amafilter®

FILTRATION FOR COCOA BUTTER PRODUCTION

amafilter®
Filtration Group®

Amafilter®

Amafilter® specializes in providing effective filtration solutions for the Food & Beverages market.

And over the years, we have built extensive expertise in providing companies worldwide with filtration solutions for cocoa butter applications. We pride ourselves in providing high quality filtration systems that deliver continuous cocoa butter filtrate quality whilst keeping maintenance interventions to a minimum and contributing to a safer working environment.

Our team has extensive experience in cocoa butter filtration, and we work closely with our customers to ensure they obtain the best possible results from their process. We can assist with the design, engineering, manufacturing and commissioning of your selected filtration solution and assist you meet your operational goals.

Production

Cocoa butter is what gives chocolate its smoothness and the ‘melt-in-your-mouth’ reaction. However, cocoa butter is not only used in the production of confectionery. It is also used in cosmetic products, such as treatment creams, hair conditioners, moisturisers and lip balms.

By shelling the cocoa beans, followed by crushing, roasting and grinding stages. The product is turned into a raw cocoa mass which is then pressed and split into cocoa powder and cocoa butter.

Common problems in cocoa butter filtration:

- Contamination occurs over time
- Long filtration times
- High disposal costs
- Expensive maintenance and repairs
- Dense cake discharge
- Too many solids in the end product
- Moisture build-up
- Filtration systems which operate with paper sheets to filter unrefined cocoa butter can be labour intensive, require frequent filter changes, increasing operational costs.

Filtration

Why is the Amafilter® Cricketfilter® automated system ideal for cocoa butter applications?

The Cricketfilter® is a stainless steel automated filtration system ideally suited to cocoa butter filtration. And the reason for this is because the filter cloths are designed and developed to meet the specific requirements of cocoa butter filtration.

Once cocoa beans are deshelled, crushed, roasted and ground to release the classic cocoa taste, the cocoa butter still contains between 0.2 - 0.5% of cocoa powder. The Cricketfilter® removes this during the filtration process when unfiltered cocoa butter is pumped into the pressure vessel and pressed through the system until only the solids remain on the filter cloth. The Cricketfilter® uses air or gas pulses to efficiently clean the filter cloths section by section.

Washing and Cleaning in place (CIP) works effectively and does not cause damage to the cloths. A mild washing step is generally included in the Cricketfilter® programme.

As it does not require a vibrator, the Cricketfilter® generally benefits from limited maintenance interventions, reducing downtime and making the filtration process more efficient and cost effective.

Benefits of the Cricketfilter® automated filtration system:

Higher Flux

- 40% greater filtration area
- 40% more cake holding capacity than traditional shaped element

Maximises Installation Footprint

- Up to 20% reduction in footprint

High Quality and Realibility

- The Cricketfilter® stainless steel elements lifespan can extend up to 30 years before being replaced

Excels in Polishing Applications

- Ideal for solid content applications in comparison to existing pressure leaf filter systems

Reduced Operating Costs

- The Cricketfilter® filter cloths can have up to 2 years spare parts replacement cycles

Easy to Clean, Low Maintenance Interventions

- The Cricketfilter® uses air or gas pulses to efficiently clean the elements section by section

Optimal Drainability

- The Cricketfilter® elements are engineeringly designed to provide minimum fluid retention during regeneration ensuring optimal cleansiness

The Cricketfilter® in cocoa butter filtration

Amafilter®
Cricketfilter®

The Cricketfilter® is a well-established automated system developed to combine the advantages of traditional pressure filter leaf systems and cartridge/candle filter systems, whilst avoiding their drawbacks.

The Cricketfilter® proven technology is the perfect solution for separating fine solids from fluids and can be found in cocoa butter applications world-wide.

The Cricketfilter® optimal design reduces maintenance interventions, improves the total cost of ownership and creates a safer working environment.

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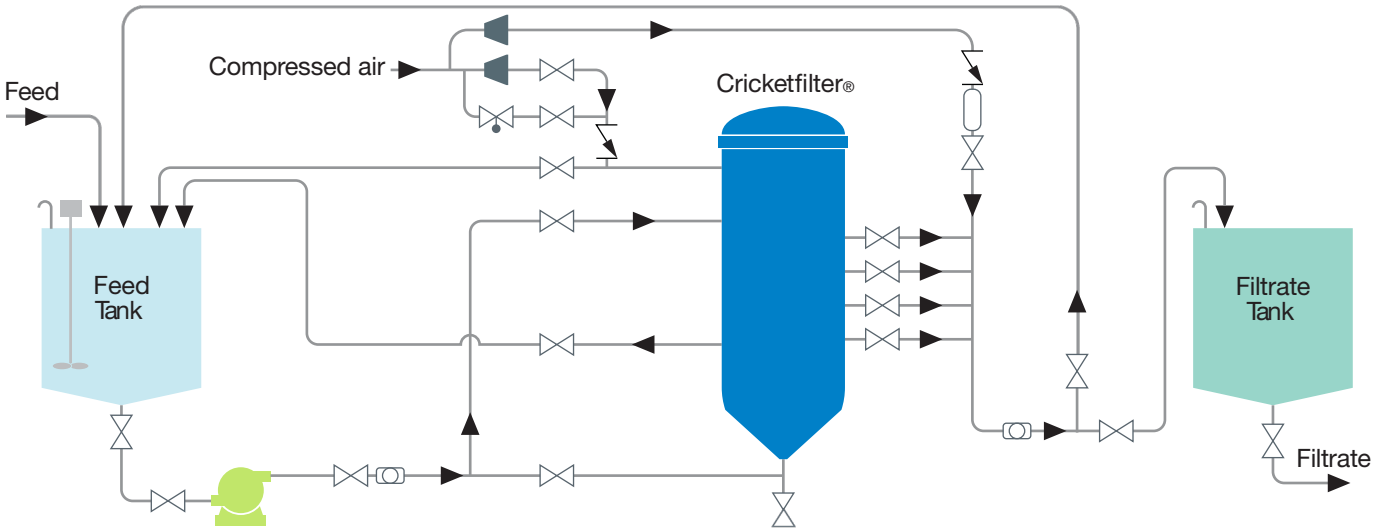
Cocoa Butter Filtration Process

Flow Diagram



The cocoa powder is separated into a cone by sedimentation. And the cake that is left is deposited at the bottom of the vessel before being reintroduced into the tank.
At the end of the filtration process, you are left with refined quality cocoa butter free from solids and contaminants.

The Cricketfilter® can produce cocoa butter with solid contents under 10 ppm. And filter speeds can reach up to 70 to 80 kilograms per square metre of filtration area.

Features and Benefits

FILTER PURPOSE	FEATURES	BENEFITS
The Cricketfilter® is ideal for use in cocoa butter applications.	It provides easy and quick sedimentation during the filtration process.	The Cricketfilter® provides higher concentrations of solids in the filter and higher filtration quality than conventional centrifuges. In this application, one Cricketfilter® is sufficient to replace several centrifuges, reducing investment costs as well as all costs related to spare parts replacements and maintenance interventions.
The Cricketfilter® is suitable for the thickening process in cocoa butter applications.	The solids are collected in the conical bottom section of the tank and can be separately discharged from the filter and returned or forwarded back into the process.	This makes it an efficient process, which is cost effective to operate and limits any product wastage.

	PURPOSE	BENEFITS
Cricketfilter® Cloths	The Cricketfilter® is a one-step filtration system perfectly suited for cocoa butter filtration as the Cricketfilter® cloths have been specifically designed and developed to meet the requirements of this application.	Top and drain cloths extensive product life makes them a cost effective filtration solution
Top cloths	Designed to perform with various liquids at varying temperatures.	Due to the high quality and durability of the cloths, these generally only require replacing every 6 to 9 months in this type of application.
Drain cloths	Designed to perform with various liquids at varying temperatures and to maximise flux capacity.	Drain cloths maximise flux capacity and extend the lifetime of the top cloths. Due to the high quality and durability of the cloths, they generally only require replacing every two years.

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