amafilter®

FILTRATION FOR GELATINE PRODUCTION

Making the world safer, healthier and more productive®

amafilter® Filtration Group®

Amafilter®

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

And, over the years, have built extensive expertise in providing companies across the world with filtration systems for the filtration of gelatine. We pride ourselves on providing solutions that deliver continuous gelatine filtrate quality and provide extended product life.

Our experienced laboratory team can support you in optimising your filtration processes to maximise efficiencies. And we work closely with our customers throughout the process. From the design and testing stage to the commissioning and servicing of the project.

MISSION

We are committed to a better tomorrow and our mission is to make the world safer, healthier and more productive.

Our mission comes alive through the markets we serve, the solutions we provide and how we interact with our teams and customers.

amafilter
Filtration Group

Production

Gelatine filtration is a highly complex procedure that involves the input of the connective tissue of cattle, pigs, poultry or fish into highly technological filtration machinery. The bones and collagen protein are removed from the connective tissue during this process, filtered and processed until it forms into pure gelatine.

Gelatine filtration involves the use of highly complex liquids which need special attention during the filtration process. Depending on the raw material used (hides, skins or bones), the quality differs widely. And during the process, there are usually several filtrations required, ranging from coarse to fine and finally to sterile filtration.

Depending on the process, the gelatine concentration (50 - 200 bloom) and working temperature, the filtration rates can range between 80 - 120 - 200 l/m²/h.

The operation systems must be built to withstand prolonged high processing temperatures of 95°C - 98°C.

A sterilising and/or bleaching chemical (hydrogen peroxide) may be used (pH 1-14). As this chemical is potent, all parts of the filter machine which come into contact with the product must be made of a high-quality stainless steel grade of AISI 316L (1.4435) or above.

Filtration

Why filtration is important in this application?

Gelatine is commonly used as a gelling agent in food, pharmaceuticals, photography and cosmetic manufacturing. And it is found in grocery store products like gummy sweets, yoghurt, marshmallows, gelatine desserts, and some ice creams and dips, so it is imperative no bone or hard connective tissue reaches the customer.

The gelatine manufacturing process involves a series of complex steps, beginning with the washing and extracting of raw materials before the critical filtration stages due to the high level of contaminants solid matter present in the initial raw materials.

Common problems in gelatine filtration:

- Product loss if the correct equipment is not used, resulting in loss of production and profitability.
- Unfiltered product flowing downstream and blocking the system, resulting in downtime.
- Removal of small micron impurities making filtration difficult.
- Depending on the process, the gelatine concentration (50-200 bloom) and working temperature, the filtration rates vary widely and range from 80-120-200 l/m²/h.
- It is subject to a wide and variable range of viscosities plus varied flow.
- It operates at a high processing temperatures of 95°C - 98°C.
- All parts which come into contact with the product must be of high-quality stainless steel of AISI 316L (1.4435) or better.

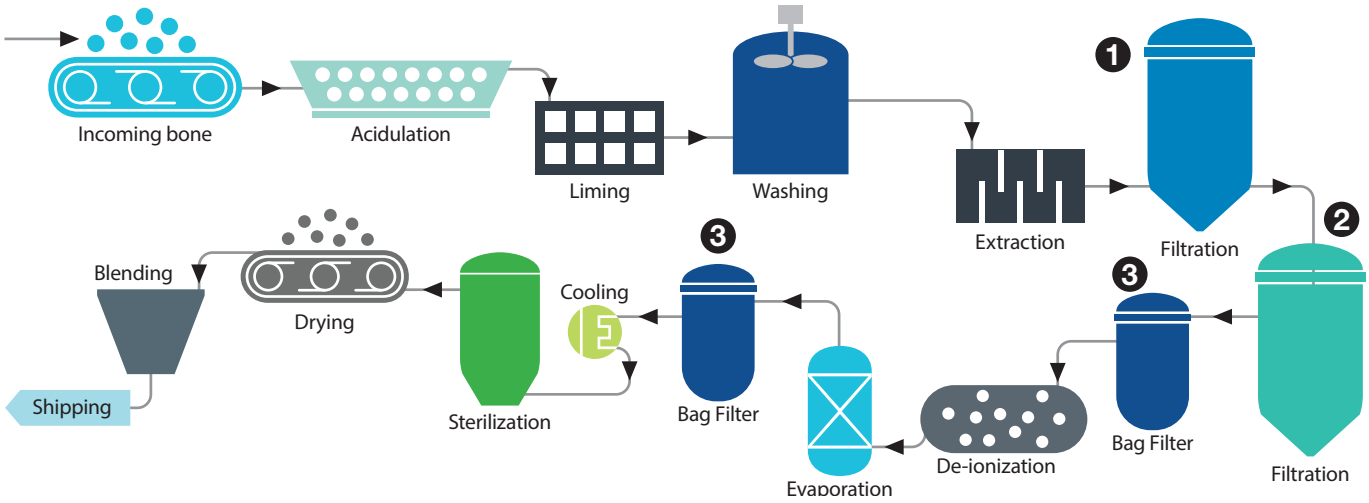
Cricketfilter® in gelatine filtration

Amafilter®
Cricketfilter®

Benefits of Cricketfilter® in gelatine filtration

- Up to 40% larger filtration area than traditional pulse tube filter systems
- Large filtration area within a small footprint
- Hermetically closed system and can be fully automated
- Suitable for direct cloth filtration or pre-coat/body-aid filtration
- High filtrate quality
- Filters at high concentrations levels of between 50-200 bloom
- Can process at high temperatures of up to and between 95°C - 98°C
- Easy to clean
- It uses air or gas pulses for cleaning the elements section by section without requiring a vibrator
- Low maintenance cost
- Less need for human intervention during maintenance, reducing the need for manhandling time and improving on-site and processing safety
- Suitable for a wide range of applications
- Can be used with filter cloths of various pore sizes and materials to reduce the amount of pre-coating needed
- Improved operation and process efficiency

Features and Benefits



1 - CRICKETFILTER® AUTOMATED SYSTEM - Removal of particles

FEATURES	BENEFITS
The Cricketfilter® is ideal for separating fine solids from fluids and is extensively used in applications such as gelatine.	Protection of the downstream equipment before de-ionization to avoid blockages which can cause the system to break down.

2 - CRICKETFILTER® AUTOMATED SYSTEM - Used as a second step when required only

FEATURES	BENEFITS
The Cricketfilter® is used as a second filtration step to reduce colour content for specific applications such as food and pharmaceutical.	This delivers a higher quality of end product.

FEATURES AND BENEFITS APPLY TO BOTH FIRST AND SECOND STEP FILTRATION	
Due to the design of the Crickefilter® element, the Cricketfilter® has up to 40% more filtration area and can hold up to 40% more cake compared to a traditional round shaped element.	This enables the plant to increase gelatin production volumes whilst keeping the same high levels of hygienic standards.
The automated cleaning programme optimises the cleaning of the filter elements and filter containers.	This increases the service life of the filter cloths by several years, reducing operating costs.
The Cricketfilter® can be fully automated.	Leading to lower maintenance and reduced downtime.
The automated cleaning programme optimises the cleaning of the filter elements and filter containers.	This increasing the service life of the filter cloths by several years, reducing operating costs.
The filter cloths have been specifically designed with pore sizes ideally suited for the gelatin application.	This reduces and at times eliminates the amount of extra pre-coating needed, making the filtration process more efficient and economical.

3 - BAG FILTER - Used for police filtration

FEATURES	BENEFITS
To protect the downstream equipment.	To ensure the product quality standard expected remains uncomprimised.

Features and Benefits

Aftermarket

CRICKETFILTER® CLOTHS

Top and drain cloths extensive product life makes them a cost effective filtration solution.

	PURPOSE	BENEFITS
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 low spare parts replacements, averaging from 6 to 12 months. This reduces maintenance interventions, improves downtime and makes the operation safer.
Drain cloths	Designed to perform with various liquids at varying temperatures and 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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Scan QR Code to find our locations

+31 573 297 777

info.fgnl@filtrationgroup.com

www.amafiltration.com

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