



# MMS MEMBRANE SYSTEMS

**MEMBRANE FILTRATION FOR ALL INDUSTRIES** 

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# Your Trusted Partners in Membrane Filtration Technology

MMS Membrane Systems is a leading company in membrane filtration technology that offers a wide range of solutions for various applications and industries, such as dairy, food, beverage, biotech, chemical, extracts, and water reuse.

We use our cross-industry experience to enable new processes for our customers and provide reliable and innovative solutions for your membrane separation needs, whether clarification, fractionation, or concentration.



We have more than 25 years of experience in membrane process know-how, have installed a considerable number of industrial systems, and developed hundreds of applications in our membrane laboratory.

MMS boasts a team of experienced engineers and designers capable of delivering tailored solutions to meet customer-specific requirements. Additionally, our in-house workshop ensures high-end welding and manufacturing, complemented by a dedicated automation team equipped for optimal performance and efficiency.



**Engineering and Technology** 

Membrane technology involves a large number of disciplines and skills, from understanding the molecular behaviour of feed material, its interaction with organic or inorganic membranes, to understanding how engineering components will fit together to form a complete design with the required automation to enable reproducible high-performance processing.

MMS offers all membrane filtration technologies from microfiltration, ultrafiltration, nanofiltration to reverse osmosis.

# Process Development Service and Piloting

MMS specializes in the development of membrane processes. Our goal is to support our customers in establishing a complete solution, including technical feasibility studies and cost estimates at an early stage of development.

We have developed an extensive range of pilot systems ranging from 2 - 10,000 ltr. - perfect for evaluation of potential and viability of concept. We support our customers with process development through a dedicated membrane laboratory in Zurich or on-site, whilst we train you on our pilot units.

Please refer to our leaflets on Lab&Pilot Systems and Process Development Service for more information.



#### **Examples of MMS Industrial Applications**

DAIRY
Milk concentration (up to 35% TS)
Whey protein concentrate (WPC 35-85)
Milk protein concentrate (MPC 50-90)
Native whey and MCC production
Whey concentration
Whey demineralization
Milk and whey sterilization
Fractionation of oligosaccharides
Fractionation of whey proteins
Brine water treatment

#### EXTRACTS

Extraction of grass protein (RuBisCo)
Fractionation & concentration of plant extract
Concentration of algae protein
Concentration of aromas & fragrances
Extraction & concentration of natural colors
Concentration of coffee extract

CHEMICAL
Clarification & purification of organic acid
Concentration of organic acid
Purification of isopropanol
Concentration of inorganic salts
Reuse of CIP caustic and acid
Reuse of condensate
Separation of oil/water
Clarification of polysaccharides



#### FOOD & BEVERAGE

Protein fractionation & concentration

Extract fractionation & concentration

Hydrolysate fractionation & concentration

Sugar fractionation & concentration

Dealcoholization of beer, wine, and cider

Ethanol recovery

Juice clarification & concentration

Coffee condensate reuse

Soya milk de-bittering and concentration

Gelatine clarification and concentration

#### BIOTECH

Fermentation broth clarification

Protein and enzyme concentration

Concentration and desalting of pharma ingredients

Removal of wastewater contaminants

Peptide concentration & de-salting

Oligosaccharide purification & concentration

#### WATER REUSE

Process wastewater recovery and reuse

COD & TOC reduction in process water

Oil removal from water

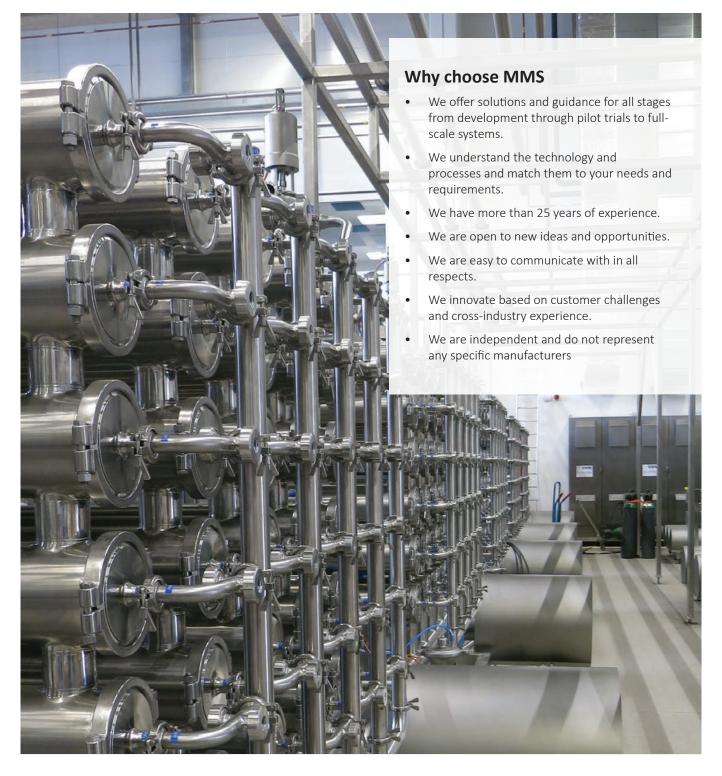
Condensate water polishing

White water treatment

Brine water treatment

Salad water treatment

Sweetener wastewater treatment



#### **CONTACT US**

#### **Zurich Office**

MMS

**Membrane Systems** 

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

# MMS ID 100EN • 02/2024