

Description

The **Membralox** HCB module range takes advantage of the unique hexagonal shape of the Membralox ceramic membranes to obtain a high membrane packing density up to 285 m² /m³, thus significantly reducing filtration system costs.

Membralox HCB filtration modules provide economical solutions in difficult fluid clarification, effluent reduction and other stream purification applications.

Membralox HCB Modules

- Increased and optimized filtration surface area
- Reduced permeate hold-up volume
- Highly compact design for cost-effective system and smaller foot print
- Proven reliable sealing with PTFE global gasket
- Compatible with a wide range of chemicals
- Perfectly suited for the high robustness of the Membralox ceramic membranes
- Long service life

Membralox Membrane Characteristics

- High flux
- Wide chemical and pH (0-14) compatibility
- Excellent thermal stability
- Proven long service life
- Sanitizable
- Ability to withstand high frequency backpulsing cycles
- 100% bubble point integrity tested during manufacture
- Excellent resistance to corrosion

Applications

- Fermentation broth clarification, molecules extraction, purification and concentration, cell harvesting
- Clarification of glucose syrups and fruit juices, beer recovery
- Degreasing bath regeneration, oily waste treatment and hydrocarbons/water separation
- Treatment of harsh chemicals and solvent recovery
- Waste water treatment with ceramic membrane bioreactor (MBR)

Membralox® HCB Highly Compact Modules

A reliable design for industrial and environmental applications



Membralox HCB Module

Wide Separation Range

The exceptional structure of **Membralox** filtering elements has enabled the development of a wide range of micro and ultrafiltration ceramic membranes. A complete range of modules allows scale-up from laboratory separations to full size industrial needs.

Cost Effective Solutions

The remarkable physical and chemical stability of **Membralox** membranes allows reproducible performance over a long service life — a key feature in a cost/benefit analysis proven in numerous industrial installations.

Technical Information

Pall Membralox HCB Modules Range

Module type	No. of membranes	Membrane type	Surface area (m ²)	Retentate Connections (RC) Permeate Connections (PC)
M-19P4840	19	EP4840	13.11	RC: Bolted flange / o-ring gasket PC: Bolted flange / flat gasket
M-19P2760		EP2760	9.50	
M-19P3740		EP3740	8.93	
M-19P1960		EP1960	6.84	
M-36P4840	36	EP4840	24.84	
M-36P2760		EP2760	18.00	
M-36P3740		EP3740	16.81	
M-36P1960		EP1960	12.96	
M-60P3730	60	EP3730	21.00	
M-60P1940		EP1940	14.40	

Pall Membralox Ceramic Membrane Types

Membrane type	EP3730	EP1940	EP3740	EP4840	EP1960	EP2760
Channel diameter (mm)	3	4	4	4	6	6
Number of channels	37	19	37	48	19	27
Filtration area (m ²)	0.35	0.24	0.47	0.69	0.36	0.50
Length (mm)	1020	1020	1020	1020	1020	1020

The Membralox membrane **support** (12 µm pore size) and membrane **end sealing** are made of sintered ultrapure alpha-Alumina.

Pall Membralox Membrane Pore Sizes²

Temperature	1.4* – 0.8* – 0.5 – 0.2 – 0.1* µm	alpha-Alumina
Ultrafiltration	100* – 50 – 20 – 10 nm	Zirconia

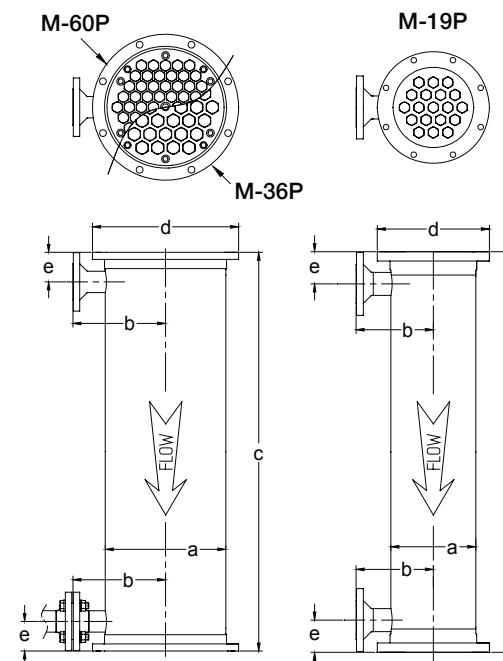
² Some pore sizes are not available on all membrane type. Please contact Pall for further information.

Accessories and Complementary Services

- Backpulse devices
- Laboratory scale and benchtop pilot units
- Feasibility studies, on-site plant design, commissioning, tests, training courses

The limits of use of **Membralox** modules are determined mainly by the type of housing or gasket materials. Based on valuable pilot and test data, our Scientific and Laboratory Services can provide advice in selecting the best membrane and module configuration to match your process requirements.

Membralox HCB Modules View



Nominal Dimensions (mm)

	a	b	c	d	e
M-36P / M-60P	340	261	1126	417	83.5
M-19P	253	217.5	1126	320	83.5

Operating Limits in Aqueous Liquids¹

Temperature	95 °C (203 °F)
Pressure	10 bar* (145.03 psi)

¹ Any liquids belonging to group II from PED 2014/68/EU art. 4 - §3

* 1 bar = 100 kPa



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Please contact Pall Corporation to verify that the product conforms to your national legislation and/or regional regulatory requirements for water and food contact use.

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