

# CASE STUDY



## PROJECT POTABLE WATER FOR MARINE SUPPLY BASE

**PRODUCT** Sea Water Reverse Osmosis Plant  
**INDUSTRY** Oil and Gas  
**LOCATION** Karratha, Western Australia

### BACKGROUND

West Australia's Pilbara region is a power house of the Australian mining and oil and gas sectors; it also suffers an arid climate and scarcity of fresh water.

Australia's largest marine services provider to the offshore oil and gas industry, Mermaid Marine, operates a large supply base in Karratha. In an effort to ensure security of supply and eliminate dependence on public infrastructure, they engaged MAK Water to design and construct a packaged potable water treatment plant. As a specialist in the field of sea water desalination, with several desalination plants operating in the area, and a local service office in Karratha, MAK Water was selected as their partner in providing a long term solution.

### SOLUTION

MAK Water designed and manufactured a containerised Sea Water Reverse Osmosis Plant to produce 500 m<sup>3</sup>/day of potable water.

### CUSTOMISED DESIGN FEATURES

- Raw water turbidity monitoring
- N+1 media filters with air scouring (AS1210 certified)
- Dedicated backwash pump and blower

### DRINKING WATER TO AUSTRALIAN DRINKING WATER GUIDELINES

- Acid dosing and calcite filter (pH and hardness correction)
- Automated sodium hypochlorite dosing (sterilisation)
- Residual chlorine and pH analysers (monitoring)

### FULLY AUTOMATED AND REMOTE CONTROLLED

- Premium instrumentation package
- ClearAccess™ remote monitoring and control
- Online feed and treated water quality analysers

### RESULTS AND BENEFITS

- **Easy installation.** Pre-tested, containerised plant minimised client's site installation costs and the plant footprint.
- **Fully automated plant.** Low level of operator intervention reduced Mermaid Marine's operating costs.
- **Self-sufficiency reduces risk.** Ensures security of supply and eliminates the dependence on public infrastructure. This, coupled with MAK Water's local service office, minimised risk and ensures ongoing performance.



*The Sea Water Reverse Osmosis Plant undergoes Factory Acceptance Testing*



*Sea Water Reverse Osmosis plant installed on site in Karratha*