefront of filter bag development to best meet increased production and regulatory emissions requirements for our clients.

The introduction of SOLAFT® PrimaFlow™ represents the future of filter bag technology today and highlights our continuous pursuit of excellence and pioneering innovation.

SOLAFT® PrimaFlow™ is the best alternative for quickly debottlenecking process filters that cause production limitations and it is both a sound technological and business choice.

## Advantages of SOLAFT® PrimaFlow™



**Lower Differential Pressure**



**Lower Emissions**



**Reduced Pulse Frequency**



**Improved Gas Flow**



**Higher Particulate Capture**



**Increased Flue Gas Capture**

# Case Study 1

## Aluminium Industry, Middle East

A Middle Eastern Aluminium smelter was not achieving its desired outcomes with standard ESB filters. Investigations by our team confirmed that there was a need to minimize the internal resistance within the filter so as to achieve the required performance.

We trialed SOLAFT® PrimaFlow™ in one of the cells, compared it to a cell containing the existing ESBs, and were able to achieve significant performance improvements.

PROCESS PARAMETER	SOLAFT® PrimaFlow™ vs. Other Design ESB Filters
Hours to pre-coat	155% higher
DP after offline cleaning	30% lower
Time to reach threshold	29% longer
Operational DP @ Max Flow	16% lower

The trial cells demonstrated that the SOLAFT® PrimaFlow™ filters were easier to clean and had lower gas resistance, which yielded longer time to pre-coat and lower filter Differential Pressure (DP).

The Gas Treatment Center (GTC) was converted to SOLAFT® PrimaFlow™ and the results compared to a full GTC containing existing ESB filters.

### Benefits of SOLAFT® PrimaFlow™

- Can be retrofitted without modification to existing cleaning systems and cell plates. This allows an increase in production load without the need for expensive capital upgrade where baghouses are undersized for demand.
- Designed to ensure efficient operation with high filtration efficiency and throughput, with lower emissions
- Extended filter bag life due to less pulsing
- Lower maintenance and operational costs due to lower energy consumption and need for less intervention

PROCESS PARAMETER	SOLAFT® PrimaFlow™ vs. Other Design ESB Filters
Reverse pulse cleaning frequency	64% lower
Filter cell DP	10% lower

When compared to the DP of conventional round filters, SOLAFT® PrimaFlow™ was 40% lower. Both the trial cell and the full GTC conversion demonstrated that the lower gas-flow resistance characteristics of the SOLAFT® PrimaFlow™ system yielded measurable and significant advances in lower pressure drop and reduced cleaning frequency. Operational savings were achieved in induction fan power consumption, cleaning air usage, and longer filter bag life with respect to reduced flexural fatigue of the filter media.





# Case Study 2

## Aluminium Industry, Europe

A European Aluminium smelter retrofitted two GTCs with standard ESBs, with the aim of increasing the potline amperage while increasing gas flow from the pots and lowering filter DP. The project failed to meet the required targets, and the company approached us for a suitable solution. We recommended our SOLAFT® PrimaFlow™.

A trial was conducted, and compared one cell with SOLAFT® PrimaFlow™ to another cell containing a competitor's ESB filters.

PROCESS PARAMETER	SOLAFT® PrimaFlow™ vs. Other Design ESB Filters
Filter DP	32% lower
Filter Cell Gas Flow	15% higher
Pulse Pressure	50% lower
Pulse Frequency	79% lower

This trial cell study demonstrated that the low gas flow resistance of the SOLAFT® PrimaFlow™ system allowed operation at a low pulse frequency level, one previously not achieved at the smelter. The reduction in pulse air pressure and pulse cleaning frequency yielded a potential for ~75% reduction in compressed air in the GTC operations.

The SOLAFT® PrimaFlow™ system also achieved the highest ever single cell gas flow at the aluminium smelter GTC. Overall, use of SOLAFT® PrimaFlow™ well-exceeded the company's high expectations.



**SOLAFT® PrimaFlow™  
represents the best option  
in meeting regulatory  
emissions levels without  
compromising production.”**

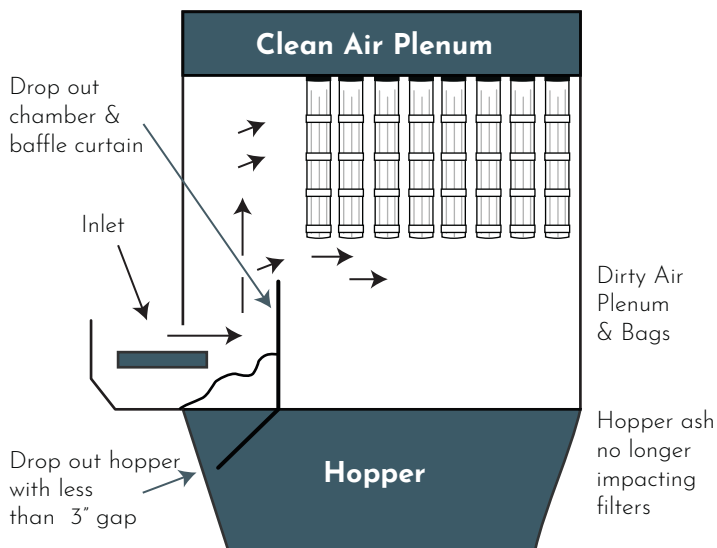


# Case Study 3

## Power Generation Industry, North America

An Energy Station in North America was experiencing premature failure from abrasion of their filter bags, in line with the top of the baghouse inlet air baffle curtain. Abrasion was also occurring at the bottom of the bags from high velocity gas caused by high ash levels in the hopper. The abrasion problem affected 10-20% of the filter bags, with failures occurring within 2-3 weeks of installation. The method of dealing with the issue was to do frequent spot changes of failed bags to avoid breaches of emissions regulations.

The company investigated a number of options in an effort to mitigate the problems. A trial cell of SOLAFT® PrimaFlow™ filter was installed and, after successful trial, the baghouse was fully converted. Implementation of SOLAFT® PrimaFlow™ allowed a significant void volume under the filters to reduce gas velocity and promote ash pre-separation. Since start-up, the pulse pressure has been maintained at 50% of that of the conventional filters.



The differential pressure has remained 30% lower than with the conventional filters while the gas flow rate has been maintained equal to that of the conventional filters. There have been no unplanned corrective maintenance entries to remedy filter abrasion and emissions have been maintained below licensed limit.

With SOLAFT® PrimaFlow™ successfully implemented, the previous abrasion problem and corrective maintenance issues after 2-3 weeks post-installation have been eliminated.



### Benefits of choosing SOLAFT® PrimaFlow™

- We are pioneers in the development of ESBs for large GTCs and scrubbing systems
- Micronics delivers proven engineered filtration solutions for optimal performance in customers' demanding industries and applications
- Micronics has global Industry specialists that understand our customers' business
- Technical support on hand when you need it

The Micronics Engineered Filtration Group is a leading global industrial filtration company consisting of trusted brands – SOLAFT®, AFT®, NFM®, FilterFab, CPE, UPC, and SFM.

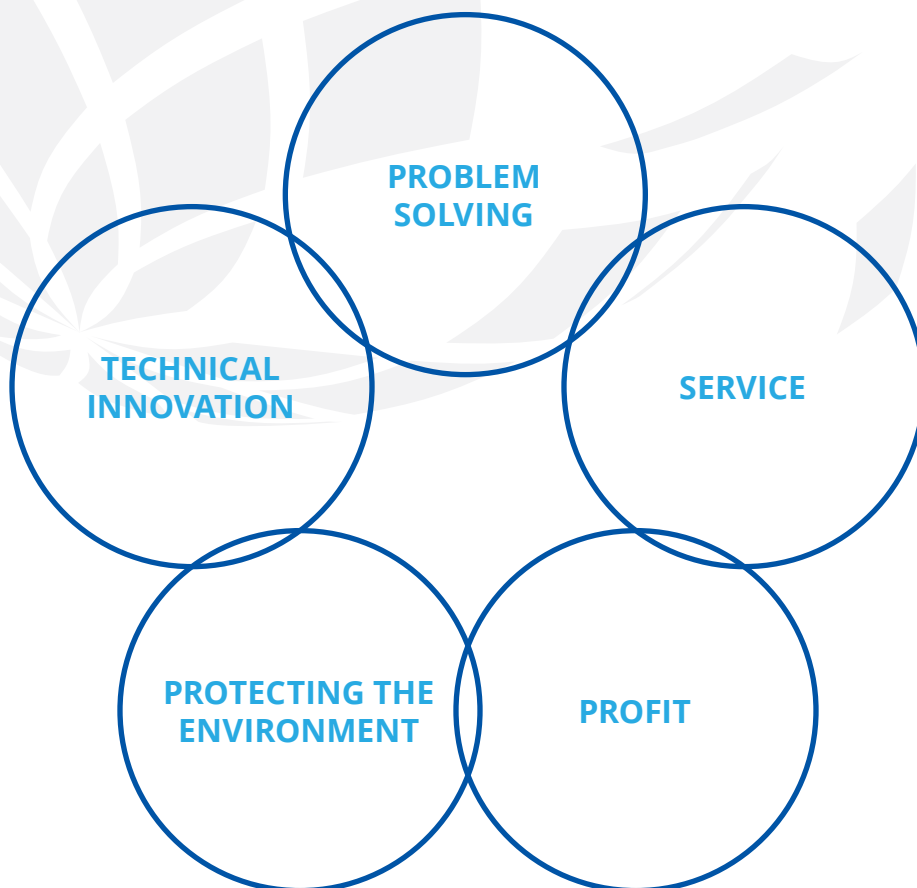
We provide Total Engineered Filtration Solutions including industry-leading filter media, filtration equipment, field services, spare parts & accessories, in-house laboratory services, and training to our valued global customers. Our solutions span Dry Filtration and Liquid Filtration, including both Pressure Filtration and Vacuum Filtration.

Our reputation is built on the specialized filtration expertise of our global team. We are proud of our high-quality filtration product and service operations in the USA, Canada, Mexico, Brazil, the UK, Australia, China, and India. Collectively, we are committed to providing solutions that contribute to Environmental Protection and reduced emissions...today and tomorrow.

Please reach out to the Micronics Engineered Filtration Group to learn more about the SOLAFT® Starbag™, SOLAFT® PrimaFlow™, and our complete range of Industrial Filtration Solutions.

# MICRONICS

ENGINEERED FILTRATION GROUP



MICRONICS

SFM



AFT

SOLAFT



NFM

Filterfab