viblotec™
Nanotechnology & Solutions

PFAS-free Nanomembrane

Medical Filter Solution

Customized Nanofiber Membrane Solutions for Medical FiltrationApplications

Viblotec™ Electrospun Nanomembrane Technology



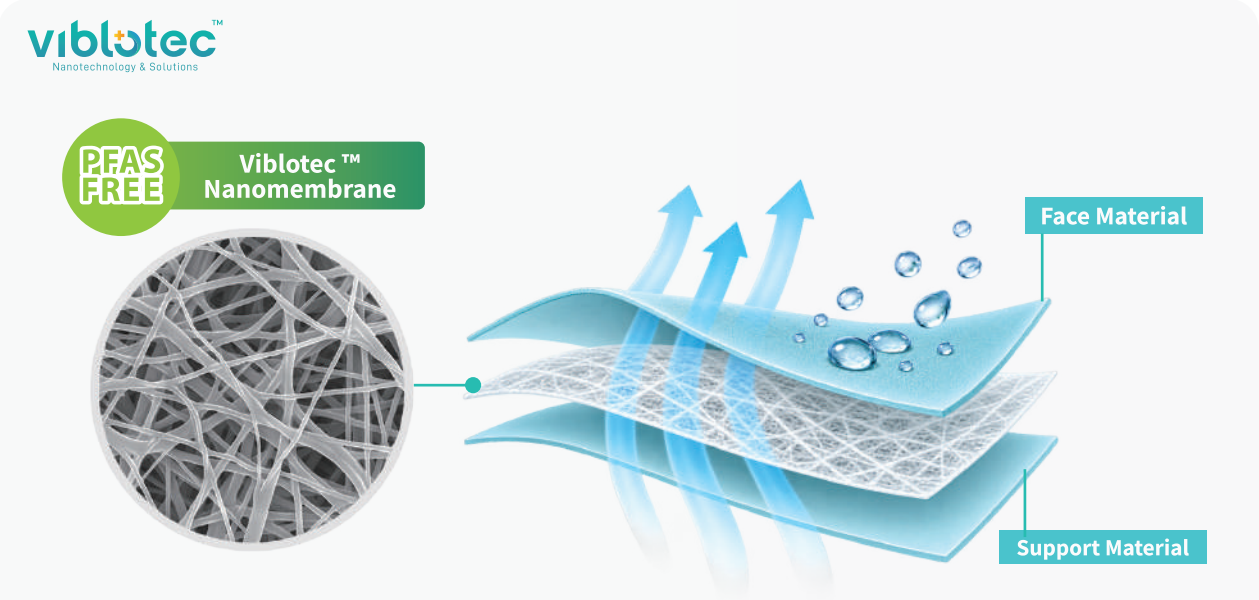
Waterproof · Dustproof · Airflow Control · Custom Engineering

SOFNT

PFAS-free Nanomembrane Technology

Viblotec™ Electrospun Nanomembrane Solutions

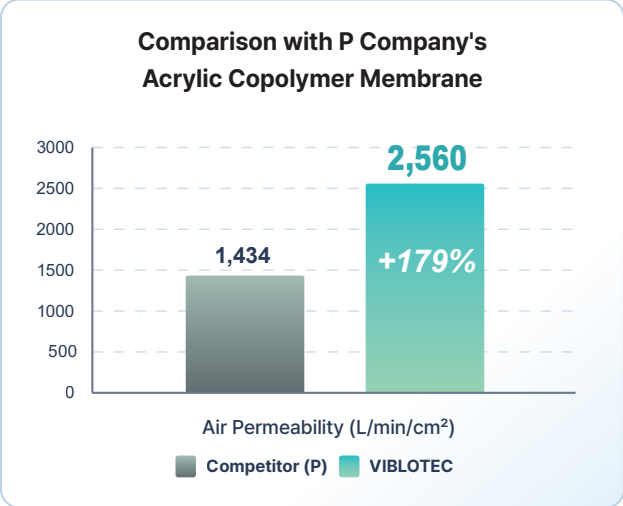
SOFNT's Viblotec™ is a precision-engineered nanomembrane manufactured using electrospinning technology. Its advanced nanofiber network structure is designed to control the passage of fine particles and microorganisms while maintaining stable airflow or fluid flow, depending on the application.

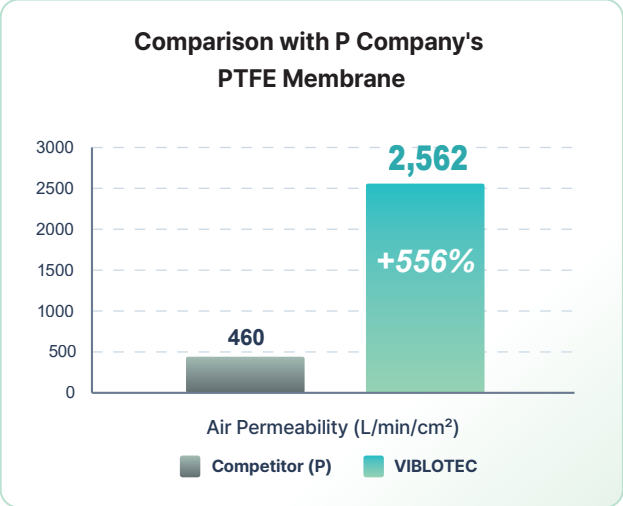


Precise Filtration with Stable Airflow and Fluid Flow

Similar Pore Size, Higher Air Permeability

Achieving higher air permeability than conventional membranes at comparable pore sizes.





At comparable pore sizes, Viblotec™ demonstrates higher air permeability than conventional membranes. This indicates its potential to facilitate smoother airflow while controlling the passage of fine particles and microorganisms. These characteristics make Viblotec™ a promising membrane solution for medical filtration applications requiring low pressure drop and stable airflow, including respiratory circuits, HMEFs, and ventilator filters.

Viblotec™ ： PFAS-free Alternative

SOFNT provides advanced medical filtration solutions through Viblotec™, its TPU-based, PFAS-free electrospun nanomembrane technology. Designed for high particle and microbial filtration performance, Viblotec™ combines excellent breathability with customizable pore size, basis weight, air permeability, and multilayer structures to meet diverse medical device requirements.

PFAS FREE

PFAS-Free Nanomembrane
Environmentally conscious TPU-based PFAS-free nanomembrane

High Filtration
Designed for effective particle and microbial filtration

High Breathability
Nanofiber structure designed for low pressure drop and high air permeability

Customizable
Tailored pore size, basis weight, breathability, and multilayer structures

Test & Validation

SOFNT supports filtration efficiency, breathability, pore characteristics, water resistance, and structural stability evaluations according to specific medical filtration requirements. From the early stages of product development, we provide customized sample designs and performance evaluation support.

Membrane Uniformity Evaluation
Thickness, basis weight, and structural uniformity

Air Permeability Testing
Airflow performance and pressure drop

Pore Characteristics Testing
Pore size and bubble point analysis

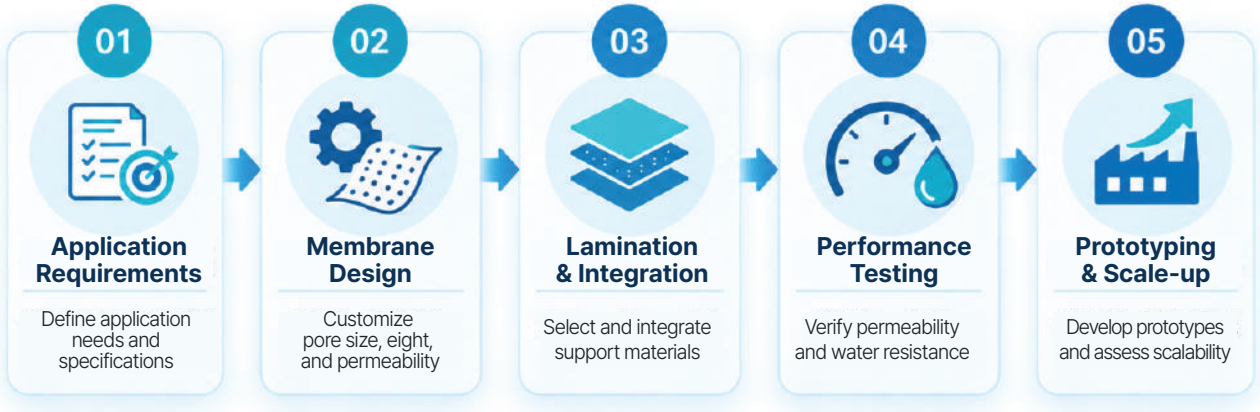
Water Resistance Testing
Liquid barrier and water resistance testing

Application Compatibility Evaluation
Support materials and multilayer compatibility

Customized Performance Validation
Testing based on customer-specific requirements

Customized Application Development

Based on customer requirements and operating conditions, SOFNT customizes nanofiber membrane properties and multilayer structures for specific medical applications. Through performance testing and prototyping, we optimize designs and evaluate device compatibility, while reviewing manufacturing and quality requirements for scalable production.



Compatible Medical Filter Products



HME Filters



Sterile Water Pack Vent Filters



Syringe Filters



Sterile Fluid Filters



Wound Dressings

HYDROPHOBIC Gas Filtration Membranes

Product	pore size (µm) mean flow pore diameter (ASTM F 316)	Air flow rate (ml/min/cm²) @ 1–6 mbar (Approx.) (ASTM F 316)	Basis Weight (g/m²)	Thickness (µm)	Air Permeability (ccs) @125Pa	WVTR / MVTR (g/m²·24h)
VB-WF-02 (VBM-502-T05)	0.74	21 (@1.38mbar) 88 (@3.68mbar)	75-80	330-360	0.5-1.5	7000 / 4000
VBM-502-T06	0.92	11 (@1.61mbar) 55 (@5.86mbar)	79	351	0.6	7078 / 4007
VBM-502-T04	2.05	72 (@1.72mbar) 197 (@3.56mbar)	113	281	2.3	8034 / 3402

HYDROPHILIC Liquid Filtration Membranes

Product	Basis Weight (g/m²)	Thickness (µm)	Air Permeability (ccs) @125Pa	pore size (µm) mean flow pore diameter (ASTM F 316)	Water Flow Rate (ml/min/cm²@10psi)	water bubble point (psi)	BFE(LRV) Modified ASTM F838
VB-2405-M002-2	30	108	1.5	1.06	205	0.6	>7
VB-508-M24	25.9	103	33.6	3.77	263.8±12.8	0.102	-
VB-508-M19	34.5	125	37.1	7.13	244.0±2.9	0.518	-

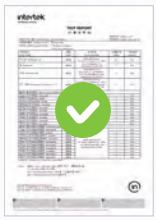
WOUND CARE Wound Dressing Membranes

Product	Basis Weight (g/m²)	Thickness (µm)	Air Permeability (ccs) @125Pa	pore size (µm) mean flow pore diameter (ASTM F 316)	Filtration Efficiency (%) 0.3µm, NaCl Modified ISO 29463-3
VBM-509-T05	51.7	111	0.27	0.58	99.9
VBM-509-T03	48	109	0.41	0.83	-
VBM-505-T01	54	204	1.8	1.10	-

WOUND CARE Medical Device Air Vent Membrane

Product	pore size (µm) mean flow pore diameter (ASTM F 316)	air flow rate (ml/min/cm²) @1psi (ASTM F 316)	Basis Weight (g/m²)	Thickness (µm)	Hydrostatic Head (mmH_2O)
VB-507-M08	0.48	2,061	33	143	2000
VB-507-M09	0.46	1,990	36	113	2700
VB-507-M11	0.41	1,261	56	235	5080

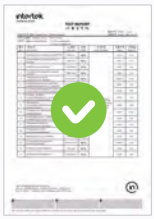
SOFNT continues to secure domestic and international certifications, patents, and quality management systems to demonstrate the reliability and applicability of its PFAS-free nanomembrane manufacturing technology. Based on ISO 9001, ISO 14001, ISO 13485, GRS, medical device manufacturing license, MAIN-Biz certification, and other key certifications, SOFNT verifies the quality and safety of high-performance membrane solutions for medical, industrial, water care, and semiconductor applications.



RoHS



REACH SVHC



PFAS

RoHS Compliance
No restricted hazardous substances detected across all tested items

REACH SVHC Safety
No substances of very high concerndetected

PFAS Not Detected
No per- and polyfluoroalkyl substances detected

Certifications & Achievements

4 international certifications, 20 domestic and international patents,
11 design rights, 48 trademarks
ISO 9001, ISO 14001, ISO 13485, GRS, Class I medical device manufacturing license, Drape product approval, etc.

Global Certifications



ISO 9001:2015
Quality Management System



ISO 14001:2015
Environmental Management System



ISO 13485:2016
Medical Device Quality Management System



GRS
ITS-TE-00112561-GRS-0001078

Corporate Certificates



Corporate R&D Center Certificate



Venture Business Confirmation



Global Technology Introduction Certificate



Medical Device Manufacturing License



MAIN-Biz Certification

Patents



Over 20 domestic and international technology patents

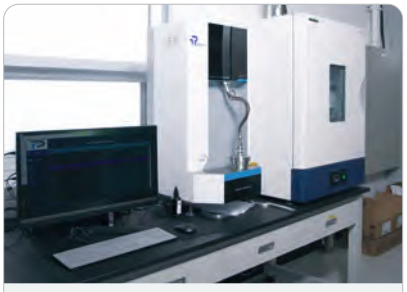
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FACILITY & TEST EQUIPMENT

SOFNT has established manufacturing and analysis infrastructure capable of supporting the entire process from nanomembrane material development to mass production and performance evaluation. Using electrospinning-based mass production equipment, SOFNT manufactures nanofiber membranes and precisely verifies material quality and performance through various evaluation systems, including pore size, flow rate, hydrostatic pressure, air permeability, solid content, and microstructure analysis.
Based on this infrastructure, SOFNT provides stable, customized membrane solutions tailored to the requirements of medical, industrial, water care, and semiconductor applications.



Nanomembrane Mass Production Equipment : 1.5m



Pore Size and Flow Rate Analyzer



Scanning Electron Microscope(SEM)



Hydrostatic Pressure Tester



Vent Hydrostatic Pressure Tester



Moisture Analyzer

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