



Considering individual customer requirements, we design and realise complete tailor made processing lines for the food and dairy industry:

- Reception systems for milk, cream and whey
- Tank storage
- Milk pasteurisation, milk skimming
- Milk standardisation in terms of fat and protein
- Cheese milk pre-treatment and configuration
- Production lines for fermented milk products
- Cream treatment
- Culture preparation and dosing
- CIP/SIP systems and energy recovery systems
- Piping systems

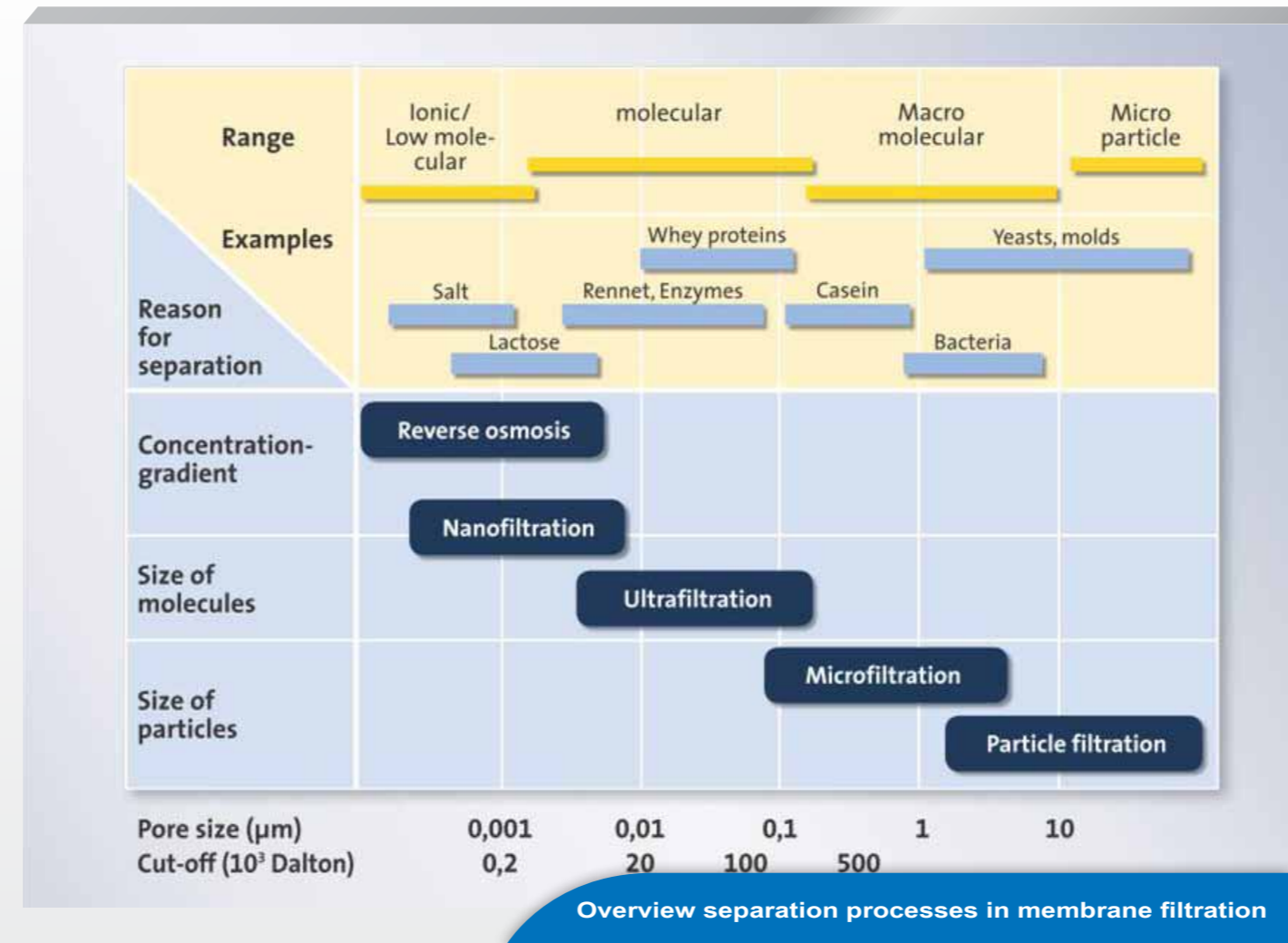
We take on the job of project management and construction of membrane filtration systems, including the installation of complete control and automation system.

Depending on the precise application, we combine the following technologies:

- Microfiltration (MF)
- Ultrafiltration (UF)
- Nanofiltration (NF)
- Reverse Osmosis (RO)
- Continuous / batch production
- Semi- and fully automatic systems
- With organic (polymere) and/or inorganic (ceramic) membrane



Pasteuriser room in a cheese plant / dairy



Membrane Filtration of Milk



MF for ESL milk

- MF for the manufacture of MicCC (Micellar Casein Concentrate)
- MF for spores and bacteria removal for production of premium ESL milk
- MF / UF / RO for producing lactose reduced/free (L-)ESL milk
- UF for producing MPC (Milk Protein Concentrate) and milk permeate, for the production of cheese, curd cheeses, cream cheese, yoghurt and yoghurt drinks, for example
- NF / RO to concentrate whole- and skimmed milk
- RO High^{TS} process

Membrane Filtration of Whey



UF for WPC

- MF for removing fat from whey and WPC (Whey Protein Concentrate)
- MF for spores and bacteria removal from whey and whey concentrates
- UF for producing WPC 35 / 50 / 60 / 80
- UF with diafiltration for producing WPI 90+ (Whey Protein Isolate)
- NF for demineralising sweet and acid whey (DEMIN)
- NF / RO for concentrating whey and UF permeate
- RO High^{TS} process

RO High^{TS} Process



RO High^{TS}

Process for the production of milk and whey concentrates with extra high total solids of 25 - 35 %TS (awarded with International FoodTec Award in 2015).

Benefits:

- Reduces transport costs by up to 80%
- Energy savings, up to 50% as compared to evaporation methods
- Reduction of CO₂ – emission / improved green foot print
- Increases existing evaporation capacities

Industrial applicable results:

- 25 - 27% TS for UF permeate
- 28 - 30% TS for sweet whey
- 28 - 30% TS for skimmed milk
- 33 - 35% TS for whole (full fat) milk



(L-)ESL milk installation



Fully automatic system for UF White Cheese



UF white cheese

Process set-up:

- Milk pre-heating to UF temperature
- UF system
- Homogeniser
- UF retentate HTST pasteuriser
- Heat holding and cooling
- Cold buffer
- Pre-heater for UF concentrate
- Filling / coagulation / sealing
- Built entirely on a unit-based system

MF system for brine treatment



MF brine treatment

Advantages:

- Reduction in moulds, yeasts and bacteria up to log 5
- No heat treatment
- pH value remains unchanged
- Minimal chemical changes
- No filter additive required
- Continuous operation (retentate as little as 0.5 – 2.0 %)
- Brine baths can be operated without interruption
- Reasonable investment and low operating costs

Properties of the cleaned brine:

- No cheese fines or other particles in brine
- Clean, light yellowish green colour
- Pleasant, fresh smell
- Hygienic appearance



MF brine

Pilot Plants



CreamoProt pilot plant

Advantages:

- Manufacture of test products using your in-house ingredients
- Assurance in terms of industrial plant dimension, process and product quality
- Reduce risk of false investment

There are a number of membrane filtration and CreamoProt pilot systems available as rental units with support provided by an application engineer.



MF/UF/NF/RO plant

CreamoProt® - Process for profitable whey processing



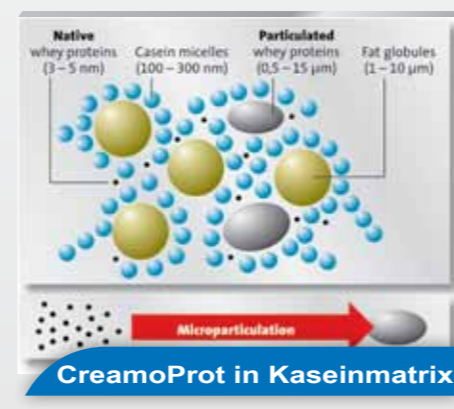
CreamoProt

Process:

- Whey protein product with 8 - 10% total protein content
- Microparticulated WPC from sweet or acid whey
- Denaturated, ball-shaped whey protein structure
- Produced from sweet or acid whey

Benefits:

- Improvement in texture of reduced-fat "light" products
- Fresh & liquid whey utilisation
- Replacing casein and fat with less expensive, healthier whey proteins
- Increased water binding capabilities for increased yield / improved quality
- Suitable for soft and semi-hard cheeses, cottage cheese, cream cheese, ice cream, whey-based drinks, desserts, yoghurts or dressings



CreamoProt in Kaseinmatrix



CreamoProt plant 2.500 l/h



CreamoProt plant 1.800 l/h

KNOW-HOW FOR YOUR SUCCESS

Focus on Essentials



ALPMA Alpenland Maschinenbau GmbH
Alpenstraße 39 - 43
83543 Rott am Inn
Germany

Tel.: +49 80 39/4 01-0
Fax: +49 80 39/4 01-1 96
info@alpma.com
www.alpma.com



LTH Dresden Branch of
ALPMA Alpenland Maschinenbau GmbH
service@lthdresden.com
www.lthdresden.com

Technical alterations reserved. As per 04/2017

