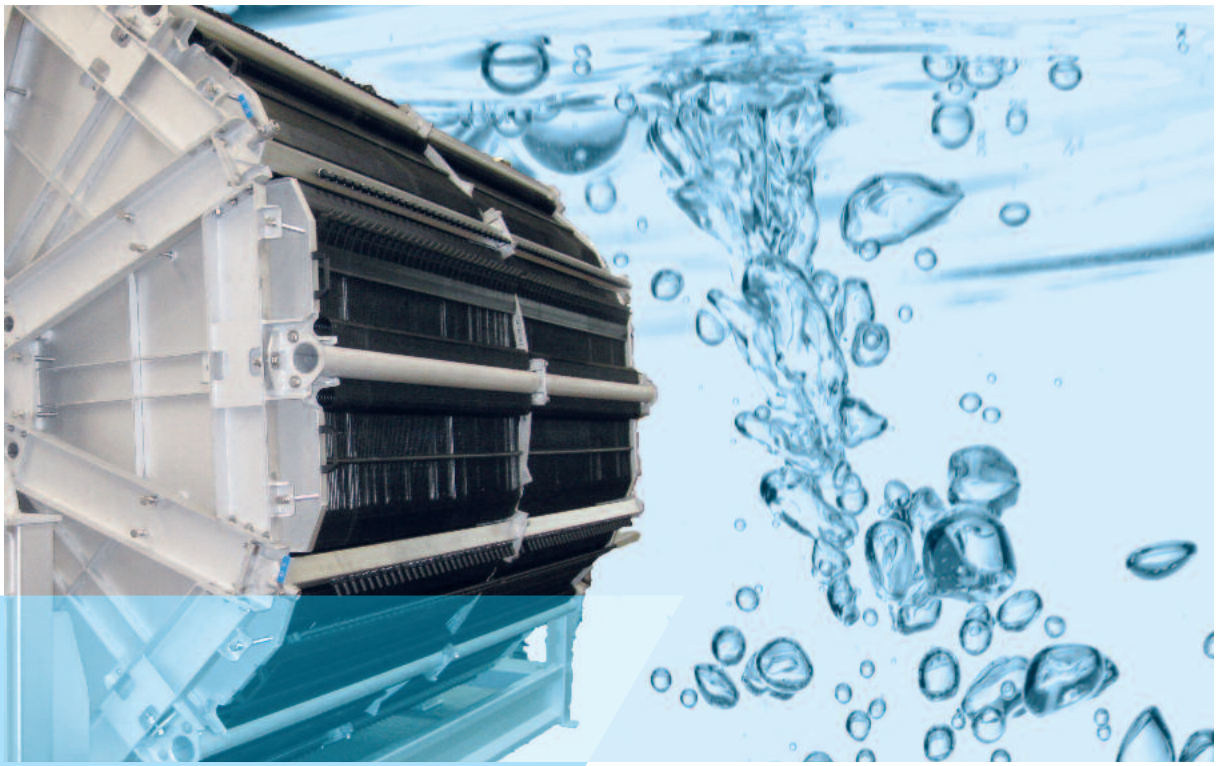
HUBER TECHNOLOGY
WASTE WATER Solutions

HUBER Vacuum Rotation Membrane VRM® Bioreactor



Efficient wastewater treatment for maximum water quality

The situation

Membrane technology has set the highest standards in the field of wastewater treatment for years already.

The effluent quality achieved by MBR systems is as high as service water quality and can frequently even be used instead of precious drinking water, such as for irrigation, as cooling water or toilet flush water, etc.

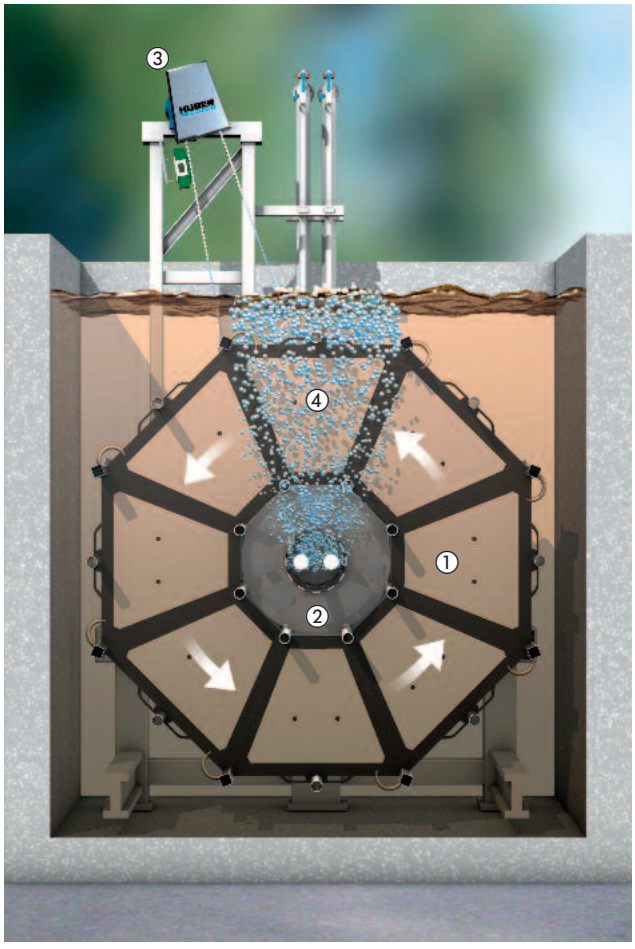
Reuse of treated wastewater can replace expensive drinking water treatment plants and effectively protects the environment. Membrane systems provide a sustainable solution to save our energy resources as they require only one tenth of the electric energy consumed by energy-intensive seawater desalination plants.

The solution

The HUBER VRM® process is a system of ultrafiltration membranes submerged within the activated sludge. The membrane module segments ① are arranged around centrally installed air tubes ②. The filter drive ③ causes the trapezoidal membrane plates to rotate at a speed of 1 rpm through a scouring air jet ④. The rising coarse air bubbles continuously remove the concentrated sludge from the membrane surface. Covering layers in the gaps between the membrane plates are reliably removed and fouling is significantly reduced.

The rotation of the membrane plates eliminates problematic air inclusion in the discharge system ⑤.

Due to their unique and highly effective membrane cleaning system HUBER VRM® units minimise energy costs and the frequency of chemical purification but nevertheless offer high effluent quality.

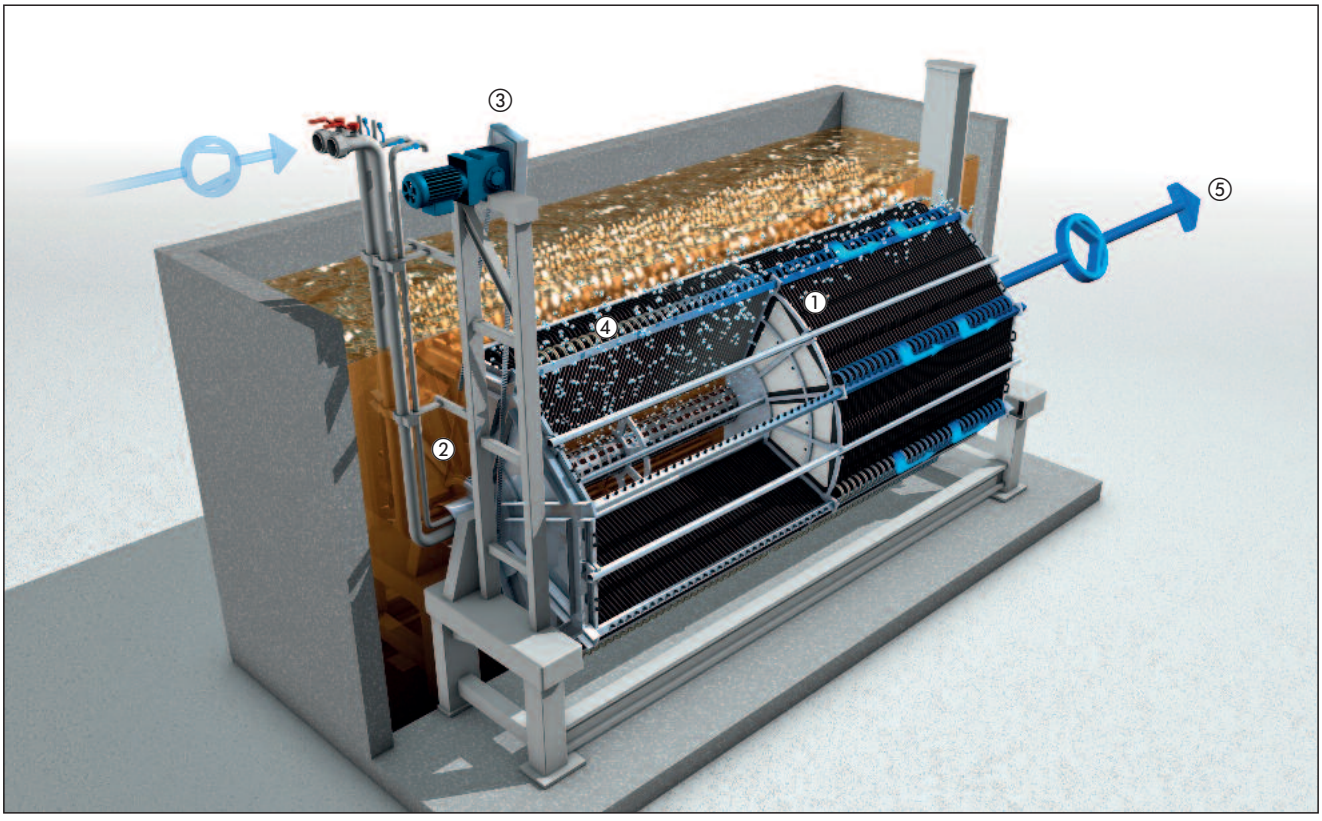


The advantages of HUBER VRM® systems

- Low operation and energy costs
- Sequential high-efficiency scouring
- No permeate backwashing required
- Membranes made of well-proven, durable PES material (more than 10 years experience)
- Low wastewater pre-treatment requirements
- All structural elements made of high-quality stainless steel

Technical data

VRM® 20	**VRM® 30**
Diameter up to approx. 2.3 m	Diameter approx. 3.2 m
Length approx. 4 m	Length up to approx. 6.5 m
Membrane surface up to 900 m^2 per unit	Membrane surface up to 3840 m^2 per unit
$Q_{continuous}$ up to 16 m^3/h per unit	$Q_{continuous}$ up to 70 m^3/h per unit
Q_{max} up to 30 m^3/h per unit	Q_{max} up to 130 m^3/h per unit



Applications

- Municipal wastewater treatment plants
  - centralised
  - decentralised
- Hotel wastewater treatment plants
- Universities
- Container plants
- Industrial wastewater treatment plants
  - Textile industry
  - Meat processing industry
  - Beverage industry
  - Automobile industry
  - etc.

We provide HUBER VRM® solutions for all kinds of applications, whether industrial, municipal, centralised or decentralized.

HUBER SE

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