SANI Membranes



ISO 9001
Management System Certification
BUREAU VERITAS
Denmark A/S

VMF Vibro® Membrane Filtration

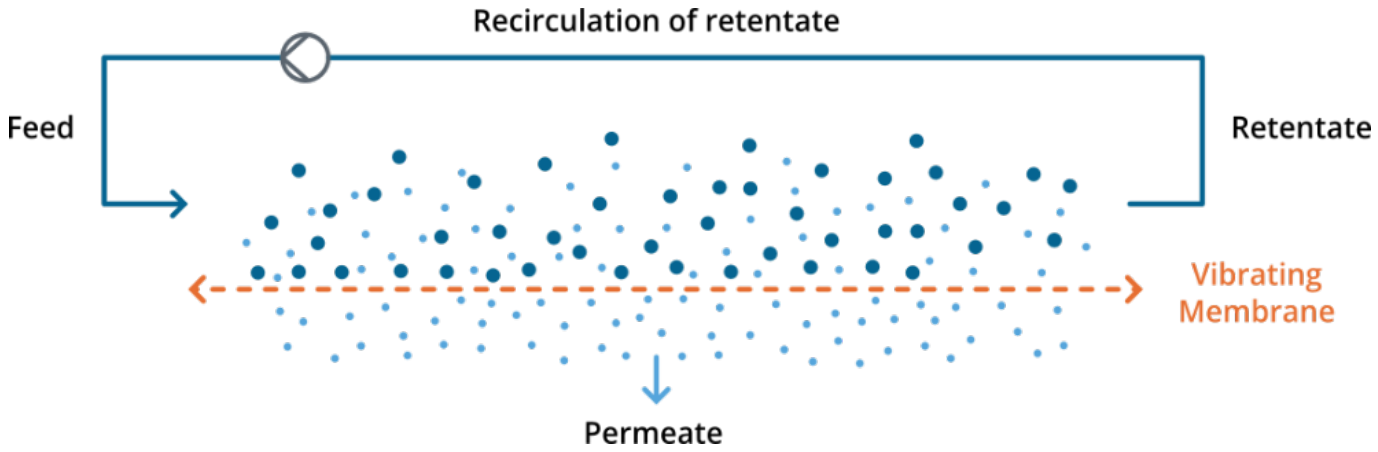
Learn more:

TECHNOLOGY & BENEFITS

Sani Membranes A/S | www.sanimembranes.com | Ryttermarken 8 | 3520 Farum | Denmark

THE VIBRO® TECHNOLOGY

Sani Membranes' patented Vibro® Membrane Filtration (VMF) technology generates localized turbulence exactly where it is needed — at the membrane surface — by vibrating the membranes relative to the media. This efficiently minimizes fouling and eliminates the need for shear- and energy-intensive cross-flow pumping. The reduced liquid flow rates prevents the high pressure drops known from conventional TFF and allows the process to be controlled at a low, uniform transmembrane pressure (TMP), which is critical for high transmission of large molecules.



VIBRO-LAB SERIES

Fast and Scalable Process Development

The Vibro-Lab units are the perfect benchtop filtration solutions for process development. With a membrane area of 35 cm^2 to 3500 cm^2, you can do reliable process development and optimization at lab scale and screening work with as little as 20 mL of sample volume. As the technology for the laboratory units and the industrial units is the same, you are ensured that your results will be the same when scaling up your production.



Vibro-Lab35P



Vibro-Lab280



Vibro-Lab3500

VIBRO-I SERIES

Robust Filtration for Industrial Production

Vibro-I is engineered for seamless scale-up across pilot and production operations. The platform bridges development trials, process optimization, and industrial deployment with a modular design that supports membrane areas from 2.5 m^2 to 80 m^2 per standalone unit.



Vibro-I 2.5 m^2 **Vibro-I 5 m^2** **Vibro-I 10 m^2**



Vibro-I 20 m^2 **Vibro-I 40 m^2** **Vibro-I 80 m^2**

Vibro-I enables anything from small pilot campaigns to high-throughput production systems, with flexible configurations in series or parallel, batch or continuous operation.

Systems can be expanded with multiple units as needed, providing the scalability, configurability, and process flexibility required to adapt and optimize filtration performance as your process evolves.

KEY BENEFITS OF VIBRO®

HIGHER YIELD
VMF's fully drainable design maximizes product recovery, while its uniform TMP delivers unmatched product transmission.

HIGH CONCENTRATIONS
VMF's low flow rates and open channel design make it ideal for handling highly concentrated and viscous media.

UNIFORM TMP
VMF maintains a low, uniform TMP across the entire membrane area, enabling precise process control, higher transmission and sharper separations.

LOWER FOULING
The Vibro anti-fouling mechanism that localizes turbulence at the membrane surface minimizes build-up, supporting longer run times and consistent performance.

SCALABLE
Thanks to its modular build, VMF allows for a seamless, reliable scale-up from process development to full industrial production, supporting efficient tech transfer, reducing risk and accelerating scale-up.

GENTLE PROCESSING
Since VMF does not require shear-intensive cross-flow pumping, overall system shear is minimal. This preserves sensitive biomolecules and cells, protecting product quality.

SIMPLIFIED PROCESS
VMF can replace or eliminate several process steps, such as centrifugation or pre-clarification. It also has the potential to be used for single-pass processing, simplifying operations and validation.

ENERGY-EFFICIENT
Lower feed velocities and minimal pressure loss mean reduced energy requirements, making VMF a sustainable choice for modern bioprocessing.

"...VMF has reduced fouling and concentration polarization, leading to increased filtration performance, without any negative effects on the biological products."

Andrew Zydney, Chair and Professor of Chemical Engineering, Penn State University

Learn more: