

2007 Nikkei Superior Products and Services Awards Nihon Keizai Shimbun Awards for Excellence Reverse Osmosis Membrane Element SWC[®]5 for Seawater Desalination

Date of Award February 1st, 2008

Recipients Nitto Denko Corporation

Outline of Award The award is presented once a year to particularly outstanding new products or services selected from among the approximately 20,000 items featured annually in the four main publications of the Nihon Keizai Shimbun newspaper company. The main adjudication criteria include technology development quality, cost-performance balance, contribution to business performance, growth potential, innovativeness, and impact on industry and society, on the basis of which an overall assessment is made.



▶ Reasons for Award

The reverse osmosis (RO) membrane element SWC[®]5 for seawater desalination is the core product for producing fresh water from seawater using the membrane method and makes it possible to achieve fresh water at a lower level of energy consumption than with the conventional RO membrane for seawater desalination. This feature was recognized as contributing to resolving world water shortages and led to the presentation of the award. Among the other products that received this award in fiscal year 2007 were a hybrid passenger car, a wind-powered electricity generator, and other products with a strong environmental message.

▶ Features of Award-winning Product

The award-winning SWC[®]5 is an RO membrane element for seawater desalination that allows fresh water to be produced at lower pressure than with conventional products. This reduction in pressure, and therefore in electricity consumption, contributes to energy saving. To produce fresh water at low pressure, the water permeability of the reverse osmosis membrane needs to be raised. Normally, there is a trade-off relation between water permeability and salt rejection in RO membrane performance, but this product manages to reconcile these conflicting functions by suppressing chemical reactivity and optimizing the polymer structure of the layer which carries the separation function (thickness ca. 0.2μm).

The SWC[®]5 allowed our United States group company Hydranautics to win one of the world's largest supply contracts for a facility in Algeria processing 200,000m³ per day. Elsewhere, the worldwide sales network of Hydranautics has won a series of other major contracts in Spain, Australia, and Mexico. Going forward, we are committed to using the global partnership between Nitto Denko and Hydranautics to contribute to resolving water shortages worldwide.



Product form and reverse osmosis membrane

