amafilter®

PRESSURE LEAF FILTER SYSTEMS

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Filtration Group®

Almost 100 years' experience in providing solid liquid filtration solutions across the world.

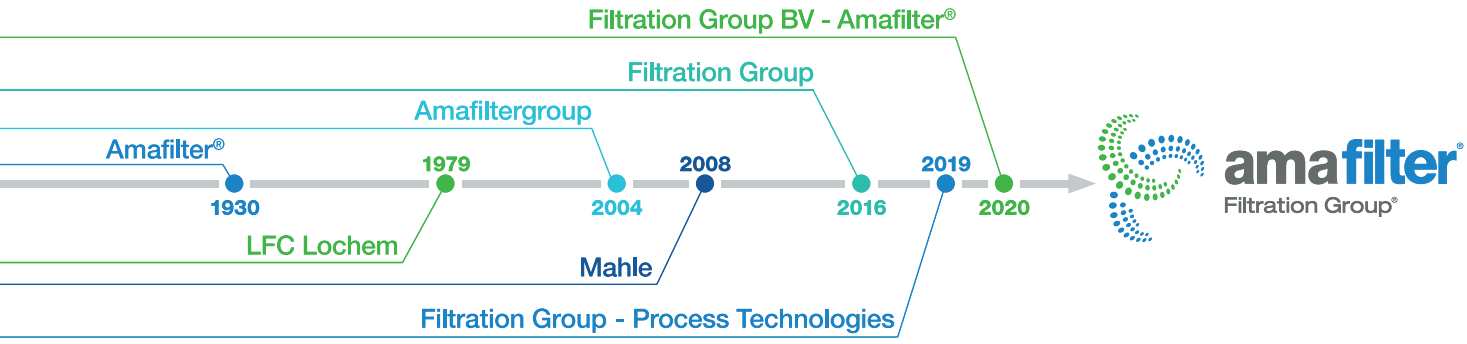
Amafilter® is a Filtration Group brand, specializing in the design, engineering, manufacture and delivery of systems that maximize the efficiency of our customers' plant filtration processes. Our aim is to develop products which deliver cutting-edge filtration solutions that have a direct impact on your process applications and which enable your operations to run more efficiently.

Our expertise is built from almost 100 years' experience of providing filtration solutions across the world in market sectors including food & beverages, minerals & mining and chemical industries. Our expertise covers an extensive range of sector-focused applications, such as beet and cane sugar, artificial sweeteners, cheese brine, cocoa butter and gelatine, within the food and beverages sectors. Our experience also extends to chemical applications such as copper electrolytes, waterglass, oleo chemicals, PTA, brine, activated carbon filtration to name a few, as well as minerals applications.

Our range caters for the most demanding applications and includes the Cricketfilter®, self-cleaning filters and horizontal & vertical pressure leaf filters, as well as process filtration spares.

Our service team delivers world-class service and support across the globe, using our expertise and technical know-how to optimize your filtration process.

We believe in partnering with our customers to provide total filtration solutions throughout the life of a filter. Our experienced laboratory team can assist to optimise filtration processes and maximise efficiencies. We work closely with our customers throughout the process and can assist in the complete design, testing, commissioning and servicing of a project.



Filtration Group®

We understand our customers rely on our knowledge, expertise and experience for innovative filtration solutions.
Customers depend on us – we deliver.

Markets We Serve

Food & Beverages

We understand that the food and beverages industry manage large volumes of products throughout their processes, and that maintaining their quality and cleanliness is paramount. Our extensive product range can be utilized for all areas of the food and beverages market. Sterile conditions in a manufacturing environment improve products longevity, ensure consistent quality and reduce the need for preservatives in the final product.

Our expertise covers an extensive range of sector-focused applications, such as edible oil, beet and cane sugar, artificial sweeteners, cheese brine, cocoa butter and gelatine, within the food and beverages sectors.

Chemical Industries

The chemical market faces various filtration challenges, including the quality of bulk chemicals, intermediates, up to ultra-fine chemicals. Filtration Group has extensive experience in the supply of innovative filtration technologies that provide optimized solutions for the chemical processing industries. Our products are designed to provide the chemical industry with the highest consistency and quality of output, ensuring the removal of any contaminants, hence improving product yield.

Our experience in the chemical industry includes applications such as copper electrolytes, water glass, oleo chemicals, PTA, brine, activated carbon filtration to name a few.

Mineral Processing – Molten Sulphur

Impurities have a significant negative impact on the efficient production of sulphuric acid and operations across the world need to ensure their filtration processes are designed to minimise contamination and ensure the lowest cost of ownership.

Amafilter® has extensive expertise in the molten sulphur sector of the sulphuric acid industry, having designed and supplied pressure leaf filter systems across the globe assisting customers to optimise their molten sulphur total filtration process.

Biofuels

Biofuel production presents unique filtration challenges. The quality of incoming feedstock used in the production of biodiesel can vary extensively. Converting inconsistent feedstock to high quality, pure, renewable fuels that meet ASTM standards requires extensive filtration expertise and appropriate technologies.

Amafilter® can carry out a complete analysis of your plant's processes and recommend the correct filtration and separations technologies to meet the product quality you require.

Pressure Leaf Filter Systems

Selecting the correct equipment for your liquid filtration process is critical in ensuring your manufacturing facility operates efficiently, safely and productively. Our experienced engineers work closely with our customers to design complete filtration solutions to meet their specific requirements.

Amafilter® Vertical & Horizontal PLF Systems

The Amafilter® pressure leaf filter systems are designed to maximise the filtration surface area of the filter leaves and offer optimal bulk filtration in the smallest footprint.

The pressure leaf filter systems produce high filtrate clarity. Different types of filter aids can be used in our pressure leaf filters to improve filtrate quality.

Features & Benefits

- Proven technology.
- The pressure leaf filter is a closed filtration system which ensures safety of use.
- Easy access to the filter leaves for removal of the cake.
- It is fully automated, making it safer and requiring limited maintenance, hence lowering operational costs.
- The regeneration time between the filtration cycles is short, lowering operating costs as the filter can filtrate for longer periods without disruptions. This also delivers greater production capacity.
- Filter leaves are easy to clean.
- The pressure leaf filter system has no rotating parts, keeping maintenance to a minimum.
- Reinforced filter leaves, longer lifetime.
- Special self-sealing cover gasket. The gasket can be re-used and does not need to be replaced after every opening of the filter system cover. The gasket comes with special self-sealing properties to ensure a perfect sealing solution and promote maximum safety.
- All pressure leaf filter systems can be made with a heating jacket in order to maintain elevated process temperatures. This is specifically required to avoid cooling down of the suspension in instances where this is not permitted during the filtration process.

Pressure Leaf Filter Systems - Options

Working together to deliver your filtration efficiencies

- Maximise your liquid filtration process
- Achieve optimal efficiency
- Deliver product quality
- Reduce maintenance costs
- Ensure safety at work

VERTICAL PRESSURE LEAF FILTER SYSTEMS

The Versis® vertical pressure filter systems range only requires a small footprint.

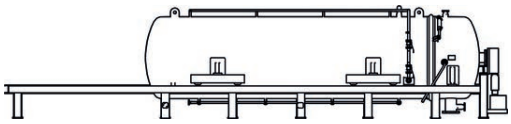
HORIZONTAL PRESSURE LEAF FILTER SYSTEMS

The horizontal pressure leaf filter system is available in larger sizes than the vertical pressure leaf filter system and has a higher dirt capacity. This system can also be delivered as tandem units maximising floor space, as two filters can be fitted in one overhead frame.

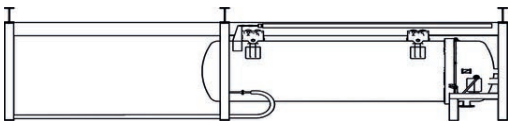
Whilst the cake is being discharged, the horizontal pressure leaf filter systems are fully opened which allows easier and quicker maintenance or inspection.

STANDARD DESIGN DATA	
Tank Material	Carbon Steel, Stainless Steel, etc.
Filter Leaves Material	Stainless Steel
Design Pressure	-1 / 6 barg
Design Temperature	0 / 150 ºC
Max. Allowable DP	4.5 bar
Design Code	ASME VIII Div. 1
Approvals	PED 2014/68/EU SELO 02257 (China) - Optional GOST-R (Russia) - Optional U-Stamp - Optional

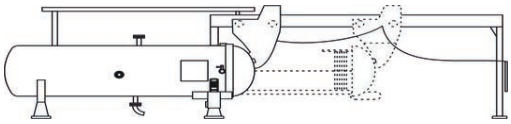
RETRACTABLE SHELL VS RETRACTABLE BUNDLE



Retractable shell with a lower support frame:
The shell is supported by rails & moves over the bundle.



Retractable shell with an overhead suspension frame:
The shell hangs on a support & moves over the bundle.



Retractable bundle:
The bundle of filter leaves moves in and out of the shell.

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Dry / Wet Cake Discharge

Dry Cake Discharge

Pressure leaf filter systems with dry cake discharge are used in a number of applications such as the filtration of sugar, cocoa or edible oils, for the removal of activated carbon, molten sulphur filtration or catalyst recovery.

These systems produce minimal product waste and for some applications the residual product content in the filter cake can be reduced down to approximately 35%. When the cake is the desired product instead of the liquid and the cake is required to be as pure as possible then washing of the filter cake is an option.

The filter cake is normally dried with compressed air, inert gas or steam before the discharge.

Vertical Pressure Leaf Filters

The filter cake is discharged by a pneumatic vibrator through a butterfly valve located at the bottom of the filter which has been specifically designed for easy cake discharge.

Horizontal Pressure Leaf Filters

In a horizontal pressure leaf filter system the complete set of filter leaves can be moved outside the filter tank with an electric or a hydraulic system before cake discharge.

Whilst the cake is being discharged, the horizontal pressure leaf filter system is fully opened. This allows to:

- easily assess the condition of the cake
- ensure that the cake is fully released from the filter leaves
- check the condition of the pressure filter leaves after cake discharge.

Wet Cake Discharge

Pressure leaf filter systems with wet cake discharge are perfectly suitable for applications where:

- the cake formation is too low for dry discharge
- the disposal is cheap (regeneration for wet discharge is shorter)
- the cake/slurry needs to be transportable via a pump.

Special oscillating high impact jet headers sluice the filter cake from the filter leaves.

Filter cloth with low micron ratings can be used for wet discharge. This ensures clear filtrate from the start.

The cake is sluiced through the discharge outlet.

Cake Breakers

Amafilter® cake breakers assist the separation and discharge of compacted cake on a pressure filter leaf by dividing the cake into smaller segments. Cake breakers are ideal as a cost-effective mechanical device to assist with repeated cake separation and discharge.

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Filter Leaves

The Amafilter® Versis® vertical pressure leaf system range and the Amafilter® horizontal pressure leaf filter systems range include an extensive choice of filter leaves designs to suit a variety of market sectors, including food and beverages, chemical and sulphur. The quality and condition of filter leaves can have a significant impact, not only on the productivity of the filtration system but also on its ability to achieve a high performance standard.

Performance

Filter leaves are the most important component of every pressure leaf filter and replacing old or damaged leaves with new or rescreened filter leaves will result in an immediate improvement of the overall performance of the filter system.

Amafilter® filter leaves consist of five layers (ply) of stainless steel wire mesh and are measured to a high degree of accuracy, which increases system productivity and filtration efficiency.

Reliability

Amafilter® filter leaves are manufactured, as a standard, from stainless steel 316L due to its mechanical properties, making them highly resistant to stress corrosion, variances in temperature and extreme pressure changes.

Other alloy materials are available for particularly challenging applications. The design, technology and high craftsmanship involved in the production of our filter leaves results in less downtime for maintenance, increased productivity and extension of the filter leaves life span.

Re-Screening

Our extensive experience in filtration and separation enables us to rebuild and rescreen old and/or damaged filter leaves for almost any make of filter and return them to their original working order.

- Inspected prior to reassembly
- Function as new
- Filter leaves can be rescreened twice
- Extend the life span of the filter leaves by up to 40%
- Other make filter leaves can be rescreened
- Choice of designs and materials are available

Features

- Suitable for use with vertical pressure leaf filters and horizontal pressure leaf filters
- Stainless steel 304(L), 316(L), 904L or super duplex. Other alloy materials on request
- Available in different mesh types and layer combinations
- Extensive range of reinforced frame types with riveted, welded or bolted box profiles suited to the application
- Excellent pre-coating properties
- High filtration efficiency, filtrate quality and flux rates
- Double-sided, stainless steel rigid filter leaves
- Each filter leave consists of five layers (ply) of stainless steel wire mesh
- Low pressure-drop
- Suitable for wet (with filter cloth) and dry cake discharge
- The top layer can be customized to the application
- Re-screening or replacement of filter leaves

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Scan to see our locations:

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