ultrafilter®
international

We are getting better, every day, for you. We are known all over the world for our know-how, quality, service and an experienced management. If there is anything that you need in the area of filter and dryer systems our products can be tailored to meet your demands.

We offer system engineered solutions to your problems. Efficient, individual, and optimal.

We do not invent, we find. Our competence, creativity and innovation has one consequence: We always hit on a solution. The decision is made in the present and the view is directed to the future. Intensive research and development have made us gain a high measure of knowledge and experience. This is what we make available to you professionalism at a favourable price. True, we take something away from you, your troubles.

NEW UNIQUE STERILE AIR TECHNOLOGY

from moodydirect

See back page (pg20) of this booklet for further details on the P-SLF-Box

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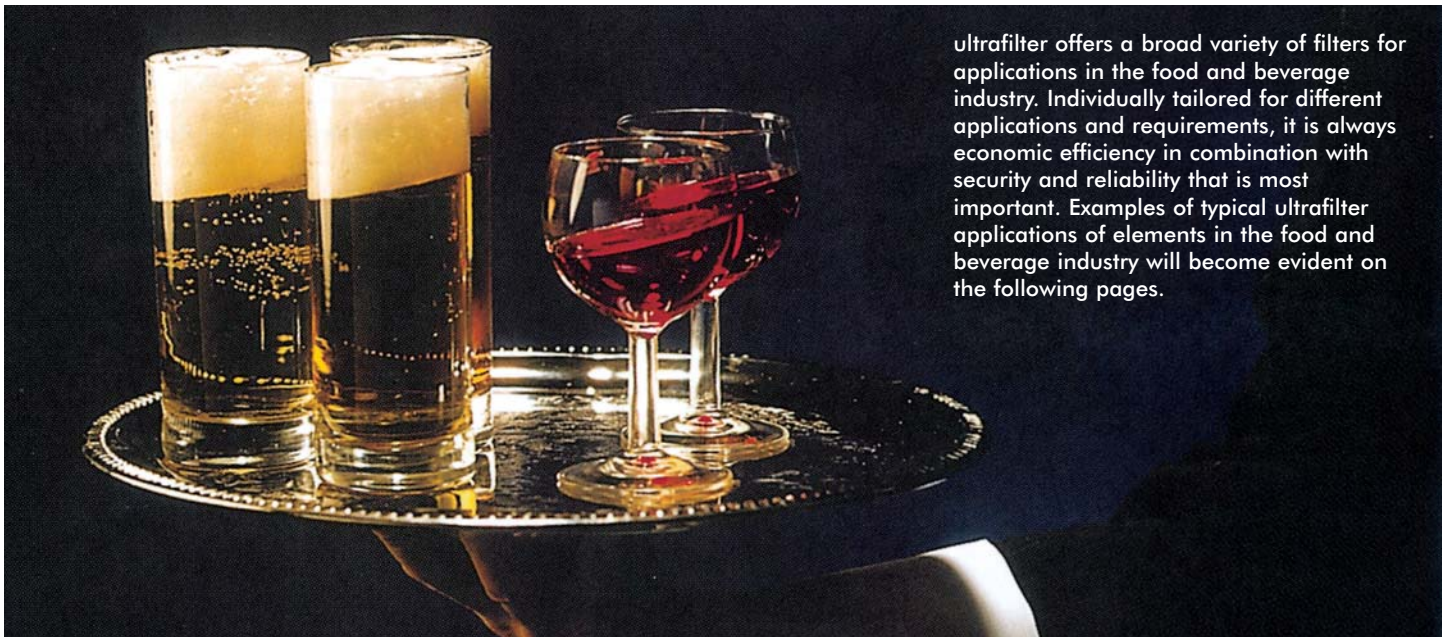
ultrafilter in the Beverage Industry



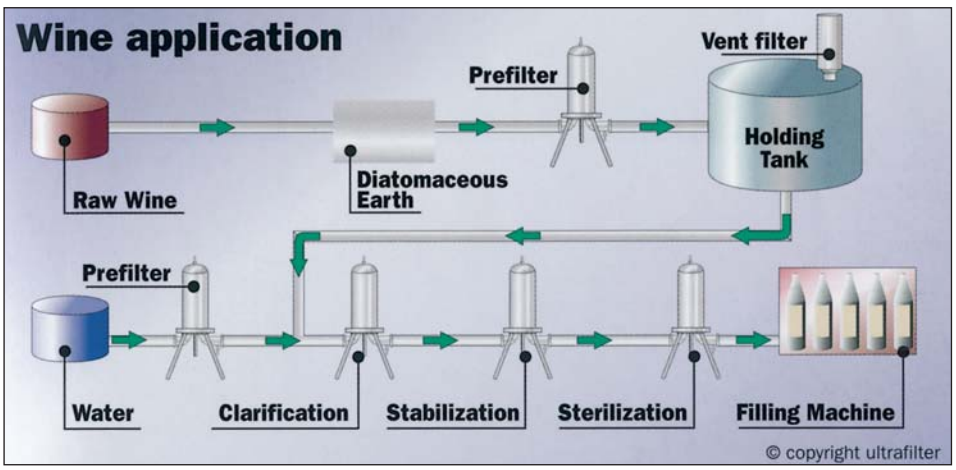
ultrafilter offers a broad variety of filters for applications in the food and beverage industry. Individually tailored for different applications and requirements, it is always economic efficiency in combination with security and reliability that is most important. Examples of typical ultrafilter applications of elements in the food and beverage industry will become evident on the following pages.

Wine

The filtration of wine should neither affect the taste nor the colour of the wine.

ultrafilter offers depth and membrane filters for the filtration before filling and cold stabilisation after the D.E. filter.

This removes micro-organisms, bacteria and particles effectively without influencing the "spirit of the wine". A typical application in the filtration of wine is shown below



Beer

In the production of beer ultrafilter offers depth and membrane filters for the removal of particles, bacteria and yeast. This process follows the Diatomaceous Earth filtration (D.E. filter) before filling.

Not all breweries have sediment free water sources, it is recommended, for these applications, to filter the water in order to ensure a consistent input quality of the beer.

ultrafilter in the Food Industry

Dairies

The processing of milk in dairies can be described as follows:

In a first stage the milk is separated into cream and milk with a reduced fat content.

After this separation the milk is usually thermally treated (heated or chilled) to reduce the amount of bacteria or prevent them from growing.

After this second stage the following process should take place under sterile conditions.

- **Approved milk**
- **Milk shakes**
- **Pudding**
- **Ice cream**
- **Milk powder**

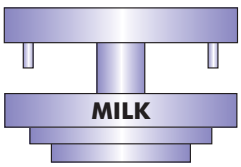
Beside these products there are other so called sour milk products such as:

- **Yogurt**
- **Butter**
- **Créme Fraîche**
- **Curd**
- **Cheese**

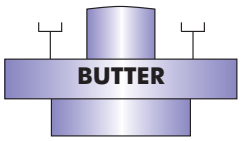
Fresh milk:
Sterile overlay of the intermediate holding tanks and filling.

H-milk and H-milk mixed:
Sterile bracing of the aseptic buffer tanks between the UHT and filling.

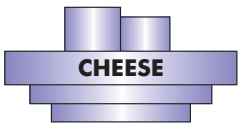
Milk mixed:
Sterile overlay of the intermediate holding tanks and filling.



Butter:
Bacteriophage free operation during cream formation.

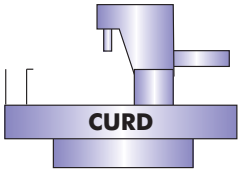


Cheese:
Bacteriophage free operation during the culture breeding and storage.

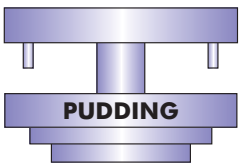


Milk products mixed:
Bacteriophage free operation up to fertilisation. Sterile operation during filling and in the process environment of mixing and preparation.

Curd:
Bacteriophage free for starting culture absolutely necessary. Filling under sterile condition (also for additives).



Pudding:
Bacteriophage free operation up to filling, also for additives. This especially applies to multilayered products. (e.g. Fruit, Pudding, Creme).



Sterile means that equipment such as, storage or holding tanks,mixer etc, which comes into contact with the actual product do not cause any bacteriological contamination.

The advantage of these sterile conditions are mainly:

- Best possible and consistent quality
- Extended shelf life of the product
- Reduction or exclusion of preservatives
- Protection from fermentation bacterias and no foreign growth

Sterile conditions improve the market potential of dairies because a longer shelf life could allow them to develop new markets, reduce the loss of products due to foreign growth in the fermentation process, and improve the manufacturing process ensuring consistent quality of the product.

To achieve the required sterile conditions, ultrafilter offers a complete range of products which meet the high demands of the dairy industry and fulfil the requirement for contact with food according to FDA regulations.

Sterile conditions can be achieved by the following actions:

- Sterile storage of milk, milk products and additives (e.g. fruit, water or flavours) only in sterile vented and bacteriophage free tanks.
- Transportation of powder products only in sterile compressed air or other sterile filtered gases.
- Purging of storage or holding tanks with a laminar flow of sterile air.
- Regular cleaning and sterilisation with steam, sterile water or chemicals.
- Aseptic filling and packaging of the final product under a sterile atmosphere to prevent bacteria penetration.

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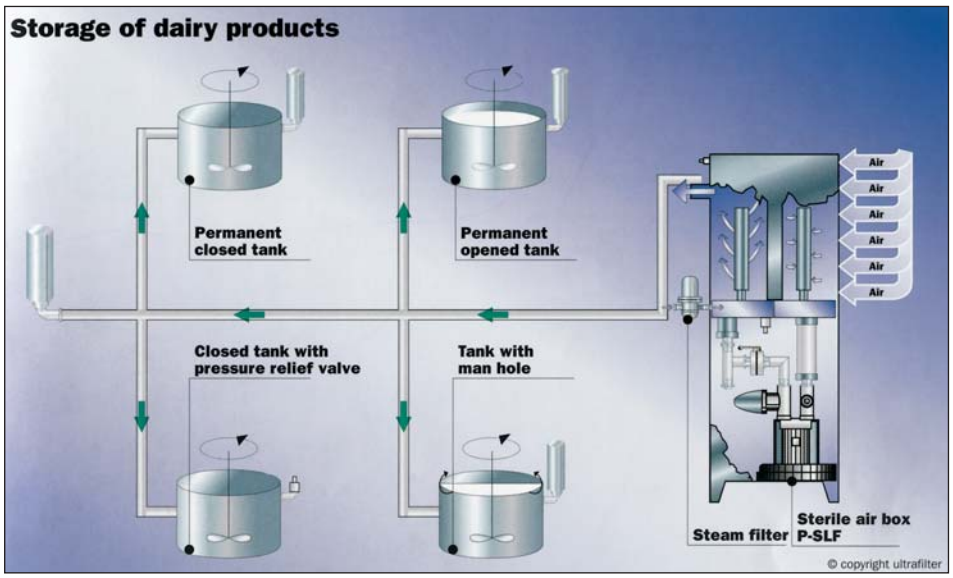
Dairies

Typical applications for the sterile storage of dairy products are shown schematically in the picture opposite.



Tank venting and storage with laminar flow of sterile air.

APPLICATIONS	PROCESS MEDIUM	RECOMMENDED ULTRAFILTER SYSTEM	PORE SIZE
Purging of storage and mixing tanks with sterile air	Air	ultradepth P-SLF	0.01 µm at 99.999%
Venting of storage and mixing tanks	Air	ultradepth II P-BE	0.01 µm at 99.999%
		ultrapolymem P-PF-PP	0.1 - 0.2 µm
		ultrateflomem P-PF-PT	0.1 - 0.45 µm

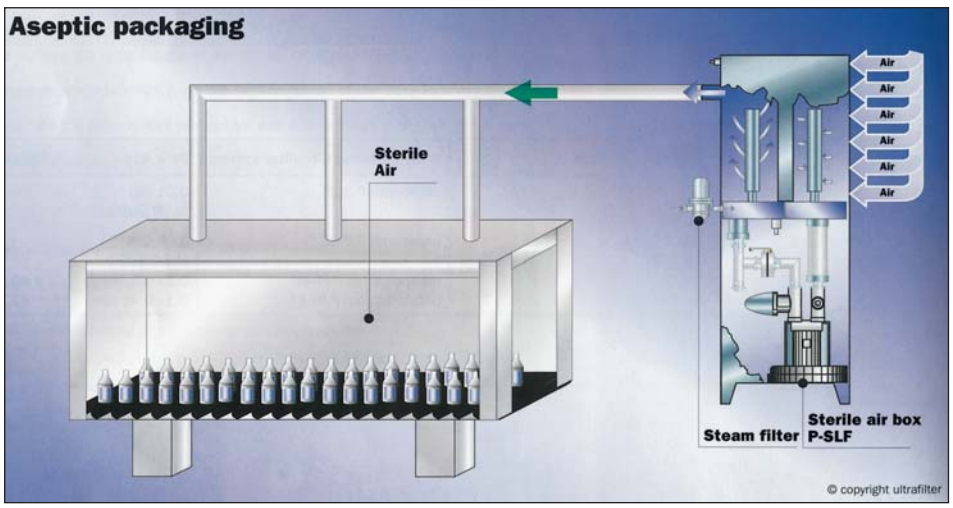
Packaging machines

The food industry is heading more and more in the direction of aseptic packaging or filling and away from thermal treatment or preservatives to extend the shelf life.

This relatively new method has the advantage of an absolute continuous process and a reduction in energy consumption, a better flexibility to store the products and it also avoids the necessity for the cooling of the product since the filling takes place under cold conditions.

Ultrafilter offers specifically for these applications a large variety of solutions to improve the shelf life of the products without using additional additives or preservatives.

One solution for this problem is the sterile air box P-SLF. The function of this system is sometimes integrated into the filling machine by using pre- and sterile filters or the system is used as an external unit.



Aseptic filling/packaging

APPLICATIONS	PROCESS MEDIUM	RECOMMENDED ULTRAFILTER SYSTEM	PORE SIZE
Purging of storage and mixing tanks with sterile air	Air	ultradepth P-SLF	0.01 µm at 99.999%