



# Watercap



# Services WaterCap offers:



Design of water treatment systems utilising state of the art 3D software tools.



Vertically Integrated manufacturing



Minimised lead times



Products tested QA/QC



Specialised Installation Team of technicians led by leading certified water engineers to ensure the timely installation and commissioning of water treatment systems supplied.



Experienced technicians with proven track records in supporting water treatment operations in complex environments.



Service support and logistical supplies globally

The above services allow for operational strengths and long-term operation of the equipment at the required performance levels.

## Capability Strengths

The equipment offered is designed to produce water of the appropriate quality, quantity and consists of:

### PRE-TREATMENT

### REVERSE OSMOSIS (RO) (SWRO)

### POST TREATMENT

- Pre-engineered, Pre-assembled, Reverse Osmosis Water Treatment Unit in a 20' / 40' steel shipping container.
- Our containers are ergonomically designed, temperature-regulated with a coated floor.
- State-of-the-art automation executed Programmable Logic Controller (PLC)
- Data feed direct from the plant to engineering HQ and immediate online support.

- European standards of design combined with branded equipment such as Danfoss / Xylem / Lowara and Hydranautics Reverse Osmosis membrane elements.

- Wetted parts of all pumps included are Duplex stainless steel for high pressure and AISI 316/316L stainless steel for low pressure to ensure high resistance to corrosion.

- Estimated HPP power consumption up to 5kWh/m<sup>3</sup>

- WTP system has been designed and engineered to cope with raw water salinity up to TDS: 40.000ppm



# System Requirements

## RAW WATER ANALYSIS

A complete Physiochemical analysis of the Raw Water is needed prior to final detailed engineering of the system.

PARAMETER	VALUE
pH	6,95
Ca	1.499 ppm
Mg	450 ppm
NO3	1 ppm
SO4	250 ppm

## ASSUMPTIONS

- Raw Water Boron < 5 ppm
- Chlorides > 24000 pp
- Raw water does not contain colloidal turbot, colloidal Silica, Colloidal Iron or any other pollutant not stated in the chemical analysis.
- No other pollutants that would potentially harm the membranes are present to the water to be treated.
- There is no organic load present in the raw water.

## TREATED WATER QUALITY

Potable water according to WHO Drinking Water Quality Standards

## TREATED WATER QUALITY

From 1000 litres - 120,000 litres per hour dependent on clients requirements.

## TEMPERATURE

The design temperature is 25°C- The maximum temperature that the untreated water may reach is 30°C minimum 20°C

- Detailed P&ID layout diagrams along with complete hydraulic and electrical drawings will be delivered within four weeks following order confirmation date.



# Infrastructure Required to support Containerised Water Treatment Plant

1. Construction of a solid reinforced concrete fat base with no inclination in order the container can be placed horizontally.
2. Installed rated power up to 72kW (400V / 50 Hz)
3. Drain Channels for discharge to drain reject water dependent on size of treatment plant.
4. Appropriately dimensioned pipes from the untreated water tank to the container Inlet and outlet towards the treated water tank.
5. Static IP address which will forward remote Internet users to PLC IP. Infrastructure such as router, UTP cable for distance monitoring with a connection baud rate 2 Mbps.
6. Detailed chemical analysis prior to start up.



# WaterCap Offering

1. Design, deliver, supply of Equipment as previously described.
2. Procurement of equipment as previously described.
3. Complete Operation Manual
4. Maintenance Instruction Manual covering recommended maintenance regime.
5. KKS numbered P&ID's and labelled Electrical Drawings and system parts for convenient Installation and access.
6. Feasibility for FAT testing of the system prior to shipment
7. Feasibility for training at the factory.



## Warranty / Payment Terms

### WARRANTY

Twelve months according to the company warranty policy. Consumables such as cartridges and chemicals are not included. The warranty does not cover Indirect costs and loss of earnings and is valid only on condition that spare parts and consumables proposed are used. During the time of warranty any defective or worn piece of equipment or spare part will be replaced at no extra cost. Failures associated with abnormal use of the equipment, violation of written operating Instructions and external factors are excluded from warranty.

### PAYMENT TERMS

Prices:	In Dollars Net, excluding VAT. Starting from \$50,000 - \$350,000USD dependant on water quality and specifications.
Payment Terms:	50% Advance Payment , 50% at FAT test completion
Delivery time:	80 - 110 days
Delivery Terms:	Ex Works Factory.

## BUYING OPTIONS

- Straight buy
- Leasing
- Water purchasing mechanisms
- End-to-end solution

## SERVICE SUPPORT

Enigma Smart Site Services has a dedicated construction team that can conduct site surveys and pre construction work on all Civil's required to support your containerised water treatment plant; this is at an additional cost. Our team have worked in some of the most hostile places in the world and are set up to work in harsh conditions.

We also have a trained service department and personnel for reliable efficient After Sales Service. Our team will ensure that logistical supply lines are established for Chemicals and spare parts that are required to support your water operation. This is at an additional cost.

WaterCap and Enigma Smart Site Services are set up to provide the client with an end-to-end solution and service, when required by client.



## FOR MORE INFORMATION, CONTACT

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