

CMS Membrane Module FAQ

Q. How is CMS's membrane made?

A. CMS's membrane modules are wound hollow-fiber modules. This arrangement optimizes water removal and allows for the most membrane area to be packed into a given volume, hence the *compact* membrane system.

Q. What kind of pressure drop will I see through the module?

A. This will depend on flow, the viscosity of your fluid, and temperature. You should expect to see anywhere from 2–10 psid drop through the membrane. If the process fluid is especially viscous (like transformer oil), CMS has a custom membrane design that minimizes pressure drop.



CMS Hollow
Fiber Membrane

Q. What makes the membrane resistant to so many different liquids and gases?

A. The membrane is made from a highly fluorinated polymer that is extremely chemically and thermally resistant.

Q. How often do I need to change out the membrane?

A. It depends on the application. In some cases like oil degassing membranes have lasted 10+ years and are still in operation. In liquid-liquid separations the membrane life is between 2–5 years.

Q. What does the membrane remove?

A. In liquid-liquid separations the membrane is efficient in removing small molecules like water and methanol from larger components like organic solvents or lubricating oils. The membrane is also effective in removing dissolved gases like oxygen.

Q. Does the membrane also act as a filter and remove solids?

A. No. The membrane should not be confused with a filter. In fact for every application a filter is used so large dissolved solids do not block the removal of water.

Q. What is the highest pressure the membrane can take?

A. The membrane itself can withstand up to 100 psig of applied pressure. However, in most applications higher pressures do not do much to improve performance.

Q. What is the highest temperature where the membrane can operate?

A. CMS's membranes are good to 120°C. As is the case for pressure, these high of temperatures rarely improve performance relative to that at mild conditions.

Q. Can the membrane handle very basic or very acidic conditions?

A. In most cases yes, the membrane can handle extreme pH levels. What may be limit the application is the chemical and pH resistance of the other materials used to make the membrane cartridge.

Q. What other pieces of equipment does the membrane need to perform a separation?

A. It depends on the system, but in general the membrane will work in conjunction with a pump, filter, vacuum pump, and minor plumbing. In applications like solvent dewatering heating and cooling elements boost performance and efficiency.

Q. Will the membrane module leak?

A. CMS' experienced manufacturing team performs rigorous quality control on each module to minimize the possibility of a leak occurring in field applications. Systems are designed to handle the rare case of a small leak to prevent failure and subsequent downtime.

Q. Can I perform any diagnostics to determine if my membrane is operating correctly?

A. Yes, you can use pressure, temperature, flow, and most importantly composition to see if the membrane is performing up to par. These capabilities can be designed into any system.