

# Watermakers & Sewage Treatment Plants

Marine & Offshore



**TECNICOMAR**  
WATERMAKERS - SEWAGE TREATMENT PLANTS



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## Our Customers:





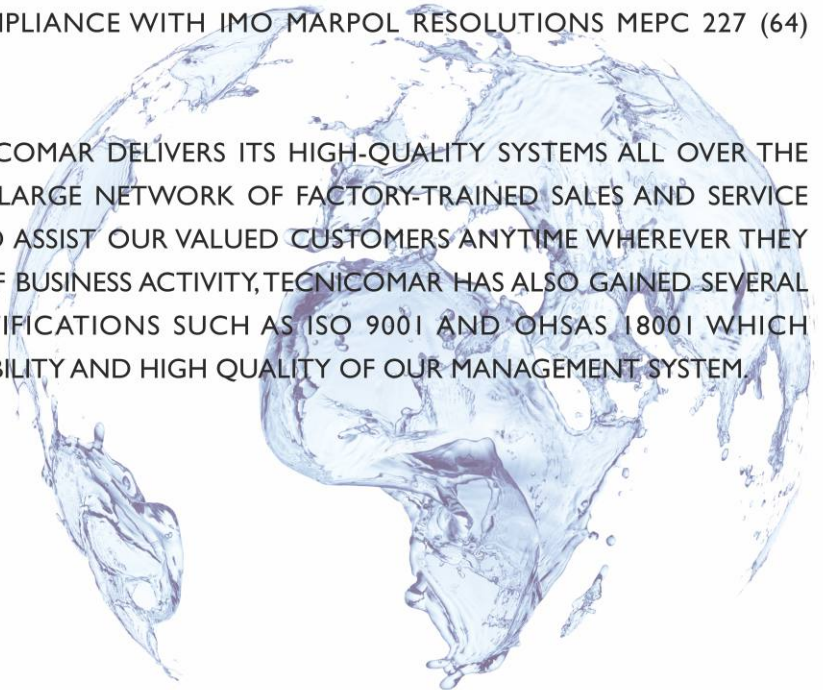
## 38 years of experience in providing solutions for every demand of water treatment, anytime and everywhere.

ESTABLISHED IN 1978 BY MR. FRANCESCO DE VITA, TECNICOMAR S.P.A. SHORTLY BECAME A LEADING COMPANY DESIGNING AND MANUFACTURING REVERSE OSMOSIS WATERMAKERS AND WATER PURIFYING SYSTEMS FOR YACHTING, NAVAL, OFFSHORE, INDUSTRIAL AND RESIDENTIAL APPLICATIONS.

SINCE THEN, TECNICOMAR HAS BUILT A STRONG REPUTATION WITHIN MARITIME INDUSTRY SUPPLYING A WIDE RANGE OF PRODUCTS MEETING ANY DRINKABLE WATER NEED AND ENGINEERED TO BE THE MOST RELIABLE, LONGER LAST AND MORE CONVENIENT BECAUSE GREEN TECHNOLOGY BASED GIVING UP TO 60% MORE OF FRESH WATER AND 35% LESS OF ENERGY CONSUMPTION.

IN 2004, TECNICOMAR HAS DEVELOPED A NEW PRODUCT LINE BY LAUNCHING IN THE MARKET THE STATE-OF-THE-ART SEWAGE TREATMENT PLANT, REPRESENTED BY THE ECOMAR WHICH IS A PATENTED SYSTEM, CHEMICAL TYPE, FULL AUTOMATIC OPERATION, CERTIFIED BY LLOYD'S REGISTER AND DESIGNED TO TREAT BLACK AND GREY WATER IN COMPLIANCE WITH IMO MARPOL RESOLUTIONS MEPC 227 (64) INCLUDING PARA 4.2.

NOWADAYS, TECNICOMAR DELIVERS ITS HIGH-QUALITY SYSTEMS ALL OVER THE WORLD THROUGH A LARGE NETWORK OF FACTORY-TRAINED SALES AND SERVICE READILY AVAILABLE TO ASSIST OUR VALUED CUSTOMERS ANYTIME WHEREVER THEY ARE. OVER 38 YEARS OF BUSINESS ACTIVITY, TECNICOMAR HAS ALSO GAINED SEVERAL OUTSTANDING CERTIFICATIONS SUCH AS ISO 9001 AND OHSAS 18001 WHICH HIGHLIGHT THE RELIABILITY AND HIGH QUALITY OF OUR MANAGEMENT SYSTEM.



**TECNICOMAR**

Reverse Osmosis Watermakers  
Sewage Treatment Plants

# THE HISTORY

## 1978



Mr. Francesco De Vita founds Tecnicomar with the manufacture of the first Reverse Osmosis watermaker ever made in Europe and designed for Yachting application. Shortly, the company starts approaching new fields such as Offshore, Defense and Industrial, getting experienced with big units suitable to work in hard conditions and compliant with military standards.



## 1990



With the new General Manager Tommaso De Vita the company strengthens the presence on international markets and improving the standard quality.

## 2001

Given the great results soon achieved thanks to the reliability and high performance of its products, Tecnicomar is awarded the UNI EN ISO 9001:2000 Quality Certification.



## 2004

Tecnicomar launches a new product line in the field of waste water treatment, represented by an innovative Sewage Treatment Plant, called the ECOMAR which shortly becomes the state-of-the-art system, fully compliant with IMO MARPOL standards, certified by Lloyd's Register and approved by the U.S. Coast Guard.



## 2008

Tecnicomar moves its headquarters and production into a 4500 sqm facility based in Marsala (Italy) to better face an increasing demand and to assist its clients more properly and timely.







## 2014

Tecnicomar succeeds in most of its markets, driven by innovative products, continuous R&D and a strong network of distributors operating over 40 countries which lead the company to achieve brilliant results.

Tecnicomar is awarded the UNI EN ISO 9001:2000 Quality Certification in 2001, the OHSAS 18001:2007 Safety Certification and the FPAL Certification.



COMPANY WITH QUALITY SYSTEM CERTIFIED BY DNV GL # ISO 9001:2001



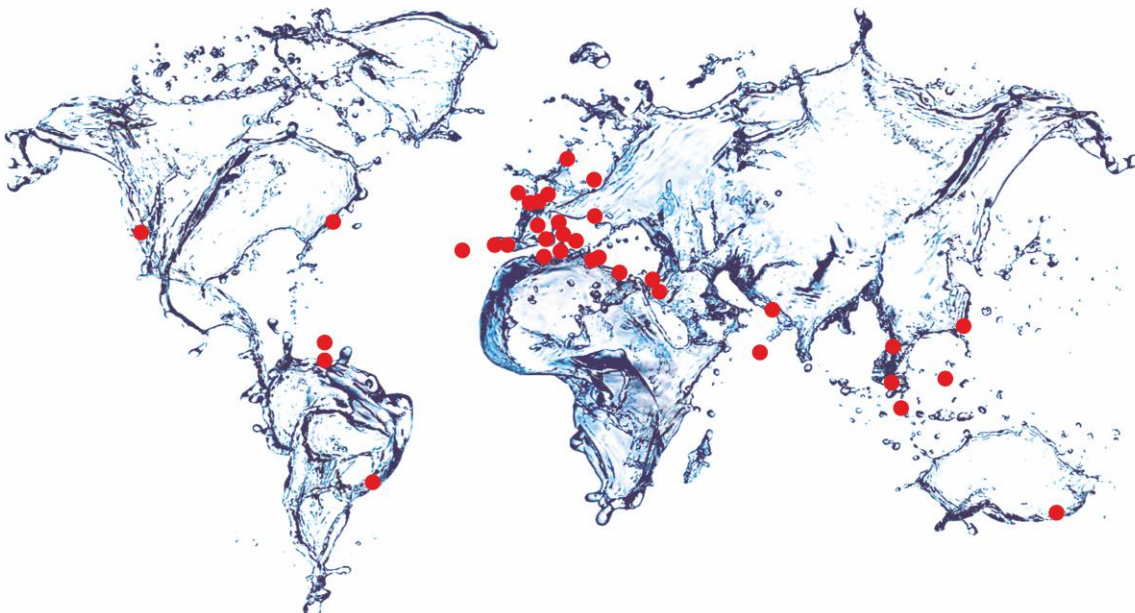
COMPANY WITH SAFETY SYSTEM CERTIFIED BY DNV GL # OHSAS 18001:2007



## 2016

Tecnicomar builds a sister facility of 3000 sqm next to the current one to increase the production.

OUR INTERNATIONAL PRESENCE:





Company Certifications:



# CERTIFICATIONS

Over 38 years of business activity, Tecnicomar got several different certificates about Quality Management System, issued by some of the most important international Authorities such as DNV, for UNI EN ISO 9001:2000 Quality Certification and OHSAS 18001:2007 Safety Certification, FPAL Certification and Lloyd's Register & TÜV compliance.

Components & Products are Approved by:



The Company is Member of:





# Reverse Osmosis Watermakers



**TECNICOMAR**

Reverse Osmosis Watermakers  
Water Treatment Systems

# Reverse Osmosis Watermakers

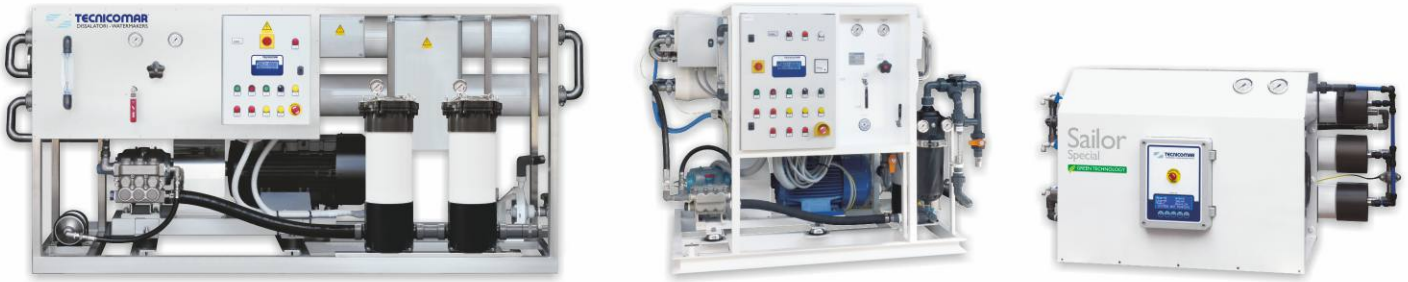
## STANDARD FEATURES

- Compliance with Offshore and Defense standard for electrical and mechanical components
- Well designed for extremely hard conditions operation
- Double prefilter with reusable high flow rate cartridge filtration, 30 and 5 micron, allowing a reduced maintenance
- Carbon fibre pressure vessels TÜV certified for BiCompact, Sailor and Oasi models (reinforced fiberglass vessels, A.S.M.E. certified, for Essential, Sailor Special 2/44 and 3/44, STDC SY and SW8 watermakers)
- Reverse Osmosis membranes Filmtec/Dow with high chemical resistance, spiral wound type in thin film composite. FDA and NSF/ANSI standards compliant
- CAT high pressure pump with solid ceramic plungers and AISI 316L stainless steel pump head for continuous duty. Duplex and Super Duplex high pressure pump for high salty water applications.
- Feed pump in bronze for marine applications, highly resistant to corrosion. On demand available in AISI 316L stainless steel
- Delayed starting of the high pressure pump avoids the overload during system start
- Direct motor-pump coupling system with vibration dampers, reducing noise and vibration
- Tropicalized motor with low electric consumption, high ambient temperature resistant
- Double instrumentation for analogical and digital readings (standard for Sailor Compact, Sailor Special, Bicomact). On request for all other plants.
- Compact frames in Stainless Steel skid 316L, with anticorrosive protective paint
- Electronic monitoring of produced water quality with the automatic deviation out of board when quality does not reach the preset values
- High pressure pipes and fitting in AISI 316L stainless steel. Duplex and Super Duplex for special salty water applications.
- Pressure and vacuum pressure gauges in Stainless Steel 316L, glycerine filled
- Manual three way valve for easy membrane cleaning/flushing
- Predisposition for automatic membrane flushing after each watermaker stop
- Automatic pressure regulation device (standard for Sailor Special, Bicomact). On request for all other plants.
- Predisposition for final filtration with activated carbon filter -on demand-
- Operating hours meter for easy scheduling of ordinary maintenance
- Running signals and alarms available for system monitoring
- Electronic microprocessor control panel with LCD display (for BiCompact and Sailor models): *readings produced water salinity / low and high pressure / effective water production / fresh water production since last starting / electric absorption / temperature / starting-meter and hour-meter for easy maintenance programmation / failure*
- Electro-mechanical control panel for STDC/SY and SW8: high reliable and resistant to extreme conditions: *readings high salinity of the produced water / high electric power consumption / high or low pressure / oil change (for CAT high pressure pump). Electronic microprocessor control panel with LCD display available on request.*
- Remote controls: the electronic control panel is designed for the link with LCD display panel / on board Personal Computer / 7" LCD touch-screen display / optional remote control by Satellite link, for diagnosis, setting, maintenance and operation
- Complete installation kit, with hoses and fittings
- Low pressure circuit with pipes, flexible hoses and Stainless Steel 316L fittings in alimentary use material for potable water



## SPECIAL GREEN SERIES:

The new Tecnicomar ECO watermakers produce up to 60% more fresh water and consume up to 35% less of energy consumption than others, based on the same size!



## OPTIONAL FEATURES

- Bronze water strainer to prevent clogging of coarse filter and cartridge filters from marine debris
- Semi-automatic self-cleaning prefilter based on a swirl effect obtained by means of a propeller at the filter inlet, preserving the prefilter elements on the Reverse Osmosis system from marine debris
- Multimedia sand filter to reduce the level of suspended solids (turbidity) in incoming feed water
- Antiscalant dosing system to prevent the formation of scale on the membrane surfaces and membrane fouling avoiding premature membrane replacement
- Heating group, by electrical resistance and/or heat exchanger, for raising the temperature of sea water and potable water
- Cleaning/flushing system for assuring a longer membranes life.
- Booster system for produced fresh water
- Energy recovery system for low energy consumption and high performances
- Mineralizing filter to adjust the pH value of fresh water
- Automatic dosing systems for the water sterilization by chemicals dosage
- Carbon (de-chlorinating) filter to remove sediment and excessive chlorine content in the water, to improve taste and removes smell before use
- UV sterilizers, available with flow control device in case of any alarms
- Multi-purpose Reverse Osmosis units, for fresh water and technical water production
- Customized modules depending on available space
- Containerized package
- Special military equipments
- Availability of shock, noise and vibration tests on demand



# TECNICOMAR®

Reverse Osmosis Watermakers  
Sewage Treatment Plants

# Reverse Osmosis Watermakers

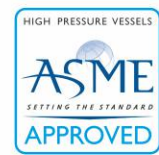
## SW8 SPECIAL GREEN

### **SPECIAL GREEN SERIES:**

The new Tecnicomar ECO watermakers produce up to 60% more fresh water and consume up to 35% less of energy consumption than others, based on the same size!

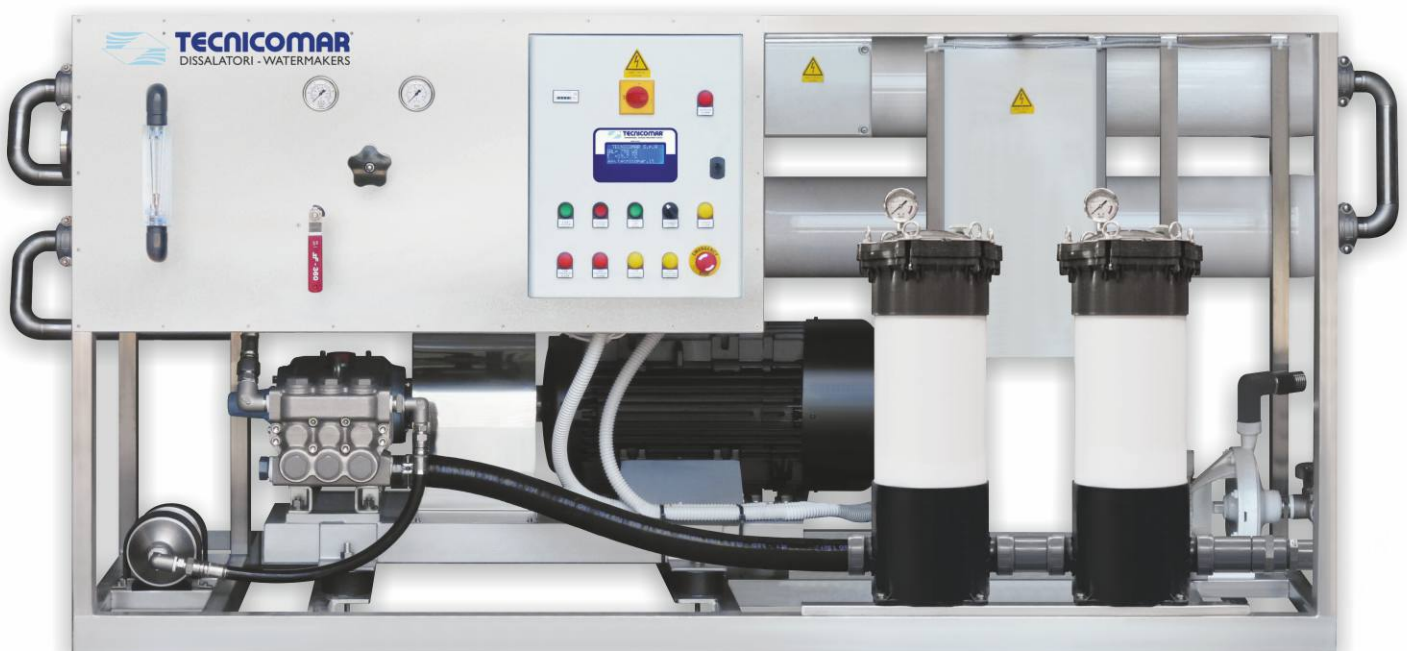
The Tecnicomar SW8 series is designed to produce high quantity of fresh water starting from 2.5 m<sup>3</sup>/hour. Ideal for offshore platforms, jack-up rigs, bulk carriers and other types of commercial vessels, the SW8 Reverse Osmosis watermakers are made up of high quality components that perfectly fit for marine applications, ensuring high performance in continuous operation even in hard environment conditions.

These systems are equipped with an emergency recovery system which allows a significant decrease of power consumption as well as an increase of system efficiency. The SW8 Reverse Osmosis watermakers also comes complete with an electro-mechanical control panel which gives the maximum reliability of correct operation in any conditions. The ASME approved pressure vessels are made up of reinforced fiberglass.



HIGHER FLOW RATE AVAILABLE ON DEMAND

SW8-100





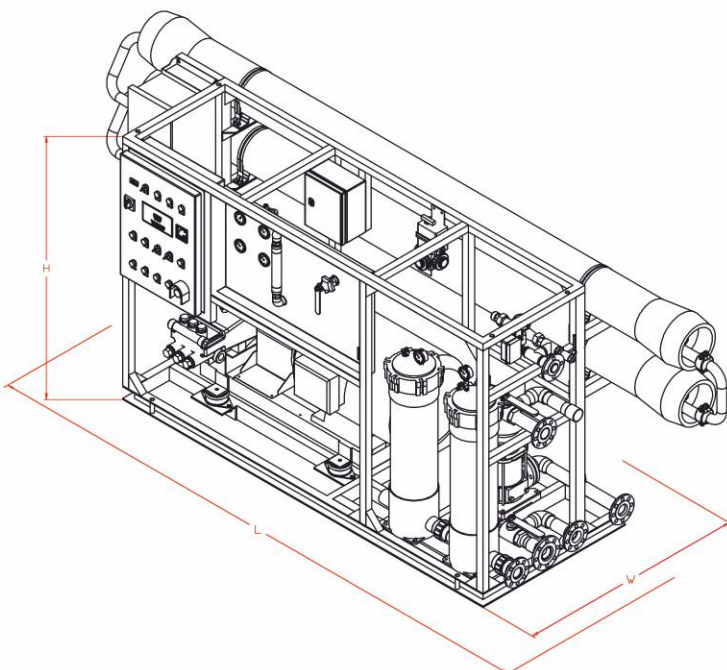


SW8-60

## TECHNICAL DATA

Model	Production by hour (litres / gallons)	Production by day (litres / gallons)	Power supply (Volt) / Frequency (Hz) Installed power (kW)	Max dimensions -L x W x H- (mm)	Weight (kg)
SW8-60	2500 / 660	60000 / 15840	400 V AC - 50 Hz 3-phase* - 18.5 kW	2050 x 1067 x 1443	930
SW8-75	3000 / 792	72000 / 19008	400 V AC - 50 Hz 3-phase* - 22 kW	2050 x 1067 x 1443	1010
SW8-100	4000 / 1056	96000 / 25344	400 V AC - 50 Hz 3-phase* - 30 kW	4000 x 950 x 1380	1070
SW8-150	6000 / 1585	144000 / 39474	400 V AC - 50 Hz 3-phase* - 37 kW	4930 x 950 x 1380	1460
SW8-250	10000 / 2642	240000 / 63408	400 V AC - 50 Hz 3-phase* - 55 kW	5950 x 950 x 1380	2000
SW8-∞	PLANNED ON DEMAND - UNLIMITED PRODUCTION				

\* other voltages and frequencies available on demand



# Reverse Osmosis Watermakers

## STDC SPECIAL GREEN

### SPECIAL GREEN SERIES:

The new Tecnicomar ECO watermakers produce up to 60% more fresh water and consume up to 35% less of energy consumption than others, based on the same size!

Tecnicomar STDC are automatic Reverse Osmosis systems ideal for the production of high quantities of fresh water from sea water.

The STDC Special Green series is highly reliable for a non-stop continuous operation and designed to work under extreme conditions like high and low temperatures and vibrations.

The watermakers can be customized for specific

exigencies and are assembled on a solid stainless steel frame. Tecnicomar STDC fresh water generators are equipped with an electro-mechanical control panel with display that allows to manage all functions in an intuitive mode.

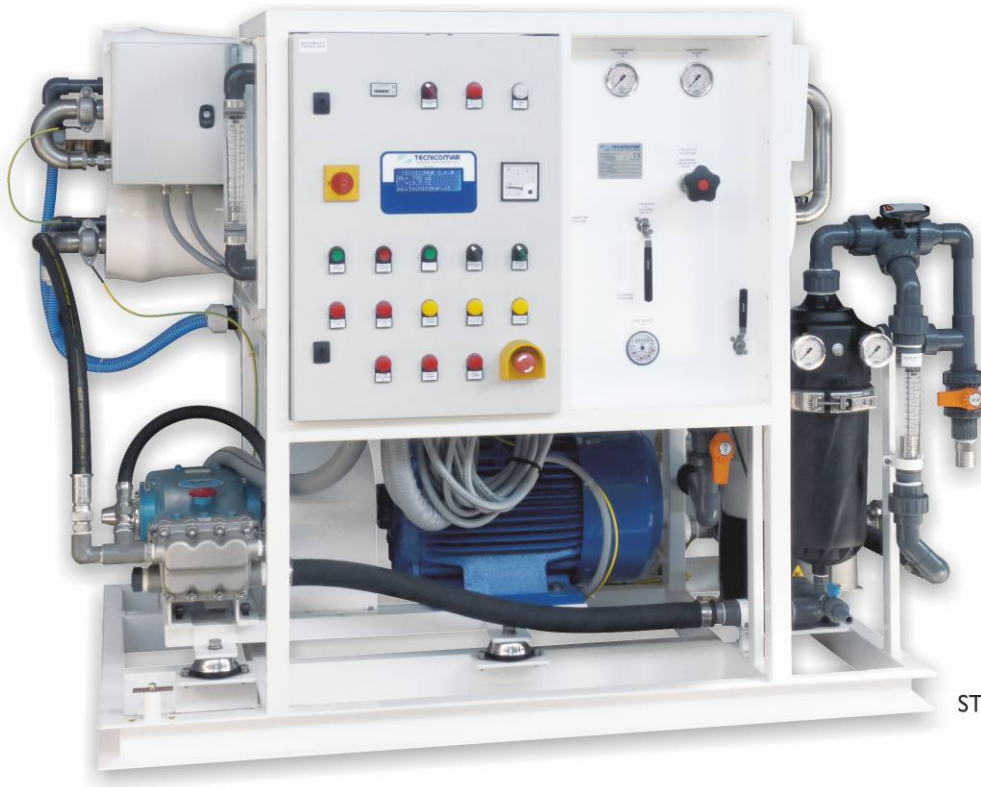
They can run in manual mode in case of temporary failure. The ASME approved pressure vessels are made of reinforced fiberglass.



STDC SY 9000





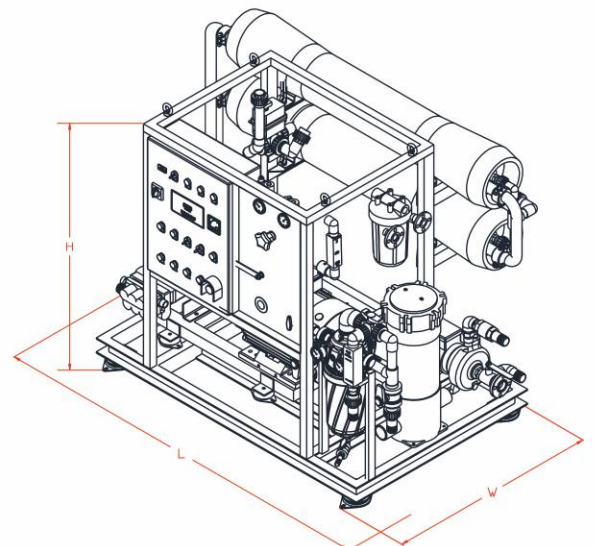
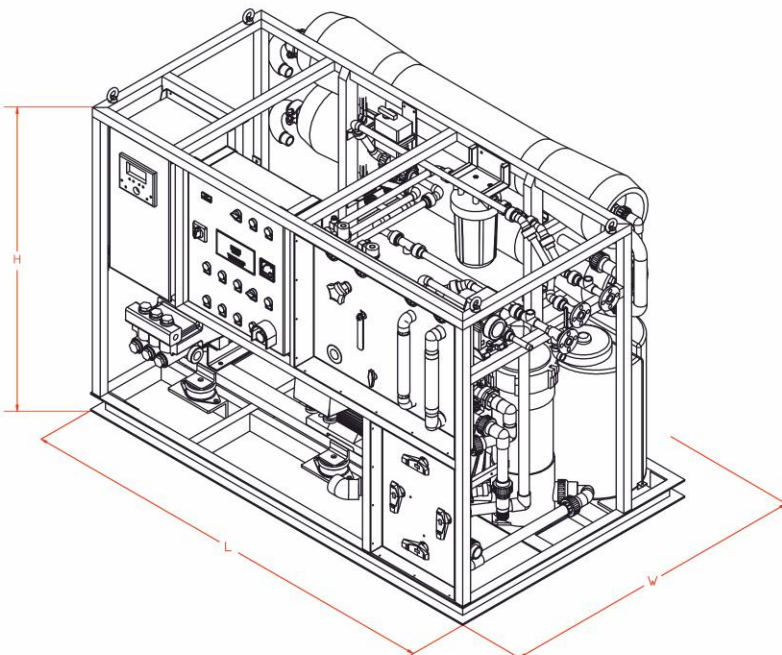


STDC SY 6000

### TECHNICAL DATA

Model	Production by hour (litres / gallons)	Production by day (litres / gallons)	Power supply (Volt) / Frequency (Hz) Installed power (kW)	Max dimensions -L x W x H- (mm)	Weight (kg)
STDC SY 3000	600 / 158	14400 / 3805	400 V AC - 50 Hz 3-phase* - 5.5 kW	1500 x 840 x 830	160
STDC SY 4500	800 / 211	19200 / 5073	400 V AC - 50 Hz 3-phase* - 5.5 kW	1500 x 840 x 830	180
STDC SY 6000	1000 / 264	24000 / 6340	400 V AC - 50 Hz 3-phase* - 7.5 kW	1500 x 840 x 830	210
STDC SY 9000	1500 / 395	36000 / 9480	400 V AC - 50 Hz 3-phase* - 15 kW	1930x 1150 x 1360	300
STDC SY 12000	2000 / 528	48000 / 11400	400 V AC - 50 Hz 3-phase* - 18.5 kW	1930x 1150 x 1360	360

\* other voltages and frequencies available on demand



# Reverse Osmosis Watermakers

## TECNICOMAR BICOMPACT

### **SPECIAL GREEN SERIES:**

The new Tecnicomar ECO watermakers produce up to 60% more fresh water and consume up to 35% less of energy consumption than others, based on the same size!

BiCompact is Tecnicomar's duplex watermaker range combining two independent systems on a common stainless steel frame: 2x250 liters/hour (2x1,581 gpd) or 2x350 liters/hour (2,213 gpd).

This space & energy saving solution is the first choice when redundancy is needed or the quantity of fresh water is doubling occasionally, on weekends or during high season as the systems can work simultaneously or autonomously. Each unit is fully automatic, but can be switched to manual mode if necessary.

The high reliability and flexibility make it suitable

both for military and research vessels as well as for Superyachts.

The electronic control panel allows a simple control of all operating functions from the main display or via remote control (optional). The light and resistant carbon fibre vessels (TÜV certified) are installed on the top on an overturnable system for easy maintenance and, in case of particular space restraints, they can be removed easily and installed separately.

Ready to be fitted with an automatic membrane flushing system.



**DUPLEX - HIGH PRODUCTION**







**BICOMPACT S6/40**

**VERY EASY TO USE:  
FULLY AUTOMATIC  
LOW NOISE OPERATION  
ONE-TOUCH TECHNOLOGY**

**Overturnable carbon fibre vessels pack**



**Accessories**



*Optional 7" LCD touch-screen display*

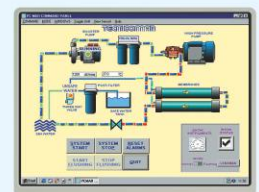


*Optional Automatic membranes flushing filter*



*Optional CDMAR-2 Remote Control*

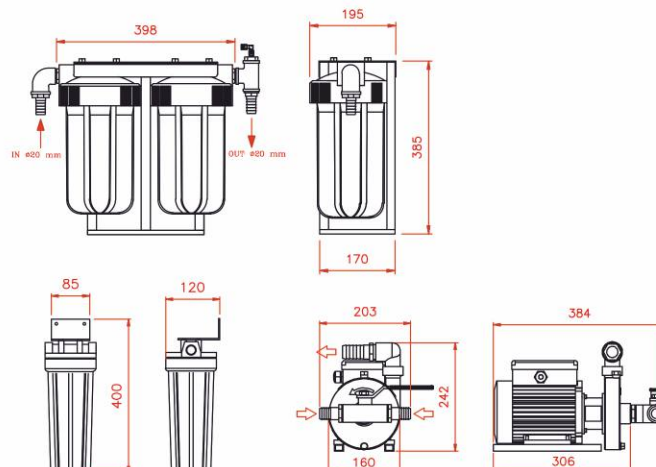
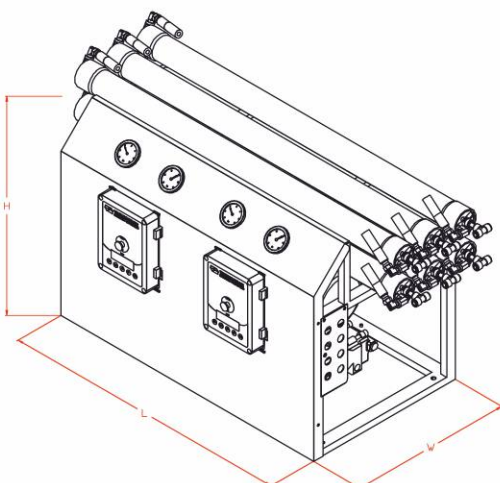
*Optional Remote Control by on-board PC*



**TECHNICAL DATA**

Model	Production per hour (litres / gallons)	Production per day (litres / gallons)	Voltage (Volt) / Frequency (Hz) Installed Power (kW)	Max dimensions -L x W x H- (mm)	Weight (kg)
<b>BICOMPACT S 4/40</b>	500 / 131	12000 / 3162	400V AC - 50 Hz three-phase* - 2 x 3 kW	1190 x 525 x 590	124
<b>BICOMPACT S 6/40</b>	700 / 184	16800 / 4426	400V AC - 50 Hz three-phase* - 2 x 3 kW	1190 x 525 x 590	130

\* other voltages and frequencies available on demand



## SAILOR SPECIAL COMPACT GREEN

### **SPECIAL GREEN SERIES:**

The new Tecnicomar ECO watermakers produce up to 60% more fresh water and consume up to 35% less of energy consumption than others, based on the same size!

Tecnicomar Sailor Special Green series has been designed with the scope to reduce the energy demand per produced liter/gallon.

Thanks to an overall process improvement and to the installation of highly innovative membranes, the system allows energy savings of 35% compared to other conventional desalination equipments. It is equipped with an advanced microprocessor controlling all functions and sensors. One-touch-operation system that can be switched to manual operation, if needed.

The Tecnicomar Sailor Special Green stands out for simplicity of use and high quality components like the stainless steel high pressure pump with solid ceramic plungers, the powder coated stainless steel frame, FDA compliant filters and ASME & TÜV certified pressure vessels.

The standard configuration includes a full-featured, ready to install watermaker with automatic pressure regulation and installation kit. On request, the system can be supplied with automatic membrane flushing and a remote control.





SAILOR SPECIAL GREEN 3/44

- EASY USE:
- FULL AUTOMATIC
- LOW NOISE OPERATION



SAILOR COMPACT 3/40 WITH ALUMINIUM FRAME



BOOSTER PUMP

TECHNICAL DATA SAILOR SPECIAL GREEN

Model	Production per hour (litres / gallons)	Production per day (litres / gallons)	Voltage (Volt) / Frequency (Hz) Installed Power (kW)	Max dimensions -L x W x H- (mm)	Weight (kg)
2/21	100 / 28	2400 / 634	400 V AC - 50 Hz 3-phase - 2.2 kW	750 x 520 x 360	52
3/21	160 / 42	3840 / 1024	400 V AC - 50 Hz 3-phase - 2.2 kW	750 x 520 x 360	55
2/40	250 / 66	6000 / 1585	400 V AC - 50 Hz 3-phase - 3 kW	1170 x 520 x 360	64
3/40	350 / 92	8400 / 2219	400 V AC - 50 Hz 3-phase - 3 kW	1170 x 520 x 360	68
2/44	600 / 158	14400 / 3794	400 V AC - 50 Hz 3-phase - 5.5 kW	1270 x 600 x 440	95
3/44	800 / 210	19200 / 5059	400 V AC - 50 Hz 3-phase - 5.5 kW	1270 x 600 x 600	110

\* other voltages and frequencies available on demand

Accessories



Optional 7" LCD touch-screen display

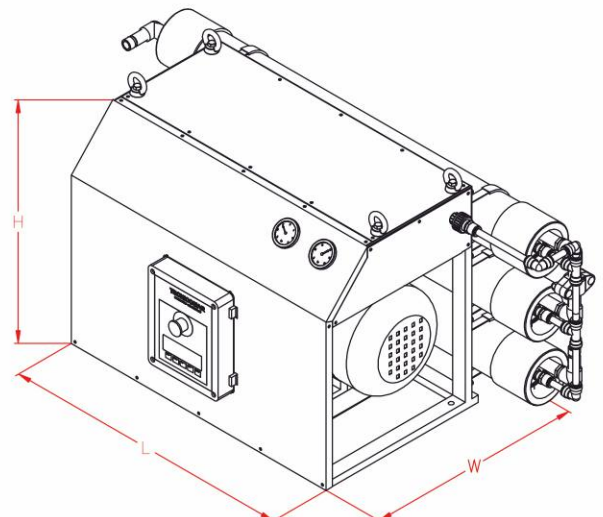


Automatic membranes flushing filter



Optional CDMAR-2 Remote Control

Optional Remote Control by on-board PC



# Reverse Osmosis Watermakers

## SAILOR COMPACT

The Sailor Compact series is ideal for all sailing and motor boats as well as for superyachts and vessels requesting a considerable quantity of fresh water and the comfort of a microprocessor controlled, one-touch-operation system that can be switched to manual operation, if needed.

The Sailor Compact stands out for simplicity of use and high quality components like the stainless steel high pressure pump with solid ceramic plungers, the powder coated aluminium frame and

the TÜV certified corrosion free and lightweight carbon fiber pressure vessels.

The standard supply includes a full-featured, ready-to-install watermaker with manual pressure regulation and installation kit. On request, the system can be supplied with automatic membrane flushing.

Available in two configurations to ease installation: compact and modular (Sailor Compact Slim version) for tight spaces.

LIGHTWEIGHT FRAME

NEW!

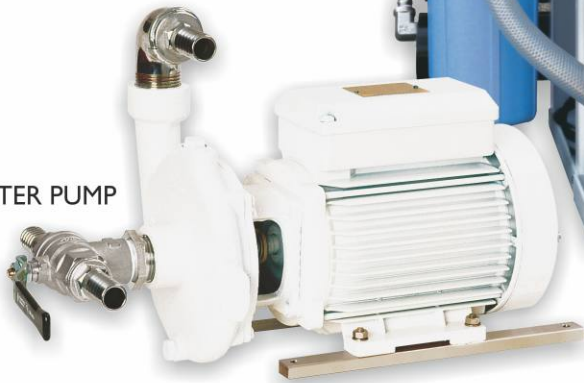




**SAILOR COMPACT 600 WITH ALUMINIUM FRAME**



**BOOSTER PUMP**



**SAILOR COMPACT SLIM 1500**



**Accessories**

Automatic membranes flushing filter



**TECHNICAL DATA**

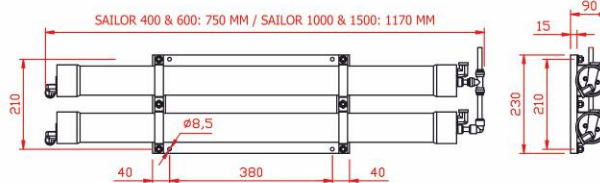
Model	Production per hour (litres / gallons)	Production per day (litres / gallons)	Voltage (Volt) / Frequency (Hz) Installed Power (kW)	Max Dimensions -L x W x H- (mm)	Weight (kg)
SAILOR COMPACT 400	70 / 18.5	1680 / 443	230 V AC - 50 Hz* - 1.1 kW	750 x 520 x 360	52
SAILOR COMPACT 600	100 / 26.4	2400 / 634	230 V AC - 50 Hz* - 1.1 kW	750 x 520 x 360	55
SAILOR COMPACT 1000	160 / 42.2	3840 / 1014	230 V AC - 50 Hz* - 2.2 kW	1170 x 520 x 360	64
SAILOR COMPACT 1500	220 / 58.1	5280 / 1395	230 V AC - 50 Hz* - 2.2 kW	1170 x 520 x 360	68

other voltages and frequencies available on demand

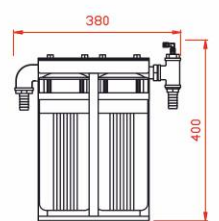


**SLIM CONFIGURATION**

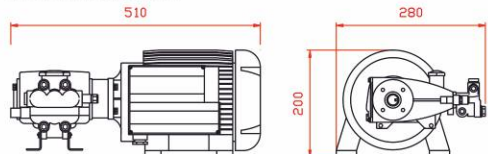
**MEMBRANES ASSY:**



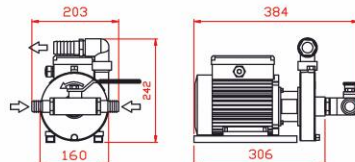
**PREFILTERS**



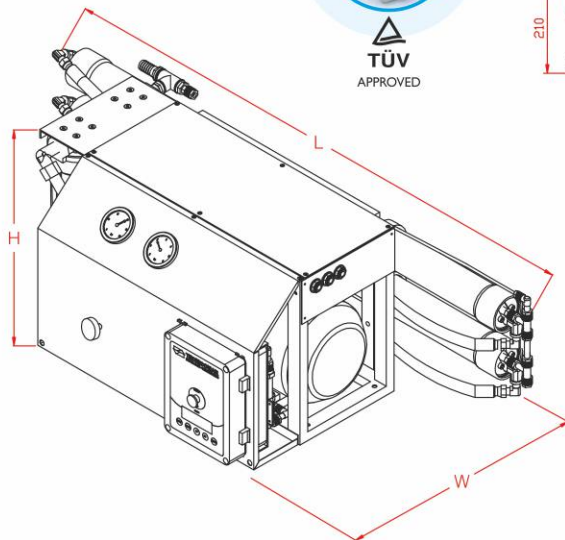
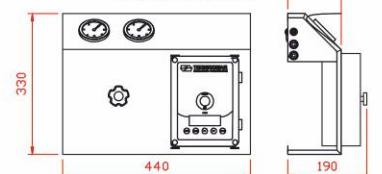
**HIGH PRESSURE PUMP**



**BOOSTER PUMP**



**CONTROL PANEL**



# Reverse Osmosis Watermakers

## ESSENTIAL

The Essential is a simple watermaker producing 100 to 160 litres per hour (639/1,014 gpd), conceived for the budget conscious cruiser. While maintaining Tecnicomar's well known quality standards, it is suitable for everyone who can do without electronic and remote controls and just wants a small, sober and reliable system producing safe water. An automatic membrane flushing system is available as an option. The watermaker is either mounted in a powder coated solid light alloy frame (compact version) or ready for modular installation in tight spaces (Essential Slim configuration). The compact version allows to install the membrane pack separately.

Available for different electrical voltages and frequencies, on demand.



ESSENTIAL 400

LIGHTWEIGHT FRAME **NEW!**

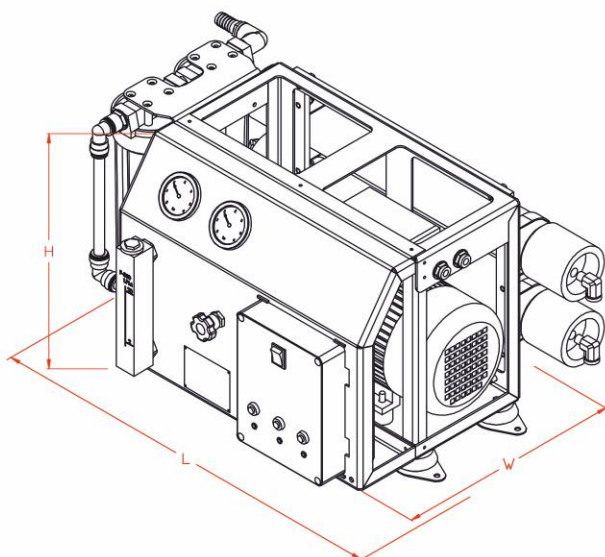


Optional Automatic membranes flushing filter

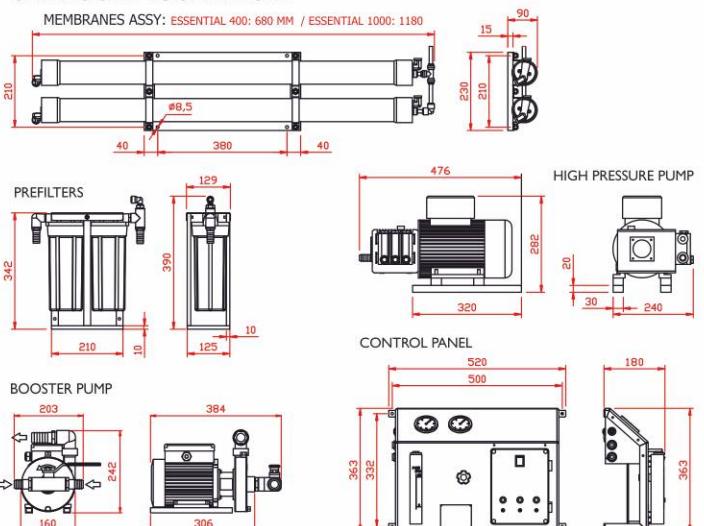
## TECHNICAL DATA

Model	Production per hour (litres / gallons)	Production per day (litres / gallons)	Voltage (Volt) / Frequency (Hz) Installed Power (kW)	Max Dimensions -L x W x H- (mm)	Weight (Kg)
ESSENTIAL 400	100 / 26.6	2400 / 639	230 V AC - 50 Hz* - 1.8 kW	680 x 406 x 260	43
ESSENTIAL 1000	160 / 42	3840 / 1014	230 V AC - 50 Hz* - 1.8 kW	1180 x 406 x 260	49

\* single phase - other voltages and frequencies available on demand



### SLIM CONFIGURATION





# Reverse Osmosis Watermakers

## OASI

The small Oasi Reverse Osmosis desalination plants are the units of choice when power or space is an issue. They can be run from a yacht's batteries, solar or wind power without the need for a generator and are popular on smaller sailing and motor boats that want to stay free from the constraints and expenses of marinas.

These new-generation watermakers use a low-pressure pump to raise water pressure to only about 15 bar. The high pressure necessary to activate the reverse osmosis process (55-60 bar) is reached through an hydraulic pressure intensifier. The system allows energy savings of up to 80% compared to conventional desalination plants as it requires only the initial energy of the low pressure pump to bring the water into the watermaker.

The OASI excels for hands-on simplicity and high quality components like the stainless steel base, clamps and high pressure fittings, FDA compliant membranes and filters and TÜV certified lightweight carbon fiber pressure vessels. On request, the OASI can be supplied with automatic membrane flushing, electronic control box and a remote control for major comfort as well as with an activated charcoal filter to improve the taste of the produced water.



### STANDARD FEATURES:

- Low electric power consumption: 4.8 W/liter (average)
- Automatic pressure regulation
- High and low pressure gauges
- Available voltages: 12 / 24 V dc
- Easy installation, control and maintenance



### CONFIGURATION:

- 1 - SEA COCK VALVE
- 2 - CHECK VALVE
- 3 - SEA STRAINER
- 4 - 12-24 V dc MOTOR PUMP
- 5 - PREFILTER 5 μ
- 6 - OASI PUMP
- 7 - REVERSE OSMOSIS MEMBRANE PACK
- 8 - PRODUCED WATER
- 9 - BRINE WATER
- 10 - CONTROL PANEL



### ACCESSORIES:

Micro-processor control panel



CDMAR-2 remote control  
7" LCD touch-screen remote control



Automatic membranes flushing system



### TECHNICAL DATA

Model	Production per hour (litres / gallons)	Production per day (litres / gallons)	Installed Power (kW)	Voltage (Volt)	Current drain (Amps)	Weight (kg)
OASI 30	35 / 9.2	840 / 220	0.2	12 / 24 V DC	14 (12V) / 8 (24V)	26
OASI 60	60 / 15.8	1440 / 379	0.55	12 / 24 V DC	38 (12V) / 20 (24V)	37



# Water Treatment Systems

Tecnicomar designs and manufactures a range of products for the pre and post-treatment of the water and for the maintenance of the plants. Every accessory is designed to work in perfect harmony with each watermaker, with the same quality and reliability, even in extreme conditions of work, whether standard or customized. In addition to the pre and post-filtration products, the Technical Department develops management systems and electronic controls for the automation and the remote control of Tecnicomar systems for water treatment.

## Pre-treatment

**SEAWATER STRAINER**  
to prevent clogging of sand filters and prefilters



**MULTIMEDIA SAND FILTER**  
to reduce the level of suspended solids (turbidity) in incoming feed water



**TFD SEMI-AUTOMATIC HELICOIDAL FLOW FILTER**  
to preserve prefilter cartridges on the R.O. system from marine debris

**OIL-WATER SEPARATOR FILTER**  
for sediment filtration and to reduce dispersed and dissolved oil from water



**316L STAINLESS STEEL HYDRO-CYCLONE FILTER**  
removes large particles from the feed water extending the life of the prefilter and R.O. membranes



**ANTI-SCALANT DOSING SYSTEM**  
to prevent the formation of scale on the membrane surfaces and membrane fouling

## Post-treatment



**CHLORINE DOSING SYSTEM**  
for disinfection of fresh water by chlorine dosage



**U.V. STERILIZERS**  
to kill bacteria, virus, pathogenic microorganisms and prevent their further reproduction



**316L STAINLESS STEEL FILTER WITH BACKWASH AND BY-PASS**  
for mineralizing filters and carbon (de-chlorinating) filters



**SILVER ION INJECTOR**  
for the disinfection of drinking water by dosing silver ions



## Post-treatment



**ULTRA-FILTRATION WATER PURIFIERS**  
to get bacteria-free potable water with low content of salt from quay and river water



**REVERSE OSMOSIS WATER PURIFIERS**  
for fresh and technical water production



**CHILLERS & CARBONATORS**  
for fresh osmotized water



**WATER SOFTENERS**  
to eliminate completely or partially calcium and magnesium to reduce water hardness

**REVERSE OSMOSIS DEMINERALIZER PLANT**  
reduces drastically dissolved solids on fresh water to obtain technical water



## Maintenance



**AUTOMATIC MEMBRANES CLEANING & FLUSHING SYSTEMS:**  
assure a longer membranes life by a button on control panel



**MAINTENANCE KIT: MEMBRANES WASHING & STORAGE KIT**  
prolong the watermaker life, by cleaning and replacing compounds

# Reverse Osmosis Watermakers & Sewage Treatment Plants

## CUSTOMIZED SYSTEMS

Tecnicomar designs and manufactures Reverse Osmosis fresh water generators, Water Treatment Systems and Sewage Treatment Plants, tailor-made according to customer's needs. High flow rate, continuous operation, suitability to hard working environments, customized configurations: all these are the main features of Tecnicomar's equipment.

A team of talented engineers and experienced technicians are at your service anytime to develop the best solutions to comply with your requests.





# ECOMAR SEWAGE TREATMENT PLANTS

Tecnicomar ECOmar is the sewage treatment system able to treat grey and black water in compliance with international standards and to render it dischargeable directly into the sea, without solid residues.

The chemical-physical reactions inside disinfect the water and reduce the sediment dimensions so that the water can be discharged directly overboard. At the end of every cycle of work the tank is automatically washed with sea water.



# Sewage Treatment Plants

## ECOMAR SEWAGE TREATMENT PLANTS

Tecnicomar ECOMar Sewage Treatment plant is built with a central body made in AISI 316L stainless steel or in strong polypropylene for the smallest models: 45, 32 and 20, mounted on a stainless steel chassis. All models are designed and built to work in extreme conditions of temperature and vibrations and got a high level of reliability and efficiency.

The LCD electronic control panel with microprocessor manages all the functions of the system, automatically, with a very low electric power consumption. The system can also run in emergency mode, if needed. A range of specific accessories are available.



DESIGNED, PATENTED  
AND MADE BY  
TECNICOMAR

- Complying with International Standards
- Treatment capacity from 2000 to 54500 litres per day
- Totally automatic operation with microprocessor control

### MAIN ADVANTAGES OF ECOMar:

- POLLUTION FREE: the disinfectant liquid does not release poisonous substances
- NO RESIDUALS ON BOARD: consequently the installation of a sludge tank is not required
- EASY TO USE: totally automatic with possibility to operate it manually in emergency
- COMPACT: designed to be installed in small engine rooms
- VERSATILE: all voltages and frequencies available

**MADE IN ITALY**



ECOMar 340  
-INOX-



ECOMar 145  
-INOX-



ECOMar 70  
-INOX-



ECOMar 45  
-INOX / PP-



ECOMar 32  
-INOX / PP-



ECOMar 20  
-INOX / PP-

### Technical Features

	ECOMar 545	ECOMar 340	ECOMar 145	ECOMar 70	ECOMar 45	ECOMar 32	ECOMar 20
Max treatment capacity (litres/day)*	54500	34000	14500	7000	4500	3200	2000
Work cycles per hour (approx.)	3	3	3	3	3	3	3
Power supply	230 / 400 V a.c.	230 / 400 V a.c.	230 / 400 V a.c.	230 / 400 V a.c.	230 / 400 V a.c.	230 / 400 V a.c.	230 / 400 V a.c.
Installed power (kW) at 230 V a.c.			1.1	1.1	1.1	0.75	0.75
at 400 V a.c.	11	5.5	1.5	1.5	1.5	0.75	0.75
Max absorption (A)	20	12	4.5 (400 V a.c.) / 7 (230 V a.c.)			2 (400 V a.c.) / 4 (230 V a.c.)	

\*System running 24 hours per day

### Dimensions and weight

	ECOMar 545	ECOMar 340	ECOMar 145	ECOMar 70	ECOMar 45	ECOMar 32	ECOMar 20
Central unit dimensions (mm)	1970x1700x1375	1400x1205x1370	1250x815x850	950x670x755	800x590x775	770x570x725	635x550x725
Tank dimensions (mm)	1785x990x1200	1300x850x1200	1150x600x700	850x470x620	700x380x620	660x320x595	450x300x595
Central unit weight (kg)	Inox 915	380	160	150	145 PP 110	76 56	71 51





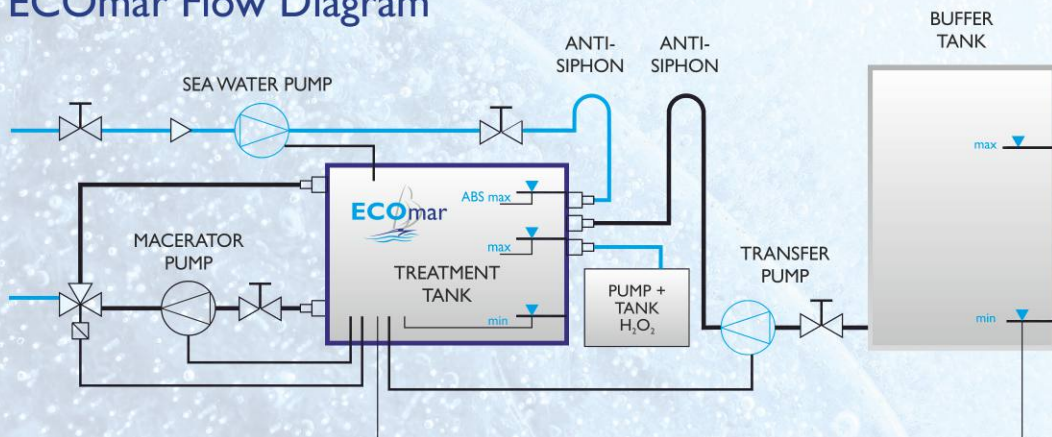
ECOmar 340

DOSING PUMP



SEA WATER AND TRANSFER PUMPS

### ECOmar Flow Diagram



CERTIFIED BY LLOYD'S REGISTER ACCORDING TO THE RESOLUTION IMO MARPOL MEPC 227 (64) INCLUDING PARA 4.2.AND EUROPEAN DIRECTIVES (MED) 96/98/EC AND SUBSEQUENT AMENDMENTS.  
U.S. COAST GUARD CERTIFIED SERIES AVAILABLE



### Optionals available on request:



7" LCD touch-screen remote control



CDMAR-2 remote control



Remote control by on-board PC



Air purifier by advanced air oxidation to eliminate bad odors

# Marine & Offshore Oil & Gas Clients

## REFERENCES

The Tecnicomar's Professional Systems are ideal for Navy, Naval & Oil & Gas applications being designed on purpose to fully comply with electrical, mechanical, shock, noise and vibration standards to fit for all environment.

Some international outstanding clients among the most important companies worldwide using Tecnicomar's equipment:



**88 PARSEC - Cruise vessel:**  
SAILOR C 2000 R. O. Watermaker

**ABG - Oceanographic research:**  
ECOMar 6 STP System

**ABU DHABI SHIP BUILDING - Petrolling:**  
SAILOR SPECIAL 3/40 R. O. Watermaker

**ABU QIR PETROLEUM - Jack-up rig:**  
STDC SY 3000 R. O. Watermaker

**AJANG SHIPPING SDN BHD - Cargo ship:**  
SAILOR MD 2000 R. O. Watermaker

**AKRON TRADE & TRANSPORT - Crew vessel:**  
STDC SY 3000 R. O. Watermaker

**ARCHTREST - Scientific vessel:**  
SAILOR SPECIAL 2/40 Slim R. O. Watermaker

**BELFREIGHT - Scientific vessel:**  
SAILOR SPECIAL 3/40 R. O. Watermaker  
ECOMar 16 STP System

**BHARATI SHIPYARD - Interceptor boat:**  
ECOMar 6 STP System

**BLUE FERRIES (ITALIAN FERRIES GROUP) - Passenger ship:**  
ECOMar 20 STP System

**BOURBON OFFSHORE - Multipurpose vessel:**  
ECOMar 8 STP System

**CARONTE&TOURIST - Passenger ship:**  
ECOMar 50 STP System

**CMHI MPV OFFSHORE:**  
STDC SY 12000 R. O. Watermaker

**COSCO - Hayard 832:**  
STDC SY 6000 R. O. Watermaker

**COSCO (DALIAN) - Jack-up drilling platform:**  
SW8-60 R. O. Watermaker

**COSCO (NANTONG) SHIPYARD CO. LTD - Float accommodation unit / DP3 pipelay heavy lift - offshore construction:**  
SW8-60 & SW8-75 R. O. Watermaker  
TCA/7X / TC4AF400T Post-treatment water system

**COSCO (NANTONG) DANA PETROLEUM - FPSO:**  
STDC SY 9000 R. O. Watermaker  
ECOMar 16 STP System

**CSSC GUANGZHOU HUANGPU SHIPBUILDING CO., LTD. - Dive support offshore vessel:**  
STDC SY 6000 R. O. Watermaker

**ERAM - ESTALEIRO RIO AMAZONAS LTD. - Work boat / river ferry:**  
TC 84 R. O. Watermaker

**FINCANTIERI S.p.A. DIREZIONE NAVI MILITARI - Norwegian polar research vessel:**  
Charcoal paper filter units

**FLENSBURGER NB765 - Offshore vessel:**  
ECOMar 120 STP System

**FLINTER MANAGEMENT B.V. - Cargo vessel:**  
ECOMar 8 STP System



GRANDWELD MATAF - *Victory & Pride vessel:*  
ECOMar 8 STP System

GRANDWELD SHIPYARD - *Offshore crew boats:*  
ECOMar 8 STP System

GUANGZHOU SHUNAI SHIPYARDS LTD. -  
*Commercial vessel:*  
SAILOR SPECIAL 2/44 R. O. Watermaker

GULF PIPING COMPANY - *Landing craft:*  
STDC SY 6000 R. O. Watermaker

HALUL OFFSHORE - *Jack-up RIG:*  
SW8-100 R. O. Watermaker

HINDUSTAN SHIPYARD LTD - *Indian Navy ocean  
surveillance ship:*  
STDC SY 9000 R. O. Watermaker

INTERMARINE S.P.A. - *Cacciamine:*  
APX- 75/2 Automatic Water Softener

JINGLING SHIPYARD - *9000 DWT Cement carrier:*  
ECOMar 340 STP System

JSC ALMAZ SHIPBUIDING - *Patrol vessel / Rescue  
boat:*  
SAILOR SPECIAL 2/44 R. O. Watermaker  
ECOMar 16 STP System

LEVINGSTON MIDDLE EAST - *Mobile offshore units  
& liftboats:*  
ECOMar 50 STP System

LUMABEDA TOURS LTDA. - *Passenger ship:*  
ECOMar 16 STP System

MERINEQUA SA - *Passenger ship:*  
ECOMar 16 STP System

MICOPERI 30 GL - *Barges / Pipe lay crane vessel:*  
ECOMar 24 STP System  
STDC SY 9000 R. O. Watermaker

NEPTUN TOPAZ 1700 - *Container ship:*  
ECOMar 50 STP System

OUHUA SHIPYARD - *Container ship:*  
ECOMar 145 STP System

P&O FERRIES - *Passenger ferry:*  
ECOMar 120 STP System

PETROFAC JSD 6000 - *Deep water derrick lay vessel:*  
ECOMar 120 STP System  
STDC SY 4500 R. O. Watermaker

PT MUJI LINES - *Cruise ship:*  
STDC SY 12000 R. O. Watermaker

PT. DAYA RADAR UTAMA - *60m fast patrol  
boats:*  
SAILOR C S 2/44 R. O. Watermaker  
ECOMar 24 STP System

ROSKAMRYBA - *Fishing trawler:*  
ECOMar 8 STP System

SAIPEM - *Kaombo FPSO:*  
Potable water treatment

SAIPEM - *Perro Negro 2 & 3 Offshore platform:*  
ECOMar 120 STP System

SEVSUDOREMONT - *Passenger vessel:*  
ECOMar 24 STP System  
SAILOR S 3/40 R. O. Watermaker

SHANNON FERRIES GROUP - *River ferry:*  
ECOMar 16 STP System

SHIPYARD ZVEZDOCHKA,ASTRAKHAN -  
*Multipurpose vessel:*  
ECOMar 50 STP System

SHOFT SHIPYARD - *Navy ammunition barges:*  
ECOMar 6 STP System

SOKOLSKAYA SHIPYARD - *Communication ship:*  
ECOMar 24 STP System

SRETENSKIY SHIPYARD - *Cargo ship:*  
ECOMar 16 STP System

THE CHINA NAVIGATION - *MPV offshore:*  
ECOMar 16 & ECOMar 50 STP System

UAE NAVY - *Petrolling:*  
SAILOR SPECIAL 3/44 R. O. Watermaker

YUGMORGEOLOGIA - *Scientific vessel:*  
ECOMar 6 STP System

ZELENODOLSK SHIPYARD - *Floating dock:*  
ECOMar 24 STP System

ZNT SHIPYARD - *Diving boat:*  
ECOMar 6 STP System





# Shipyards Reference List

## REFERENCES

The Tecnicomar's Professional Systems are ideal for Naval and Marine applications being designed on purpose to work on the most hard conditions of duty, ever with high production of fresh water and maximum reliability.

Some international outstanding clients among the most important shipyards worldwide using Tecnicomar's Reverse Osmosis Watermakers and Sewage Treatment Plants.



EMIRATES BOATS	CHRISTENSEN	BOURBON
BENETTI YACHTS	AZIMUT	GRANDWELD
DAMEN	BENETTI	BHARATI SHIPYARD
PRINCESS YACHTS	ISA GROUP	EGE YAT
ALLOY YACHTS	FERRETTI	BRODOSPLIT
SUNSEEKER	OCEA	BALTIC YACHT
BILGIN YACHTS	VITTERS	OKA SHIPYARD
BENETEAU	CNB	MENGI YAY
GULF CRAFT	LARSEN & TOUBRO	NUMARINE
SAN LORENZO	INTERMARINE	HINDUSTAN
OCEAN ALEXANDER	CODECASA	SHOFT
FINCANTIERI	HUDSON	PERMARE







**TECNICOMAR®**

Reverse Osmosis Watermakers  
Sewage Treatment Plants



GPS Coordinates:  
37°45'9.78"N - 12°28'46.14"E



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