

# Vibro™-I

a unique 7,5 – 60 m<sup>2</sup> filtration device for micro- and ultrafiltration

The Vibro™-I is an industrial filtration solution for applications where low energy consumption, high flux, sanitary function, low capital investment and gentle filtration are key words. The Vibro™-I delivers continuous low fouling filtration where the filter is kept clean by vibration shear.

The membrane module vibrates vertically while the patented Vibro™ technology makes the media inside the module stationary. The relative vibration of media and membrane creates turbulence on the membrane surface and thereby keeps the fouling layer at a minimum. The turbulence is only created at vertical surfaces. Thus, the energy required to create the turbulence at the membrane surfaces is minimized. Because the Vibro-I only creates turbulence at the membrane surfaces the need to cool the retentate is reduced and often eliminated which again adds to the energy savings.

The Vibro™-I handles the feed solution very gentle as no big circulation pump is needed. A conventional circulation pump can be harmful to most media as it damages cells, molecules etc. during operation. By eliminating the need for a conventional circulation pump Vibro™-I is the most product gentle industrial scale MF and UF system on the market.

The elimination of the circulation pump also gives you virtually uniform feed pressures throughout the unit. The uniform feed pressure gives you the sharpest membrane cut-offs of any industrial system.

Due to the open sanitary design of the Free Flow Plate™ Module (HP1), the Vibro™-I can handle very difficult samples with high viscosity, high mass loadings and even high particulates. It is possible to attach a homogenization pump to the Vibro™-I system to homogenize the retentate while filtrating if you work with difficult feeds.

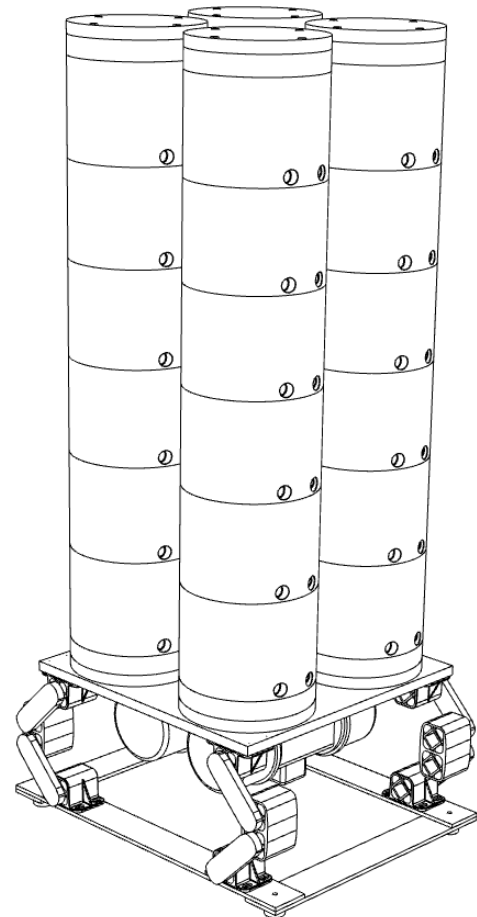
The Vibro™-I is fully drainable of both retentate and permeate. Thus, no product loss and faster CIP cycles.

The Vibro™-I utilizes the 2,5 m<sup>2</sup> Free Flow Plate™ module (HP1) and comes with 7,5 or 15 m<sup>2</sup> membrane as 1-tower units and with 60 m<sup>2</sup> membrane as a 4-tower unit. More units can be connected in series or parallel depending on your needs.

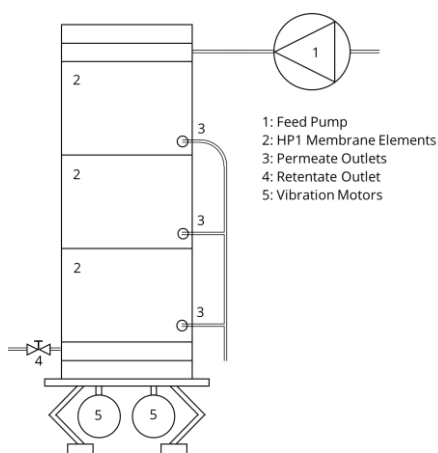
The tower configuration and the elimination of circulation pumps, cooling aggregates, booster pumps and intricate piping layouts from conventional cross flow filtration systems gives the Vibro™-I systems a small footprint. All media contacting parts are in durable polymeric materials or stainless steel. The Vibro™-I can conform to FDA materials and sanitary standards if required.



A 7,5 m<sup>2</sup> Vibro™-I system



A 60 m<sup>2</sup> Vibro™-I system



An example of a Vibro™-I system in operation

# Technical Data Vibro™-I

## Vibro™-I 7,5 m<sup>2</sup> Data

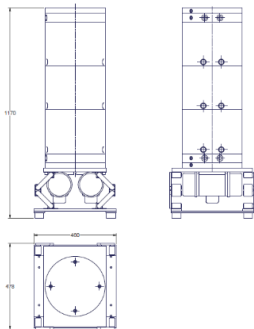
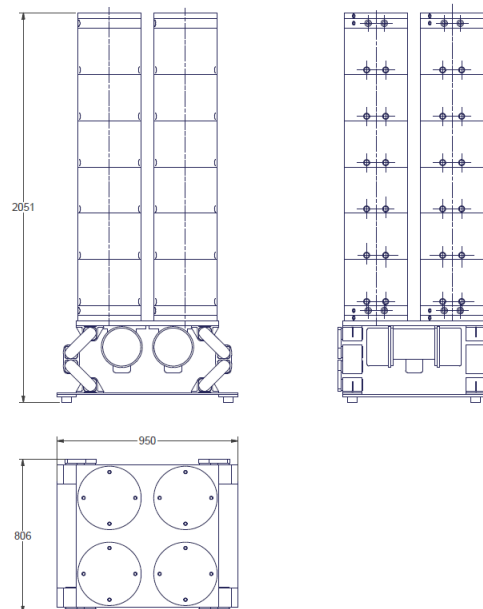
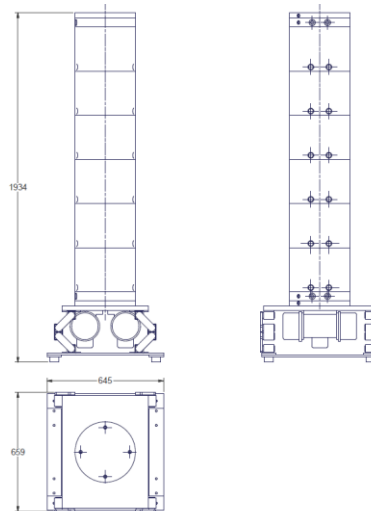
Weight	120 kg
Dimensions (L x W x H)	659 mm x 645 mm x 1934 mm
Membrane	3 x 2,5 m <sup>2</sup> Free Flow Plate Modules (HP1)
Internal Retentate volume	16 L, Fully Drainable
Internal Permeate volume	3 L, Fully Drainable
Operating Pressure	0-4 bar
Vibration Motor	Electric, 480 W

## Vibro™-I 15 m<sup>2</sup> Data

Weight	190 kg
Dimensions (L x W x H)	478 mm x 400 mm x 1170 mm
Membrane	6 x 2,5 m <sup>2</sup> Free Flow Plate Modules (HP1)
Internal Retentate volume	28 L, Fully Drainable
Internal Permeate volume	6 L, Fully Drainable
Operating Pressure	0-4 bar
Vibration Motor	Electric, 700 W

## Vibro™-I 60 m<sup>2</sup> Data

Weight	650 kg
Dimensions (L x W x H)	950 mm x 806 mm x 2051 mm
Membrane	24 x 2,5 m <sup>2</sup> Free Flow Plate Modules (HP1)
Internal Retentate volume	112 L, Fully Drainable
Internal Permeate volume	24 L, Fully Drainable
Operating Pressure	0-4 bar
Vibration Motor	Electric, 1800 W



## Free Flow Plate™ Module (HP1) Data

Generic Design	Free Flow Plate™. Fused Polypropylenes
Membrane Type	Most organic membranes (MF, UF, and other filter types)
Membrane Area	2,5 m <sup>2</sup>
Dimensions (D x H)	333 mm x 245 mm
Viscosity Range, Apparent	1-1000 cP (e.g. Cream Cheese+)
Temperature Range	5-85°C
pH Range	1-14
Operating Pressure	0-4 bar
Free Chlorine	Membrane dependent

The HP1 can be equipped with your membrane of choice. SANI Membranes have a line of standard MF and UF membranes from Synder, Microdyn-Nadir and others on stock. Most commercial available membranes can however also be used with the HP1. Please, do not hesitate to contact us with your membrane wishes.