Application story

WANNER™
HYDRA-CELL® PRO
SEAL-LESS PUMP TECHNOLOGIES

Reverse Osmosis Remineralisation

Location	Saudi Arabia	**Hydra-Cell model**	G10XKMTCCTME x 6 / G13XKMTCCTMK x 9
Type of application	Reverse Osmosis Remineralisation	**Flow rate**	G10 500 - 1980 l/hr (132 - 523 gph) / G13 100 - 600 l/hr (26.4 - 158 gph)
Liquid	Calcium Chloride Magnesium Chloride Sodium Bi-Carbonate	**Pressure**	10 bar (145 psi)

Application details

Marafiq's foundations were laid in the 1970s when the government established the Royal Commission to develop the two industrial cities of Jubail and Yanbu. The objective was to diversify the national economy and reduce the Kingdom's reliance on its oil revenue by providing the requisite infrastructure and facilities for the establishment of primary, secondary and support industries.

Today the two industrial cities are symbols of the Kingdom’s unprecedented growth in the industrial sector. It is also a reflection of the confidence of foreign investors in the industrial capabilities of the country. Several successful joint ventures between Saudi and international companies such as Chevron, Mitsubishi, Shell and Mobil are located in the two industrial cities. A recent international survey has named Jubail as the city with the best economic potential in the Middle East.

The Royal Commission established the power and water infrastructure in Jubail and Yanbu, comprising a power station in Yanbu, seawater cooling facilities, desalination plants and wastewater treatment plants. By 1999 the ball was set rolling to privatise these utilities. Council of Ministers Decision 57 of 11 July 1999 defined the charter of a new private utility company, leading to the establishment of Marafiq by Royal Decree in October 2000. All the utility assets run by the Royal Commission were transferred to Marafiq, and the new company started operating commercially on 1 January 2003.

After the Reverse Osmosis process for the production of drinking water for human consumption the filtered water has been stripped of minerals. Water with low levels of minerals, < 50mg/l becomes poisonous for humans, so to ensure the RO water is good for human consumption minerals are dosed to re-mineralise it.

API 675 metering performance was required to ensure accurate dosing of the remineralisation liquids and the pump flow rate was controlled by an inverter

Advantages of Hydra-Cell pump on this application

Although other traditional metering pumps were considered, Hydra-Cell was chosen as it offered the lowest acquisition & installation cost and did not require any Pulsation Dampeners to be fitted.

Wanner Engineering - World Headquarters & Manufacturing
Minneapolis USA
t: (612) 332-5681
e: sales@wannereng.com

Wanner International
Hampshire UK
t: +44 (0) 1252 816847
e: sales@wannerint.com

Wanner Pumps
Shanghai CHINA
t: +86-21-6876 3700
e: sales@wannerpumps.com

Wanner Pumps
Kowloon HONG KONG
t: +852 3428 6534
e: sales@wannerpumps.com