



Key Benefits

- A total solution for the water needs of the resort
- An efficient design that takes into consideration the stringent requirements set by the owner and the project manager
- An “Environmentally Friendly” plant that has minimum effect on the surrounding marine life and coral formations
- Well proven technology and reliable design that meant trouble free operation and minimum downtime time
- Lower energy usage due to the utilization of specific environmentally friendly equipment, which results in a lower carbon footprint
- Full local support and customer service, in a world-class quality, from a well established company



Seawater Desalination Plant, Port Ghalib Resort - Egypt

A Case Study



Key Data

Location	Port Ghalib, Marsa Alam - Egypt
Plant Type	Reverse Osmosis Seawater Desalination
Capacity	18,000m³/day in 3 Phases
Use	Municipal
Client	EMAK for Utilities & Services (Subsidiary of M. A. Kharafi Group)
Project Manager	Bechtel
End User	Port Ghalib Resort
Contract Type	Turnkey Design & Build, Including Civil Works

Introduction

Port Ghalib , a world class resort located along the southern Red Sea coast, at Marsa Alam in Egypt. This integrated development spans 18 km of pristine beachfront, with access to the Red Sea turquoise blue waters and world famous coral. The Resort is recognised as a model for environmental conservation, cultural preservation, design creativity, beauty and diversity of entertainment and leisure experiences.

Due to Port Ghalib's location, it was necessary to create an infrastructure to supply water, power and waste treatment needs for the area. Consequently, the water desalination plant, one of the major utility design and construction contracts for Port Ghalib, was awarded to Metito.

Scope of Work

Metito was assigned with the turnkey design and construction of the complete civil-electromechanical work for the plant. This included;

- . Beach well intake pumps
- . Raw water storage tanks
- . Raw water disinfection system
- . Polyelectrolyte injection for coagulation
- . Automatic dual media pressure filters
- . Dechlorination agent injection system
- . Acid & Antiscalant injection systems
- . Micron cartridge filters for membranes protection
- . Multistage Duplex SS high pressure pumps with energy recovery turbines
- . Seawater membrane racks:
 - . 2x500 m³/day plus 2x1000 m³/day for phase I
 - . 3x1000 m³/day for phase II
- . Lime injection systems for pH correction
- . Hypochlorite injection systems for post-chlorination
- . Membrane flushing and cleaning system
- . Product water tanks
- . Product water transfer pumps
- . Electrical substation & transformers, HV & LV MCCs
- . Distributed control system

