

RO TRAIN DESIGNS IN THE LAST YEARS; EVOLUTION OF ENERGY CONSUMPTION AND FUTURE TRENDS

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TOPIC: Desalination and water purification processes

RO designs have been developed significantly in the last years. A combination of new energy recovery devices, new membrane and membrane array, increase of efficiency of high pressure pumps and other installed pumps (for example booster pumps) have changed the traditional designs reducing energy consumption and increasing permeate quality.

In this paper we will describe the basic design for the RO train (including basically HP pump, booster pumps, membrane array and energy recovery devices) for some SWRO plants developed in the last years, with different designs, as the following;

SWRO Alcutia, Spain. 14,000 m³/day (7,000 m³/day RO train with HP Pump and Pelton Turbine)

SWRO Aguilas, Spain. 210,000 m³/day. Energy recovery device (Dweer)

SWRO Costa del Sol, Spain. 60,000 m³/day, Energy recovery device (ERI)

SWRO SSWA, Perth, Australia. 153,000 m³/day. Split-hybrid membrane design. Energy recovery device (ERI)

¿Alguna de Argelia?

The different designs will be compared and the resulting specific energy consumption will be exposed.