



NIJHUIS MEMBRANE SOLUTIONS (NMS)

Water Reuse solutions to reduce your water footprint and facilitates in zero liquid discharge



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Water scarcity and stringent discharge standards have raised industrial interests in wastewater reuse. Water reuse used to be an ideal circular concept which is not yet practically practiced in industries. However, the dwindling supplies of natural resources of water have become a serious constraint for industrial growth.

Meanwhile, ever more stringent discharge standards are imposed by the authorities to protect the environment. With the advent of membrane technology and significant improvements in efficiency and cost effectiveness, the competitiveness of recycling over discharge has greatly increased



About Nijhuis Membrane Solutions - NMS

By incorporating membrane technology, industries can be self-supporting in water and maintain a sustainable growth. Nijhuis Industries is proving a wide range of in-house membrane building blocks (NMS), reducing the water footprint per SDG's, facilitating into zero liquid discharge and increasing the brand awareness. Wastewater reuse is becoming an operational key for industrial growth under water scarcity and pollution concerns.

We are integrating Ultra filtration, Direct Nano-filtration, Reverse Osmosis and Electrodialysis Reversal units into a complete turn-key water polishing and reuse plant, based on the highest possible industry standards and quality.

Latest developments of standardisation the different type of membranes for the light industries applications with inclusive features for standard scope and add-ons as options to be applied per client & industry needs. This allows Nijhuis Industries to fast react on our customer requests and have the first discussion for conceptual water reuse plants. Furthermore, we are able to create the best business case via selecting the optimum module per application.

NMS FACTS:

- High quality and robust process drinking water
- Turning wastewater into recoverable water
- Reducing the water intake and wastewater discharge costs
- Solid selection of Nijhuis treatment steps, technologies and smart engineering

NMS BENEFITS:

- In-house manufacturing if needed / Dutch craftsmanship
- Compact design and modular concept possibilities when footprint or other factory restrictions are applied.
- Highest possible industry standards and quality
- Dedicated design for industrial effluent/reuse applications
- Future proof with extension possibilities
- Towards zero liquid discharge
- Reduced wastewater discharge cost
- Drinking water certified

NMS IMPACT:

- Increased sustainability by reducing the water footprint
- Water for food, water for industry, water for life!

“ APPLYING NIJHUIS
MEMBRANE SOLUTIONS
REDUCES YOUR WATER
FOOTPRINT ”

INDUSTRIES:

- Slaughterhouses
- Food, dairy and beverage
- Desalination
- Municipal, sewage, holiday and leisure
- Meat, processing and agricultural
- Oil, gas and mining
- Any other industry

NIJHUIS MEMBRANE SOLUTIONS (NMS)

Comprehensive range of technologies

Ultrafiltration - NMS-UF

Superior barrier for viruses and bacteria removal

Applications and characteristics

1. Superior barrier for viruses and bacteria removal
2. Solids-free water production
3. Colloidal silica and TEP removal
4. Reverse osmosis pre-treatment
5. Suitable for drinking water production
6. Micro plastics removal



Direct Nano Filtration - NMS-dNF

NF quality with a robust UF operations

Applications and characteristics

1. Minimum pre-treatment required
2. Combining benefits of UF and NF in one membrane
3. Colour removal
4. Solids, bacteria and virus removal by hollow fibre multi layer nano coating
5. Nano plastics removal



NIJHUIS MEMBRANE SOLUTIONS (NMS)

Comprehensive range of technologies

Reverse Osmosis - NMS-RO

Maximal system efficiency

Applications and characteristics

1. Removal of dissolved components, such as ions, heavy metals, TOC, viruses
2. High quality execution of RO skid unit
3. A-quality selected suppliers
4. Local skid controls
5. Crossflow membrane filtration & spiral wound modules



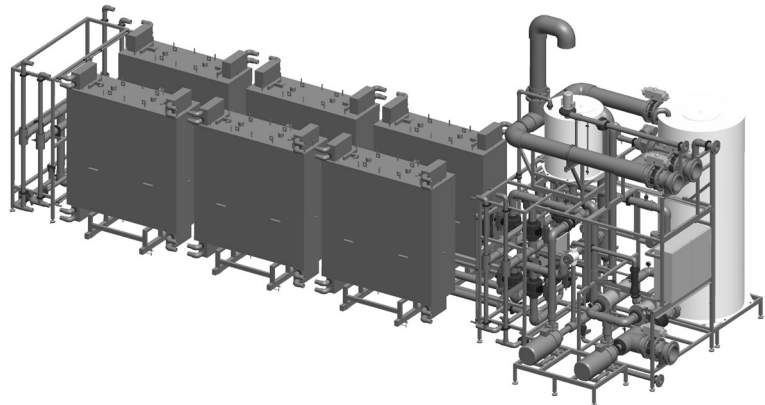
	Pv number	Modules	Feedflow	Permeate range	
Skid type	nr	nr	m3/h	60% 80%	
NMS-RO-12	3	12	12	7 to 10	m3/h
NMS-RO-18	3	18	18	11 to 14	m3/h
NMS-RO-24	6	24	24	14 to 19	m3/h
NMS-RO-36	6	36	36	22 to 29	m3/h
NMS-RO-54	9	54	54	32 to 43	m3/h
NMS-RO-72	12	72	72	43 to 58	m3/h
NMS-RO-90	15	90	90	54 to 72	m3/h

Electrodialysis reversal - NMS-EDR

Very high effluent capacity with increased water recovery

Applications and characteristics

1. Reduced pre-treatment required
2. Low chemical use
3. Very high effluent capacity
4. Increased water recovery in comparison to RO
5. Removal of dissolved components, such as salt
6. Adjustable salt removal by means electricity



NIJHUIS MEMBRANE SOLUTIONS

Project examples

Cosmetic plant

MBR-RO - Water reuse in the cosmetic industry



Meat Processing Plant

SF-UF-RO - Water reuse in the poultry and meat industry



Municipal Pilot plant (NL)

Full physical sewage treatment plant / high quality effluent



Groot Zevent Vergisting (NL)

Decanter-DAF-UF-RO - Green Mineral Mining Plant



Hygienic Certification for Water Stations to produce drinking water quality

In March 2019, Nijhuis Industries received the official hygienic certification from the Polish National Institute of public health and hygiene for universal water treatment and recovery to produce water of drinking water quality. The treatment of water is intended for human consumption; treatment and recovery of production, process, post-process, technical, underground, surface and technological water in the industry.

