

## 19: Permionics Membranes

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Permionics is the first and the only company in India to indigenously manufacture reverse-osmosis (RO), ultra-filtration (UF), and nano-filtration (NF) membranes for various process specific applications.

Established in 1976, it custom-designs and engineers complete membrane based systems from pilot to commercial scale to suit the specific requirements of petrochemical, biotech, biochemical, pharmaceutical, food and beverage, dairy, chemical and other sectors.

It also pioneers in manufacturing membranes and technology for the application of water treatment, effluent recycling, sewage recycling, and special process applications.

The company's revenue stood at Rs 18.11 crore for FY 2013-14. Today, the company boasts of having the most extensive range of membranes to suit any process parameters. The company has handled more than 2,500 installations for the last 30 years in India, UK, Syria, Jordan, Ethiopia, Kuwait, Vietnam, Pakistan, and Dubai.

The company's UF, NF, and RO membranes can be integrated in various upstream and downstream processes for separation, concentration, purification or recovery of small molecules, peptides or proteins, making the processes more economical and productive with enhanced recoveries.

The company currently employs 120 professionals. In the previous FY 2012-13, it touched revenue close to Rs 15.54 crore.

Permionics is currently exploring R&D initiatives for developing new membranes as well as applications for solvent recovery, chemical or biochemical processes and water and waste segments. The focus is also on covering chromatographic separations (RP, NP, HIC, SMB) along with membranes providing complete solutions to clients.

The company had since early 1980's installed membrane systems for product recovery from ML's and purification of solvents. This made it possible to constantly develop and install applications for the biotech and pharmaceutical sectors as well as main stream biotech applications such as fermentation broth clarification and concentration. The wide range of membranes with various cut offs are unique and help handle various types of applications for MF, UF, NF and RO processes. These factors majorly contributed towards its growth in the last fiscal.

Permionics is also venturing into new initiatives in identifying and developing new applications for membranes, solving issues faced by various industries.

New greener technology deploying membranes for soya, lignocelluloses biofuels, sugars processing, bran processing were also developed by the company and were taken to pilot scale successfully.

It launched several new membranes and expanded its product recovery areas both for biotech, pharma. Better facilities for characterization of existing as well as new upcoming membranes were also developed.

Going forward, it targets market expansion in other regions in India as well as internationally.

In the future, it aims to foster the solvent recovery applications for infusion of economics ahead of distillation and evaporation routes for solvent recovery.

The company believes that there is a need for new membrane processes that can replace conventional energy consuming processes viz. distillation, spray drying and extraction and provide better yields and recoveries.