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CASE HISTORY

AL ANSAB

End User	Haya Water
Process	Memtreat
Application	Generation of reusable water from sewage.

Introduction

Al Ansab STP, Muscat, Oman

ACWA commissioned the WWTP for Haya Water which utilises its membrane process for producing water suitable for re-use.

Plant Description

The Al Ansab STP, in Muscat, Oman, treats an ultimate equivalent population of 900,000 people, or 220,000m3/day. The initial contract was to treat a flow of 76,000m3/day and utilises 304 Kubota EK400 double-deck modules—a total of 121,600 panels.

The design will be carried out in collaboration with appointed consultant KAME (joint venture of Khatib Alami and Metcalf & Eddy). The Oman Wastewater Company, now Haya Water made the decision to utilise MBR technology on the basis of requiring a high quality effluent for irrigation reuse, and the small land availability of the existing site. ACWA was chosen as the membrane supplier due to the reliability of the Kubota membrane, and ACWA's long-term experience with large-scale plants.

The main design parameters of the MBR are as follows:

- Gravity operation of membranes.
- 8no tanks, peak daily flow treatable with 7no tanks.
- Completely automatic chemical cleaning (press button).
- 5/10 year comprehensive membrane life.
- Each set of 4 no membrane units coupled together to result in large savings in pipework and valve costs.
- On site test rig to enable easy checking of membrane performance.
- BNR design for nitrification.
- Commissioning of the plant was in 2009

Typical view of the installation of MBR units