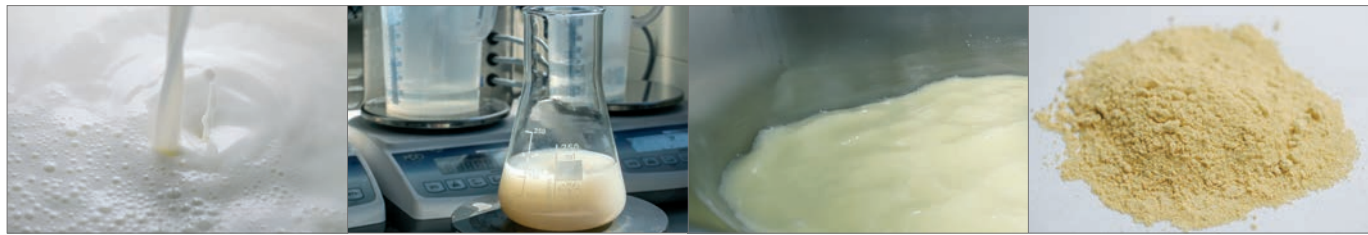




MEMBRANE FILTRATION FOR

DAIRY APPLICATIONS

MEMBRANE FILTRATION FOR



Membrane filtration from well-known to innovative applications

MMS is an innovative company who works closely with our customers and suppliers to create new or improved membrane-based solutions. We have more than 25 years of experience in well-proven, large-scale dairy applications for milk and whey. By fine-tuning system design and operating parameters like membrane selection, processing temperatures, and operating pressures, MMS has continuously improved these standard applications.

With application knowhow in a wide range of industries and our dedicated laboratory in Zurich we are ideally positioned to support our dairy customers with new applications.



Sustainable innovations

The dairy industry is facing challenges that demand innovative and sustainable approaches. One pressing concern is the environmental impact of greenhouse gas emissions and water pollution. To address this, the industry needs to adopt novel, sustainable practices



such as renewable energy sources, and responsible water usage.

MMS can support these needs. Our commitment to innovation and continuous improvement drives us to develop new technologies and applications that meet the evolving needs of our customers. MMS has optimized our units to reduce energy consumption. We have developed smart solutions for water recovery and water re-use, and we invest heavily in applied development to ensure that our solutions remain at the forefront of membrane filtration technology.

Cross-industry approach

We work across many different industries: dairy, food, beverage, pharma, biotech, extracts, and water management. We have expertise in all filtration processes: microfiltration, nanofiltration, ultrafiltration, and reverse osmosis.

This provides us with a unique opportunity to combine cross-industry experiences and utilize them to enable new processes for our customers. A strong team of innovative experts pick up new market trends, ideas, and challenges from customers in different industries — and connect the dots.

DAIRY APPLICATIONS



Dairy Industry Membrane Filtration Applications

APPLICATION	PROCESS	BENEFITS
Skim milk concentration up to 30 % TS (35% TS is possible please ask our specialists)	RO/NF	Reduces energy costs on evaporators Reduces transport costs
Sweet whey concentration up to 24 % TS (28% TS is possible please our specialists)	RO/NF	Reduces energy costs on evaporators Reduces transport costs
Acid whey concentration up to 24% TS	RO/NF	Reduces energy costs on evaporators Reduces transport costs
Lactose concentration up to 24% TS	RO/NF	Reduces energy costs on evaporators Reduces transport costs
Milk protein concentrates (MPC50, MPC60, MPC85)	UF	Fractionates proteins from lactose
Whey protein concentrates (WPC35, WPC50, WPC85, WPI)	UF	Fractionates proteins from lactose
Polishers for RO permeates	RO	Removes impurities from water for its re-use
Polishers for condensate water recovery	RO	Removes impurities from water for its re-use
Microfiltration for whey defatting	MF	Removes fat from whey allowing for higher grades of WPC
Micellar Casein Concentrates (MCC)	MF	Fractionates micellar casein from whey proteins
Bacterial reduction of skim milk and whey	MF	Removes bacteria from skim milk and whey solutions
Standardization of milk prior to cheese production	UF	Concentrates protein prior to cheese production
Standardization of milk prior to skim milk powder production	UF	Adjusts protein levels prior to skim milk concentration and drying
Partial demineralization of whey	NF	Removes ash from whey or lactose
Oligosaccharide fractionation	NF	Fractionates larger sugars from smaller sugars
Lactoferrin concentration and demineralization	UF	Concentrates lactoferrin and demineralizes
Concentration of fermented products to produce skyr, Greek yogurt, quark, or cream cheese	UF	Concentrates fermented products to 8-12% protein and 40% fat
Cheese brine bacterial reduction	MF	Removes bacteria from brine solutions
Salt solution reuse	NF	Removes impurities from salt solutions for its reuse
Wastewater treatment for water reuse	UF/RO	Treats biologically treated wastewater for its reuse within the factory

PILOT SYSTEMS & PROCESS DEVELOPMENT SERVICE

MMS specializes in the development of membrane processes. Our goal is to support our customers to establish a complete solution, including technical feasibility studies and cost estimates at an early stage of development. Through our dedicated membrane laboratory in Zurich, we have helped customers develop hundreds of process solutions. Please refer to our leaflets on Pilot Systems and Process Development Service for more information.



why choose MMS

- We offer solutions and guidance for all stages from development through pilot trials to full-scale systems.
- We understand the technology and processes and match them to your needs and requirements.
- We have more than 25 years of experience.
- We are open to new ideas and opportunities.
- We are easy to communicate with in all respects.
- We innovate based on customer challenges and cross-industry experience.
- We are independent and do not represent any specific manufacturers

CONTACT US

MMS
Membrane Systems

Zurich Office

MMS AG Membrane Systems
Im Grossherweg 11
8902 Urdorf
Switzerland
T: +41 (44) 735 59 00
info@mmsx.com
mmsx.com

Nordic Office

MMS Nordic
Ørstedsvej 14A
8600 Silkeborg
Denmark
T: +45 7090 9030
info@mmsnordic.dk
mmsx.com