TriSep Introduces its Line of Unique NF Membranes

TriSep offers a line of unique polyamide-, piperazine-, and cellulose acetate-based Nano filtration (NF) membrane chemistries that are available in flatsheet and a multitude of spiral-wound element designs. These NF membranes are used in a wide variety of applications. TS80 is a semi-aromatic polyamide NF membrane with nominal monovalent ion rejection of 80-90 percent and >99 percent divalent ion rejection. It is a versatile NF membrane that offers high solute rejection of both salts and uncharged organic solutes while operating at lower pressure than reverse osmosis membranes. In many water purification applications, TS80 is considered a "softening" membrane, and these elements operate at a pressure of about 100 psi. TS80 membrane is available in other element designs for use in industrial process applications. TS40 is a piperazine-based NF membrane with a molecular weight cut-off in the 200-300 Dalton range. Its nominal solute rejection is 40-60 percent NaCl, depending on feed concentration, and greater than 99 percent for MgSO4 and sucrose. TS40 is primarily used in food & dairy and other process applications. TS50 is a piperazine-based NF membrane that is designed to reject organics with a molecular weight cut off above 300 Daltons while passing monovalent ions. XN45 is a piperazine NF membrane that has a high rejection of divalent ions while allowing the great majority of monovalent ions to pass through the membrane. Its nominal solute rejection is 10-30 percent NaCl and greater than 90 percent for MgSO4 and sucrose. ■

TriSep's TurboClean® elements for sanitary applications

MEMBRANE Develops a High-End Separation Unit

MEMBRANE is a worldwide specialist in designing, manufacturing, commissioning high-end fluid treatment packages. From reverse osmosis (RO), nanofiltration (NF), ultrafiltration (UF), microfiltration (MF), electrodeionization (EDI), sulphates removal (SRP), concentration, sterilization. All design and manufacturing is proudly Made in Italy, at the Milano's headquarter. Industries served range from Oil&Gas, to Pharmaceutical, Power, Electronic, and Military. The company developed a high-end selective separation unit for the pharmaceutical industry. The PHARMA-NF unit has been designed to selectively separate an active principle on behalf of a world-renowned pharmaceutical company that, for confidentiality reasons, cannot be disclosed. The system comprises a complete recycle loop, pre-treatment, post-treatment, fully compliant with USP regulations, and the state-of-the-art automation. The units are built on solid SS 316L and Duplex SAF 2205, certified according with ASME BPE regulations. All tubing, piping, valves are mirror polished to pharma-grade. This unique system consists of two NF trains, each delivering 5 m3/h permeate in accordance with ISPE and USP specifications. Pretreatment includes self cleaning filtration, high fouling resistance nanofiltration membranes, and special recycle loops employing purified water (PW) and pharmaceutical solutions. The resulting selective separation allows to get high-concentration active principles directly extracted from the main reaction solution. This example shows an unfamiliar application of NF, where not just polyvalent ions are separated, but the main role played by the technology resides in the permo-selective separation of different molecules having different chemical-physical properties. ■

A separation unit for the pharmaceutical industry