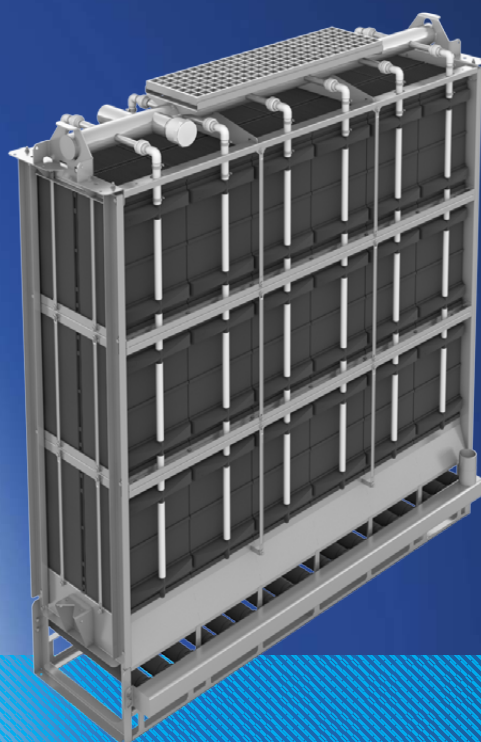
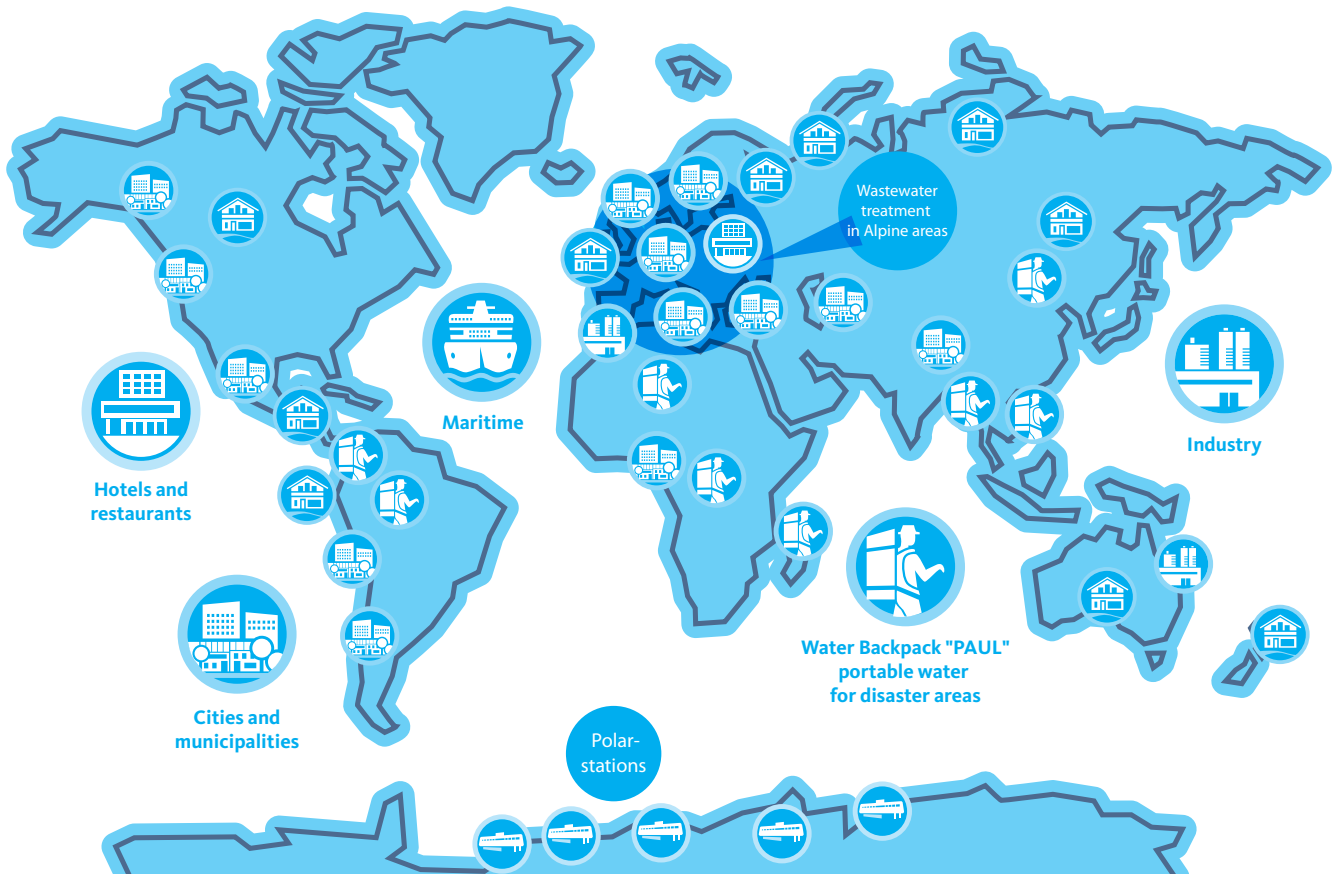




Submerged modules for membrane bioreactors (MBR)



Life is good – with clean water



MARTIN

Membrane Systems



Water is the vital resource on which all life is based. **MARTIN Membrane Systems** guarantee the highest level of wastewater treatment with innovative membrane filters.

MARTIN Membrane Systems ensure that water is free from pathogenic microorganisms, contains no environmentally harmful pollutants and is cleaned of turbid matter that could affect quality. In this way, the water can be re-used thus saving natural resources.

Motivation

Our future-oriented and innovative products are aimed at the continuous improvement in the quality of life. As an environmental protection company, we also feel committed to healthcare, in particular to the improvement of water hygiene and thus to the protection of water as the basis of life. The guiding principle of all our actions is the economically viable provision of people and the environment with the best possible water protection technology.

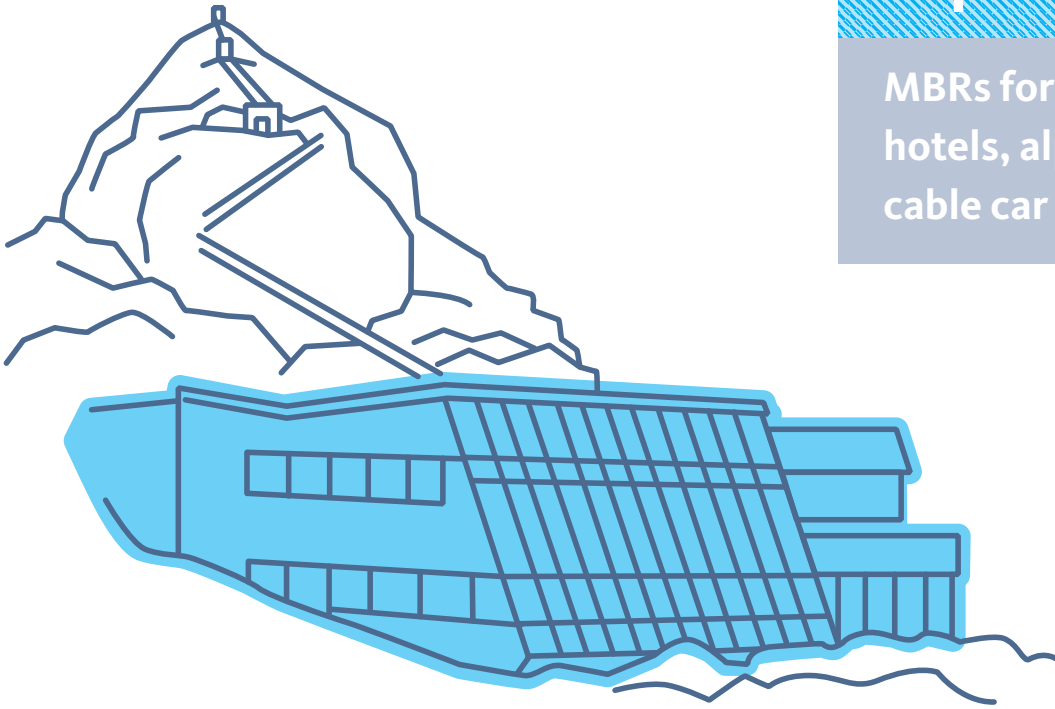
Expertise

With the experience of more than 25,000 membrane systems installed in the fields of marine, municipal and industrial water treatment, we have managed to make membrane technology economically viable for world-wide applications. Highly qualified and dedicated experts in the areas of research and development, production, sales, commercial and technical handling as well as our comprehensive after-sales service guarantee the success of our products.



Alpine areas

MBRs for restaurants, hotels, alpine huts and cable car stations



Research and development

Our engineers, scientists and application technicians work in teams to solve the problems of a society that is becoming increasingly conscious of the environment and sensitised to health protection. And beyond the company itself, we cooperate on an interdisciplinary basis with renowned international institutes on cutting-edge research projects.

Our key focus is on the recycling of wastewater with special attention being devoted to the retention of pathogens and the reduction of turbid matter and pollutants.



Quality

Our products are exceptionally hard-wearing and durable even under extreme conditions thanks to the use of high-quality materials. Our in-depth manufacturing competence makes their production and sale economically viable.

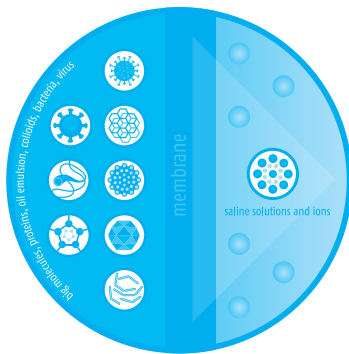
Constant quality controls from the receipt of the materials through to despatch and after-sales service are key to our products' high acceptance and to ongoing customer satisfaction. Our quality-conscious methods have been confirmed in accordance with DIN EN ISO 9001:2008.

Our high standards are reflected in the application of environmentally friendly processes and methods and number among the company's guiding principles.



Submerged modules

for all
MBR applications



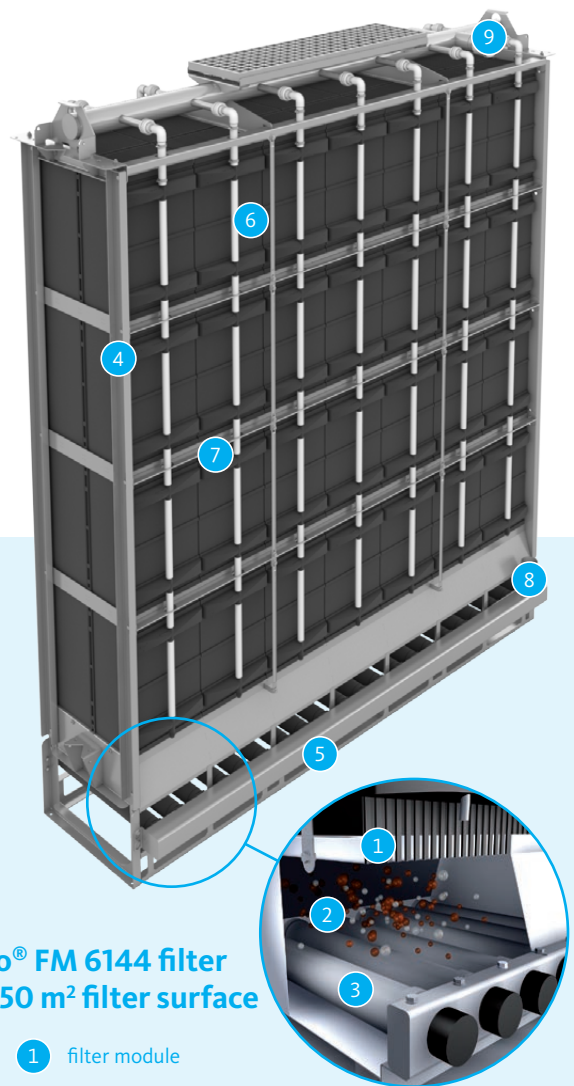
The mean pore diameter of the membranes is only thirty-five millionths of a millimetre (0.000035 mm).

In comparison, the diameter of an enteric bacteria (E-Coli) is approx. one thousandth of a millimetre (0.001 mm), so that the siClaro® membrane represents an impassable barrier for these bacteria.

The ultra-filtration membrane used for siClaro® wastewater treatment physically separates smallest particles down to colloids from liquids on the basis of its defined pore size ($<0.1 \mu\text{m}$). The membrane holds these substances back without changing them either physically or chemically. This means that dangerous substances cannot even be produced.

We utilise user-friendly flat membranes made of organic polymers which, in combination with the sophisticated filter design, effectively prevent clogging of the filter due to hairs, fibres or other unhygienic coarse matter.

The filtrate produced by the plant meets the high bathing water quality standards according to the directive 75/160/EEC set by the Council of the European Community. Our ultra-filtration membrane is an insurmountable barrier for bacteria and large viruses such as the dangerous polio pathogen. The smallest organic molecules, metal ions and even dissolved salts, which are partly vital, can pass through the ultra-filtration membrane.

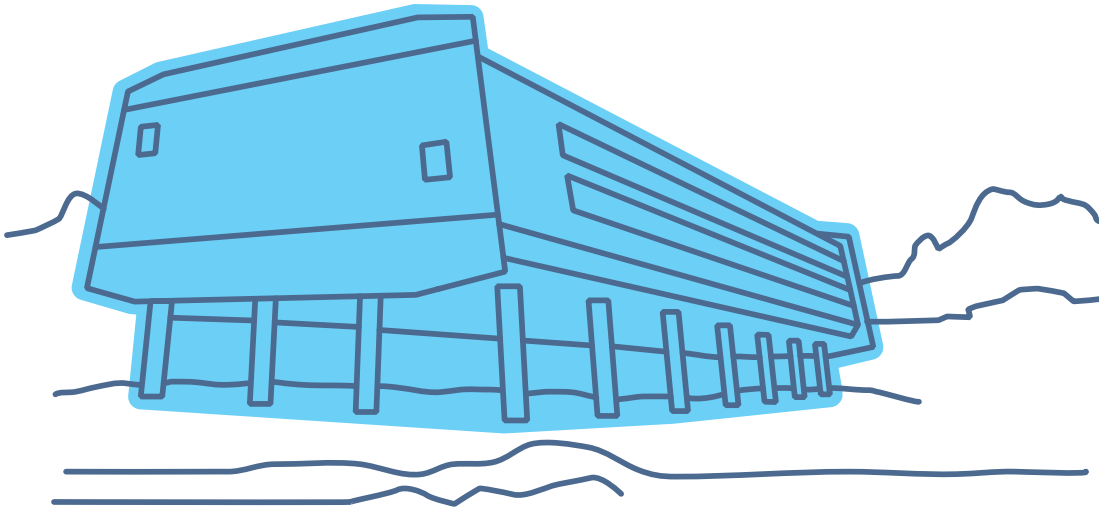


**siClaro® FM 6144 filter
with 350 m² filter surface**

- 1 filter module
- 2 activated sludge - air mixture
- 3 aerator for air scouring
- 4 frame
- 5 up-streaming foot
- 6 filter modules
- 7 filtrate extraction
- 8 scouring air connection
- 9 filtrate connection

Polar areas

Leading in MBR supply
for Antarctica stations



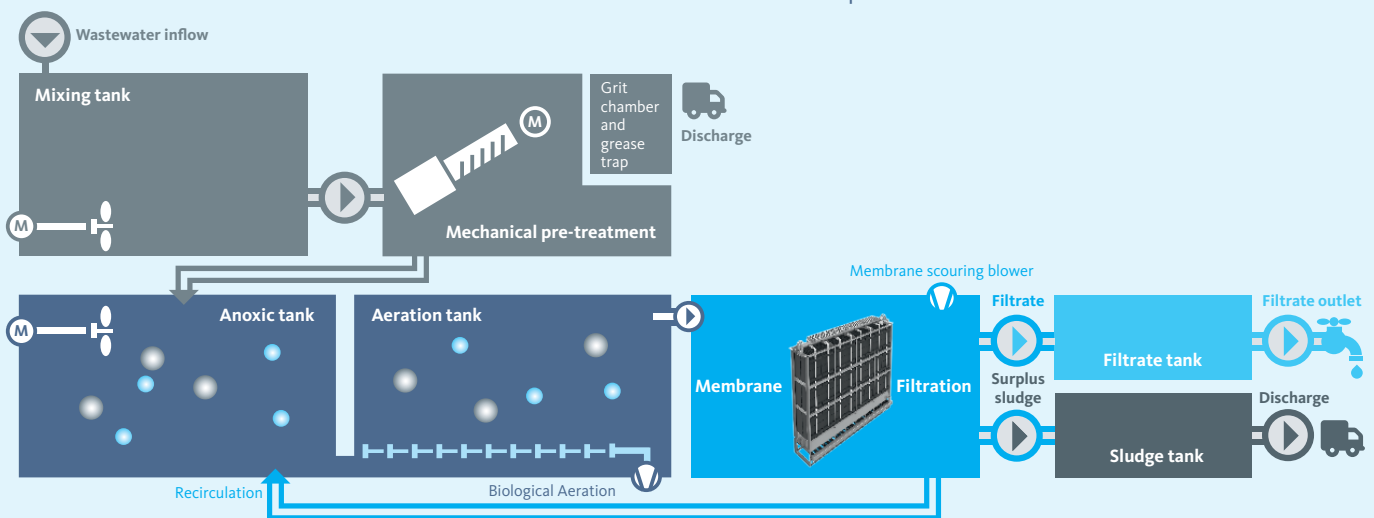
This technology is a combination of the proven activated sludge technology and the innovative membrane process and offers a number of advantages over conventional aeration plants.

The membrane filters are installed directly in the aeration tank or in downstream filtration chambers and ensure that activated sludge, bacteria and viruses are safely retained there.

A conventional secondary settling tank is thus no longer needed to achieve the highest effluent quality.

Advantages

- Small footprint, compact design, no secondary settling tank required
- Excellent effluent quality, disinfection of the effluent from the wastewater treatment plant
- Re-usage of the filtrate as process water, for example
- Robust design
- Reliable operation



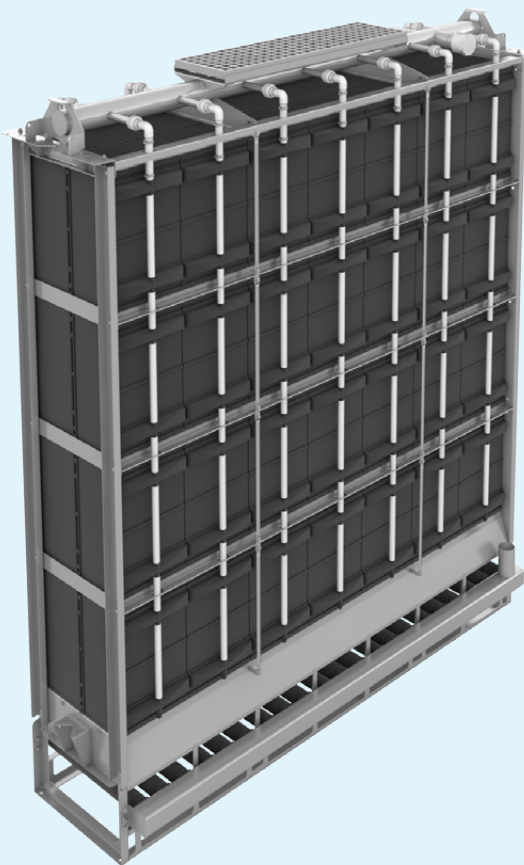
Filter sizes and technical specifications

Membrane characteristics

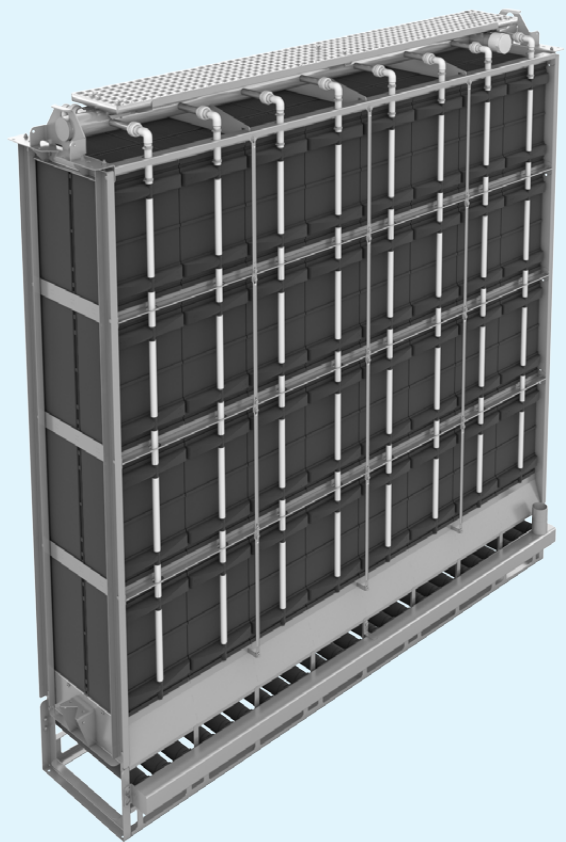
Material	Organic polymer, PES
Cut-off limit	Ultra-filtration
MWCO	150 kDalton
Nominal pore size	approx. 35 nm
Maximum pore size	0.1 μm



FM 6123 filter



FM 6144 filter



FM 6164 filter



FM 6143 filter



FM 6163 filter



Top News:
600 m²

LFM 20103 filter

With more than 25,000 installed membrane modules **MARTIN Membrane Systems** is your competent partner in submerged MBR filter modules for all applications.

For our customers, we are continuously expanding our product range and invest in the expansion and optimization of our production.

In 2014 we present for the very first time the new LFM-20 filter generation.

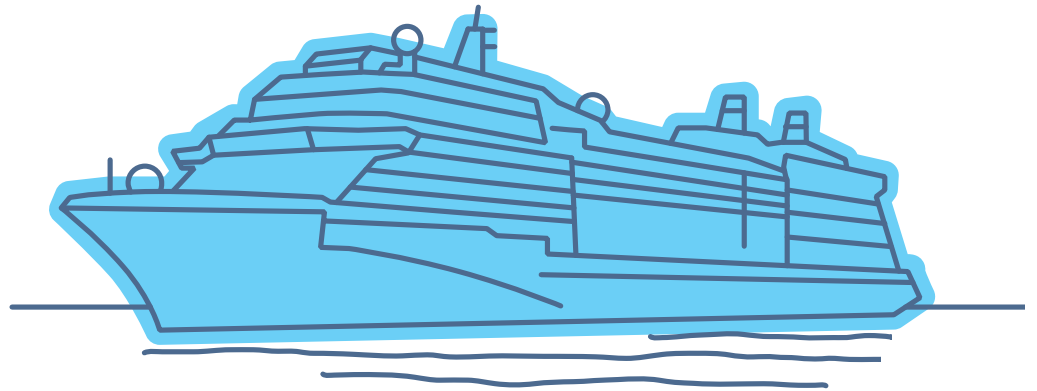
The use of high-grade plastics (PP) and stainless steel components (SS 304, SS 316 optional) guarantees the highest quality and a long service life.

The modular design makes for flexibility when configuring other filter sizes. **Please ask for our detailed engineering catalogue and find out more about our entire range of products.**

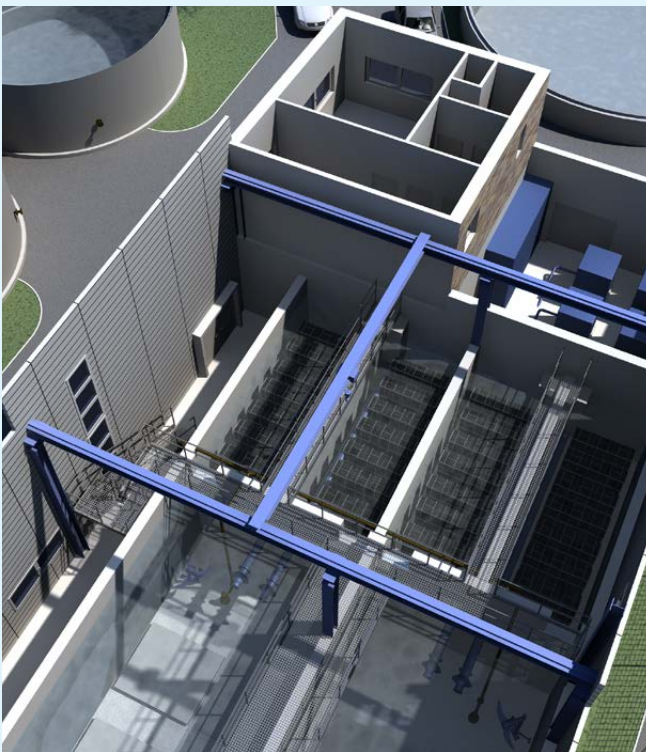
Type	Filter surface in m ²	Dimensions in mm (L x H x W)	Dry weight in kg
FM 6123	225	2058 x 642 x 2247	391
FM 6143	262,5	2373 x 642 x 2247	471
FM 6163	300	2688 x 642 x 2247	540
FM 6144	350	2373 x 642 x 2775	596
FM 6164	400	2688 x 642 x 2775	678
LFM 20103	600	2810 x 719 x 3103	1017

Across the Ocean

MBR supply for cruise vessels, special vessels, navy vessels and super yachts



There is a huge demand for modern, powerful plants to treat municipal wastewater. From the degradation of carbon through to the extensive elimination of nutrients and disinfection – **MARTIN Membrane Systems** offer the optimum solution for all needs.



Low cost of investment

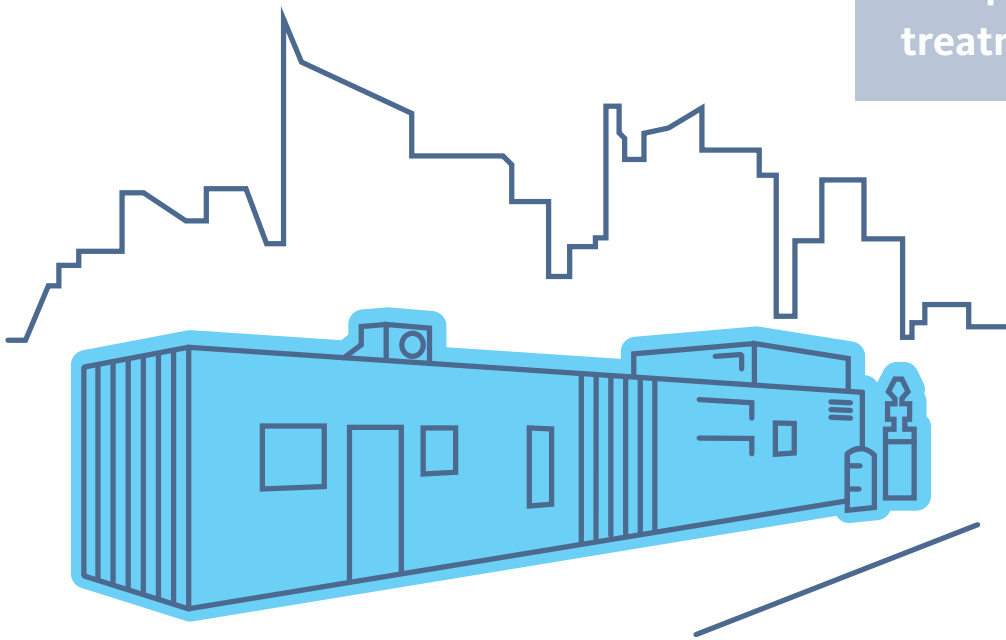
- Easy installation of the membrane segments
- Little peripheral equipment since there is no need for backwashing
- Small activation volumes thanks to a high concentration of active biomass
- Space-saving design, small footprint

Low operating costs

- Minimum energy demand for scouring air due to the patented sequential cleaning of the membrane surface
- Minimum consumption of chemicals for cleaning
- Minimum energy demand for filtrate extraction due to low trans-membrane pressures
- Long membrane life time thanks to gentle filtration
- No risk of blocking or clogging
- Easy maintenance
- Reliable compliance with hygiene standards thanks to the high cut-off performance of the UF membranes (37 nm, 150 kDa)
- Fully automated filtration operation

Countryside

Compact wastewater treatment plant



Industrial wastewater in particular often contains high concentrations of organic components.

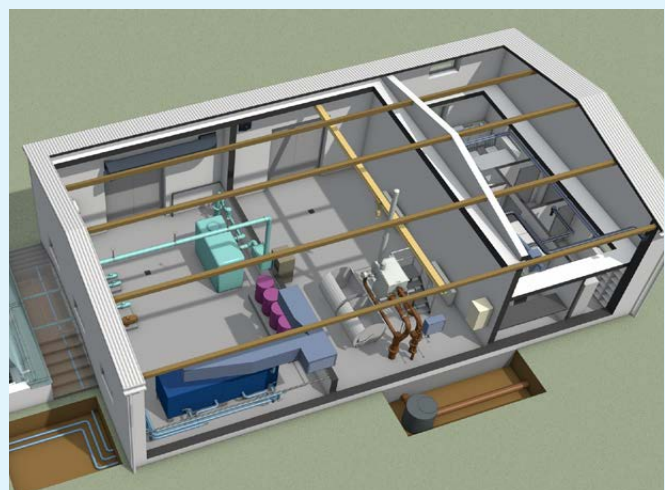
Due to the relatively high residual concentrations of dissolved substances, physical-chemical technologies are only partly suitable for the complete treatment of such wastewaters.

Since they have a high demand in chemicals and produce large quantities of surplus sludge during the precipitation processes, these technologies incur high disposal and operating costs.

Biological technologies, however, have proven to be ideal for the treatment of wastewater from different industries, though the operation of conventional secondary settling tanks often causes problems in the aeration process.

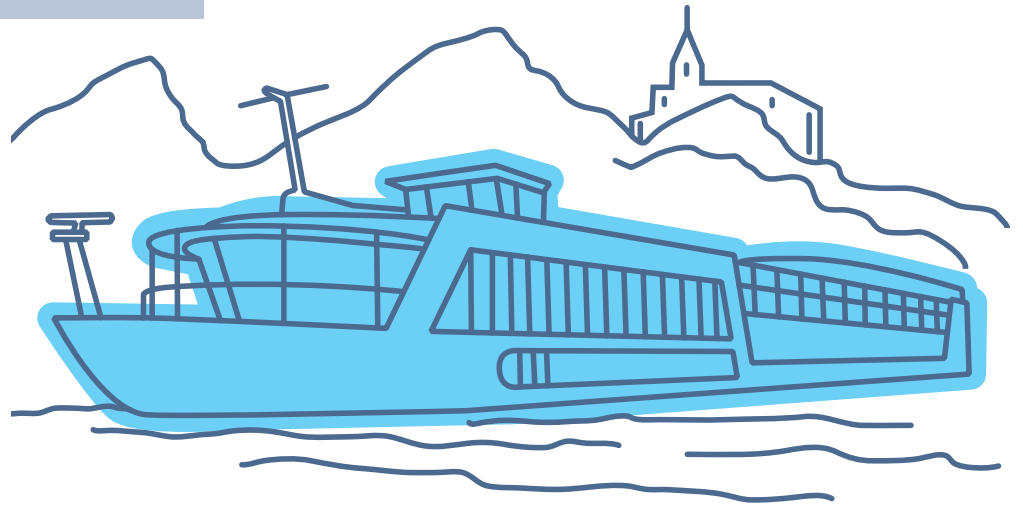
MARTIN Membrane Systems combine the aerobic biological process and membrane filtration to separate the activated sludge. Membrane bioreactors (MBR) work at high biomass concentrations and retain the biomass completely. The filtration units from MARTIN Membrane Systems are supplied as complete filtration containers ready for installation in parallel downstream of the aeration tank.

Existing plants can thus be easily upgraded. The plants are designed and dimensioned individually on the basis of pilot tests with original wastewater. Special pilot plants are available for this purpose.



Riverside

Leading in MBR maritime wastewater treatment for river cruise vessels



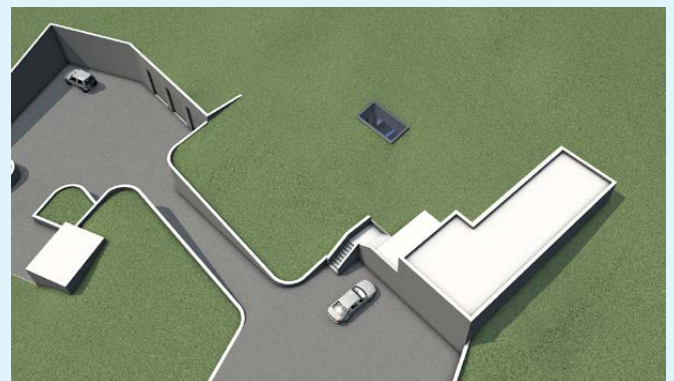
We guarantee first-class support for our customers in planning and operating their plants plus international after-sales service.

MARTIN Membrane Systems provide the ideal wastewater treatment solution in the municipal sector for:

- Cities, towns, villages
- Hotels, holiday parks
- Business parks
- Motorway service stations
- Restaurants
- Sports and recreational facilities

Complete filtration units from MARTIN Membrane Systems are used in the following industries:

- Food industry (beverages/breweries)
- Paper and pulp industry
- Chemical, cosmetics and paint industry
- Regenerative energy, renewable resources
- Washing processes (rinsing water)
- Metal, electrical and automotive industry
- Special wastewaters (landfill leachate, plane defrosting)
- After-treatment of anaerobic reactors, flocculation and precipitation units



MBR-References



Washing water recycling,
textile industry / Spain



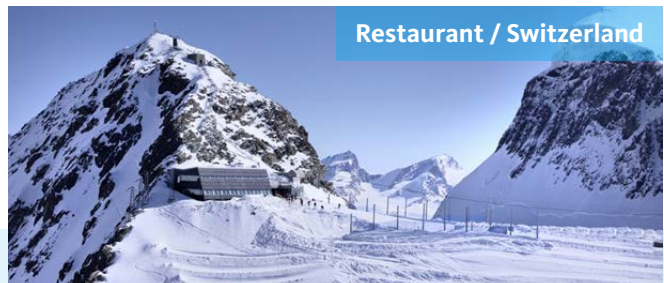
Compact wastewater
treatment plant / UAE



Motorway service station / Germany



Business park / Germany



Restaurant / Switzerland



Marina / Spain



Polar station / Antarctica



Petrol station / Australia



Municipal wastewater
treatment plant / Germany



Landfill leachate plant / Germany



Centralised municipal waste-
water treatment / Germany



Municipal



Industrial



Private



Maritime



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