

HIGH PERFORMANCE POLYMERIC MEMBRANE

Used with our highly popular EPE5000 and EPE5500 enthalpy plate exchangers, Innergy tech's high performance polymeric membrane is the reason behind our exchangers' truly outstanding sensible and latent recovery. Years of research and an association with an important government research center made it possible to introduce a membrane that, not only transfers sensible energy, but also offers the highest latent recovery available on the market today.

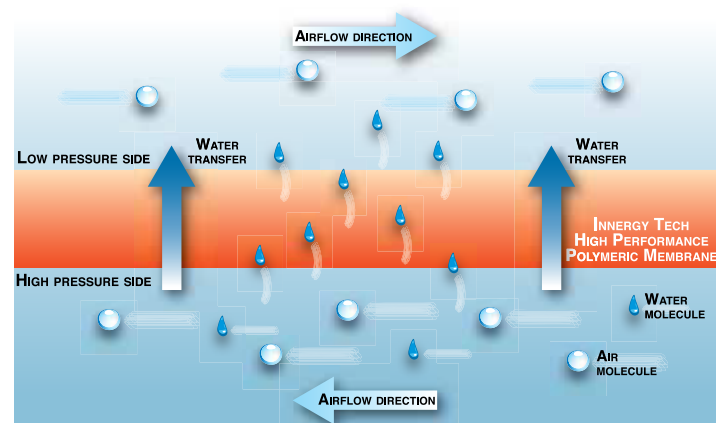
Small details can make a big difference

It all began with a goal to find the best molecular structure. Open minded research and intensive test procedures resulted in a polymer structure with unprecedented water chemical affinity. In fact, so high was the water chemical affinity that some of the polymers tested were able to absorb up to 500 times their weight in water. Further work on the absorption speed, bactericide properties as well as on the overall stability (over 5000 absorption/desorption cycles were completed with no recorded change in the polymer reaction) finally lead to our RC 134 polymeric desiccant used today.

How does it work?

When used with our EPE5000 and EPE5500 plate exchangers, our RC 134 polymeric desiccant is incorporated through a fiber based membrane that ends up, once the polymerization process is complete, impermeable to air but highly permeable to water. In that regards, it is important to note that the highly selective water chemical affinity of our RC 134 polymer desiccant makes it impossible to transfer other harmful contaminants (only water is absorbed and transferred).

Each membrane layer acts as a physical wall that separates the hot and humid airflow from the cold and dry one. Water (latent energy) transfer is based on the difference in vapor pressures of both airflows. The polymeric membrane, constantly seeking to balance the pressures, absorbs water from the high pressure side and releases it on the low pressure side. Heat (sensible energy) transfer is made possible by the very small thickness (only 0.005") of the membrane as well as very good convection and conduction coefficients within the plate exchanger. Corrugated aluminum completes the assembly and ensures a consistent distance between the membrane layers.



setting the
standard
for **energy
recovery**

innergytech.com



605, Rocheleau Street, Drummondville, (Quebec) Canada, J2C 6L8
Tool free: 1 800 203-9015 • Tel.: (819) 475-2666 • Fax: (819) 475-9541
sales@innergytech.com