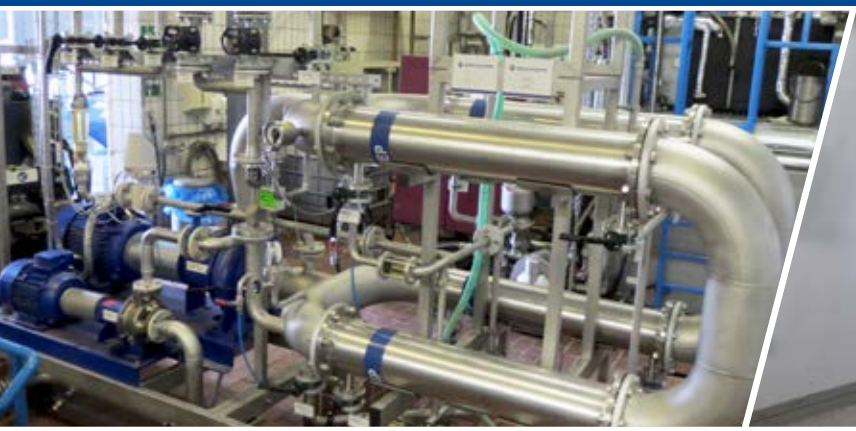


MEMBRANE FILTRATION FOR INDUSTRIAL WASTEWATER

Membrane filtration plants are technical systems that use a physical separation process to separate substances based on their molecular size and characteristics. The systems operate using a thin, semipermeable membrane through which the feed is passed under pressure. The process divides the incoming stream into two fractions: the permeate (filtrate) and the retentate (residue).

UIT specializes in membrane filtration plants for industrial wastewater treatment. Ultrafiltration plants are supplied with a separation range of 0.1 µm to 0.01 µm and nanofiltration plants with a separation range of 0.01 µm to < 1 nm.

Application areas

- ✓ Removal of oil and emulsions
- ✓ Removal of suspended solids
- ✓ Separation of multivalent ions (e.g. sulphate)
- ✓ Modular membrane filtration systems for water treatment
- ✓ Process water recycling
- ✓ Wastewater volume reduction

Technical data

	Membrane filtration plants	
Plant capacity	0.1 - 35 m^3/h (others scales on request)	
pH operating range	2 - 11	
Temperature	5 - 40 °C	
Recovery	up to 90 %	
Typical membrane surface area	0.02 to 1.1 m^2/m	
	Ultrafiltration plants	**Nanofiltration plants**
Separation range	0.1 µm to 0.01 µm	0.01 µm to < 1 nm
Typical removal	particles, bacteria, emulsions	multivalent ions, organics
Membrane material	ceramic	polymer or ceramic
Operating pressure	1 - 5 bar	8 - 25 bar
Flux range	50 – 250 l/m^2h	10 – 40 l/m^2h

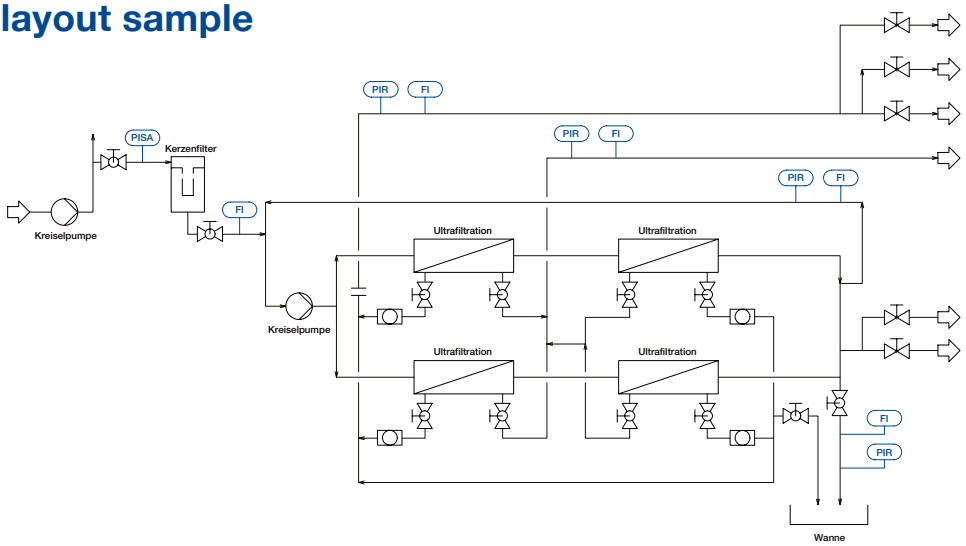
Umwelt- und Ingenieurtechnik GmbH Dresden
Zum Windkanal 21 | 01109 Dresden | Germany
www.uit-gmbh.de | info@uit-gmbh.de | + 49 351 886 4600

UMWELTLEISTUNGEN

Technology pro environment

MEMBRANE FILTRATION FOR INDUSTRIAL WASTEWATER

System layout sample



Measurement and control system

- ✓ Flow measurement (feed and permeate)
- ✓ Conductivity measurement (optional, concentrate and permeate)
- ✓ Pressure sensors (feed and permeate)
- ✓ Temperature sensors (concentrate)
- ✓ Turbidity (optional, concentrate and permeate)
- ✓ Frequency controlled pumps
- ✓ PLC control cabinet
- ✓ Additional quality sensors on request

Cleaning options

- ✓ Backwashing
- ✓ Chemical cleaning (CIP)

Benefits

- ✓ Modular, scalable system design
- ✓ High separation efficiency
- ✓ Compact footprint
- ✓ Automated operation
- ✓ Reduced chemical consumption
- ✓ Enables process water recycling

The equipment features will be defined by individual quotations.

Nanofiltration plant

Ultrafiltration plant

Umwelt- und Ingenieurtechnik GmbH Dresden
Zum Windkanal 21 | 01109 Dresden | Germany
www.uit-gmbh.de | info@uit-gmbh.de | + 49 351 886 4600

A company of GENERAL ATOMICS EUROPE