

Our Stories

MICROELECTRONICS

Reliable Performance of LG NanoH₂O™ RO Membranes for UPW Production



Product type: **Energy Saving BWRO w/ L Spacer**
 RO model: **LG BW 400 ES L**

Application:
Ultrapure Water Production

Background

In China, a leading manufacturer of TFT-LCD panels installed LG Chem's BW 400 ES L energy-saving reverse osmosis (RO) membrane elements for its ultrapure water (UPW) production process. The plant monitors increases in differential pressure (dP) for cues in membrane cleaning and TOC rejection as critical parameters for producing high-quality permeate.

Novel Feed Spacer

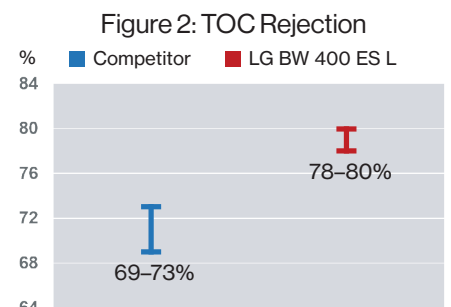
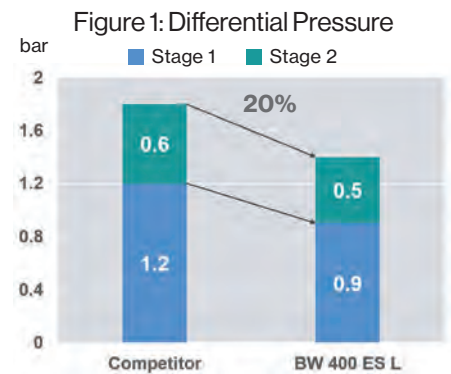
LG BW 400 ES L incorporates a proprietary novel L feed spacer to reduce differential pressure. The result is a lower fouling rate and cleaning frequency, and overall operational cost savings. For more information on the L spacer, please refer to LG Chem's "Tech Fact Sheet: L Feed Spacer" document no. E8-EN-300621.

Membrane Performance

At system start-up, the total differential pressure (1st and 2nd stages) of LG NanoH₂O™ RO elements was about 20% less than the competitor's equivalent product, also equipped with a factory-supplied low dP feed spacer (Figure 1). Permeate production was similar for both elements at 80 m³/hr with a 90% recovery rate. TOC rejection for NanoH₂O™ membranes was measured between 78–80%, higher than the competitor model (Figure 2).

System Information

- RO System design: 2 stage, 7:3 array (6M)
- No. of trains: 19
- RO system recovery: 89–90%
- Feed water temp: 25.0–26.0°C
- pH: 7.5–8.5



TOC rejection may vary with feedwater and operating conditions

www.lgwatersolutions.com

Please visit our website for regional contact information or email us at waterinfo@lgchem.com

 LinkedIn  YouTube

The information contained herein are deemed to be accurate and reliable and are offered in good faith, but without guarantee of performance. LG Chem assumes no liability for results obtained or damages incurred through the application of the information contained herein. Customer is responsible for determining whether the products and information presented are appropriate for the customer's use and for ensuring that customer's workplace and disposal practices are in compliance with applicable laws and other governmental enactments. Specifications subject to change without notice. NanoH₂O is the Trademark of LG Chem. All rights reserved. © LG Chem, Ltd.