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# CRICKET FILTERS

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Clean processes - Continuously





# THE TOTAL FILTRATION APPROACH

Filtration Group has an extensive product range. Our options range from filter components like filter elements, cartridges, filter housings and modules for large system installations. Tell us your application, and we will advise which product would fit best to support your application.

## **Our Heritage**

With over 70 years of experience in the application of horizontal and vertical Pressure Leaf Filters, Cricket Filters and several other types of filters, Amafilter Group provided a unique spectrum of filtration and separation solutions.

MAHLE acquired the Amafilter Group in 2008, adding the expertise, synergy of technology and filter products of Amafilter, LFC, Nowata, Vanpipe and Eurofiltec to its industrial filtration portfolio.

Late 2016 Filtration Group completed the acquisition of the industrial filtration business of MAHLE. This acquisition gives customers more choice and flexibility in how they can utilize filtration to make their environments cleaner, safer and more productive.

# Your Partner in Filtration

We understand our customer's increasingly demanding and complex process and environmental requirements. Drawing from one of the industry's broadest in-house technology bases, our market specialist application engineering teams are able to design a total filtration solution for you. We are globally positioned with production facilities and regional sales offices in Europe, the USA and Asia. Additionally, in many countries we have agents and distributors.

We believe in partnering with our customers to provide total filtration solutions throughout the life of your filters. Our laboratory can help to optimize your filtration process and streamline your efficiency. We offer a complete design, testing, commissioning and service together with full customer support. We also supply filter spares, elements, leaves and equipment upgrades for most types of filtration equipment.

## Quality and cleanliness of product and plant are the basis of hygienic operation

Chemical - and food processing industries place highest requirements on process quality, cleanliness, systems reliability and products quality. In this respect, our process filtration solutions are used, for example, in the production of sugar, cocoa or edible oils, for the removal of activated carbon, catalyst recovery or for quality improvement.

They filter the finest particles and contaminations from the products and contribute effectively to maximum hygiene, quality and product recovery.

## Chemical Industries

The Chemical market faces various filtration challenges. These can include the quality of bulk

chemicals, intermediates up to ultra fine chemicals. Filtration Group has decades of experience in being able to supply innovative filtration technologies to provide optimized solutions for the chemical processing industries' current and future challenges. Our products and services are designed to provide producers of chemicals with the highest consistency and quality. The removal of any contaminants is essential in avoiding any costly re-work and in improving product yield.

## Food and Beverages

In most processes of the Food and Beverage industries large volumes of products need to be handled. The quality and cleanliness of both the product and the plant are paramount to hygienic operation and process. Filtration Group offers solutions for the different requirements of individual manufacturers, offering efficiency and economy together with reliability.

Our extensive product range can be utilized for all areas of the food and beverage market, ranging from coarse clarification to sterile filtration, for the removal of microorganisms. Sterile conditions allow the manufacturer to improve shelf life, consistent quality and reduction in the addition of preservatives and protection of the final product.



# The result of over 70 years of filtration expertise in various markets

**Optimum performance in both liquid and gas applications and vessel construction**

Filtration Group has been providing integrated solutions for the oil and gas industry and for biofuel producers around the globe for over a decade. We are one of only a few filtration companies that can provide total filtration solutions required to address the unique challenges associated with the oil, gas and petrochemical industry and with biofuel production.

## Oil, Gas and Petrochemical Industries

Filtration Group offers a broad range of outstandingly effective and economic products for crude oil separation and waste water deoiling. Our systems are supremely reliable and require very little maintenance. All systems can be manufactured and fitted in compliance with ASME U-stamp, British Standard and TRCU regulations. Our Systems can be made suitable for ATEX environments and can be expanded with additional safety precautions.

## Main Applications

- Oil derivatives and additives
- Amine
- Down well injection
- Waste water
- Produced water
- De-oiling
- Fuel oil
- Crude oil
- Sea water filtration
- Fuel gas treatment
- Glycol

## Biofuels

Biofuel production presents unique filtration challenges. The quality of incoming feedstock used in biofuel production can vary widely. Converting inconsistent feedstock to high quality, pure, renewable fuels that meet ASTM standards requires extensive filtration expertise to apply the appropriate technologies in a process. Filtration Group can provide a complete analysis of the processes in your plant and recommend the correct filtration and separations technologies and products to deliver the required quality at an economical cost.

## Main filtration processes in biofuel production:

- Filtration of incoming feedstock such as cold pressed seed oils for pure vegetable oil, fuel, crude rendered fat for fuel application and pre-treatment of refined oil.
- Filtration of clay, carbon and silica absorbents from refined oil.
- Removal of haze and sterols from methyl ester(biodiesel).
- Filtration of glycerin to remove solids such as activated carbon.
- Final product filtration.

# Cricket Filter Systems



The Cricket Filter is a pressure filter with a larger specific filtration area than traditional filters due to the proprietary filter elements shape. This unique shape provides an up to 40% higher filtration area. Hence the filter area to volume ratio is superior to cylindrical shaped filter cartridges.

Our innovative Cricket Filter is well known for e.g. Edible Oil, Gelatin, Cocoa and Sugar filtration, Oleo Chemicals, Mining applications, Metal plating bath filtering and Amine cleaning in the Oil & Gas markets.

## System possibilities

The Cricket Filter is used for direct filtration as well as for precoat/ bodyaid filtration. Direct filtration is often possible because of the use of filter cloths. In some applications no precoat is needed. This results in even more economical filtration. During precoat / bodyaid filtration the Cricket Filter is first precoated with a suitable filter aid. During filtration some filter aid may be added into the feed to keep a high filtration capacity during a long cycle time.

At the end of the filtration cycle, the filter cake is dried with air or gas and then backpulsed. The filter cake is discharged through a large bottom valve.

The Cricket Filter, which can be fully automated, produces a high filtrate clarity. Elements are mounted on internal filtrate manifolds. Cake release by backpulsing is done for each manifold individually, this results in a more effective backpulse.

No extra liquid is needed. During the short regeneration time the filter medium is cleaned intensively. The filter element spacing and the filter cloth are selected to suit the filtration needs of the specific application. The filters are standard equipped with a cover lift assembly. The Cricket Filter itself has no rotating parts, keeping maintenance to a minimum.

## The Cricket Filter element

- Unique, patented filter elements on internal filtrate manifolds
- Compact internal volume
- Cake release with minimum back wash liquid
- No solids are deposited in the filter element
- Wide choice of many different filter media (ranging from 1 to 80  $\mu\text{m}$ )
- Intensive cleaning of the filter medium possible
- FDA/EU/bSE/TSE declarations available

## Cricket Filter vs. Pressure leaf filter

The Cricket Filter combines the advantages of Pressure Leaf and Candle Filters, and avoids the drawbacks of both systems.

- Higher filtration velocities
- Easy dry cake discharge through backpulsing
- Less liquid wasted in wet discharging processes
- Flexible use in various applications

## Advantages

- Dry or wet cake discharge
- Variable filter sizes (foot print area) and element spacing
- Large filtration area in small tank volume
- High liquid throughput (up to 10 m<sup>3</sup>/m<sup>2</sup>/h) without cake erosion
- Wide range of applications
- High filtrate clarity
- Short regeneration times
- Continuous filtration possible with multiple filter systems
- Optimized hydrodynamics
- Cake washing possibilities



*Fully automated Cricket Filter station with included polish filters*

# Wide range of process possibilities with variable filter systems

Filtration Group offers a broad range of filtration solutions, allowing a very flexible approach to its customers. We are continually updating our technologies to be able to meet our customers' current and future needs.

## Dry Cake Discharge

Cricket Filters with dry cake discharge are used for example for the filtration of activated carbon or animal fat. These systems create the least product waste (residual liquid content can be reduced to 20 % for specific applications). Cricket Filters with dry cake discharge can also be used, when the solids are the product and the customer wants it as pure as possible (washing is an option). The big valve at the bottom guarantees a proper discharge of the dried cake.

## Wet Cake Discharge

Cricket Filters with wet cake discharge are perfectly suitable for applications where either the cake formation is too low for dry discharge, the disposal is cheap (regeneration for wet discharge is shorter) or the product needs to be transportable by pump.

As no bottom valve needs to be installed, the wet cake discharge filter is the easiest layout of the Cricket Filter.

## Thickening System

The Cricket Filter can also be used as a thickening system, if a higher concentration of a product is required. These thickening applications can be found e.g. upstream of other filter systems.

The Cricket Filter Thickening system can also be used to replace conventional equipment. The cone is specifically designed for easier and faster discharge of the cake or slurry.

## Cricket Filters With Septum Plate

Filtration Group Cricket Filters are based on the current leading technology for cake filtration. The newly developed septum plate range unifies the advantages of PTS polish and Cricket Filters. By using the standard Cricket element with 1500 mm length; proven drain and top cloths can be used. The range is an excellent solution for processes where space is limited, high flows are combined with limited amounts of solids or for limited flows. Also this range is the answer for most processes where a polishing filter is needed.

No internal manifolds, therefore no spray nozzle or height indication needed. This results in a lower investment and less maintenance.

- Side outlet, ensuring a completely drainable septum.
- Improved safety by reducing the use of bag filters.
- The risk when opening bag filter housings is eliminated.
- Space saving through an excellent surface / volume ratio because of unique Cricket element design.
- Improved cloth mounting thanks to the use of the proven Cricket element construction.
- Easy to connect several filters, saving space and investment.
- Easy to automate.
- Very easy cleanability due to less internal parts.



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