

Large diameter RO elements: A summary of recent operating experiences

Peter Moss*, Robert Skelton

*Koch Membrane Systems, Units 3-6 First Floor, Greyfriars Business Park, Frank Foley Way, Stafford ST16 2ST, England, UK
Tel. +44 1785 272500; Fax +44 1785 223149; email: infoeurope@kochmembrane.com*

Received 15 September 2008; accepted 16 March 2009

ABSTRACT

In recent years, the use of large diameter reverse osmosis (RO) elements has gained some considerable momentum as a potential means of lowering the overall cost of desalination by membrane treatment. By the beginning of 2008, a number of systems have been installed so operating experience exists. Along with some design issues, this paper will review some of the currently operating installations and discuss why large diameter elements were selected for specific projects. The commercial availability of large diameter elements also offers opportunities for alternative system and building layouts. These considerations have implications for cost and space savings. This paper will also review the design approach for large volume systems using the large diameter elements, looking at factors such as the array and rack designs, plant layout and pump sizing.

Keywords: Reverse osmosis (RO); Large diameter RO elements; Water treatment; Membranes

* Corresponding author.

Presented at the conference on Membranes in Drinking Water Production and Wastewater Treatment, 20–22 October 2008, Toulouse, France.