




**TEHO**

# **SUSTAINABLE WATER SOLUTIONS**

**TEHO WATER  
& ENVIROTEC  
PTE. LTD.**

**ULTRO**   
REVERSE OSMOSIS



A large oil tanker ship is shown from a low angle, sailing on the ocean. The ship's hull is a rusty orange color, and its upper decks are white with various railings and equipment. The water is dark blue with some whitecaps. A large purple circle is overlaid on the left side of the image, containing the text "All the water that will ever be is, right now." in white. Below the text, the words "National Geographic" are written in a smaller, orange font.

**“All the water  
that will ever  
be is, right now.”**

*National Geographic*



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# Company background

**Founded in 2008**, amidst the tough market competition, TEHO Water & Envirotec Pte Ltd is a prime example of the Reverse Osmosis industry's shift toward sustainability, amongst its global presence.



TEHO Water has been able to thrive in the competitive water treatment industry with the company's ability to provide stable, high-performing equipment, and prompt and seamless after-sales service.

The company's products are designed to withstand intensive use and difficult environmental conditions. With a strong presence and manufacturing base in Singapore, TEHO Water provides immediate solutions to customers globally.

To continuously improve our products that exceed customer expectations, we always stay abreast of the latest technology and innovation while keeping costs in mind.



# TEHO Water: Future plans

We maintain a network of distributors throughout South East Asia and tap on TEHO Group's global reach to respond quickly to our clients' needs in terms of delivery and services.

In TEHO Water, we aim to be the preferred partner to all our customers by bringing our quality products to the rest of the world.



# ULTRO Reverse Osmosis



**We are pleased to announce the incorporation of a new brand name that reflects our commitment to sustainability and continuous advancement.**

With over 10 years of industrial experience, ULTRO Reverse Osmosis Watermaker is designed and engineered to produce clean potable water even in the arduous marine and offshore environment. Available in single and double pass constructions, these high quality products are renowned in Singapore and South East Asia.

ULTRO water makers are fast becoming the trusted water makers for use in vessels, oil rigs and onshore applications. Their functional designs with excellent piping configurations for ease of maintenance have been perfected over the years. We source materials and parts from established manufacturers in USA and Europe. Assembled and tested by our well trained technicians, we ensure utmost quality control while keeping costs at bay. Customisation to meet specific requirements or for larger scale desalination projects are available on request. TEHO Water provides strong on-site support for vessels operating globally.

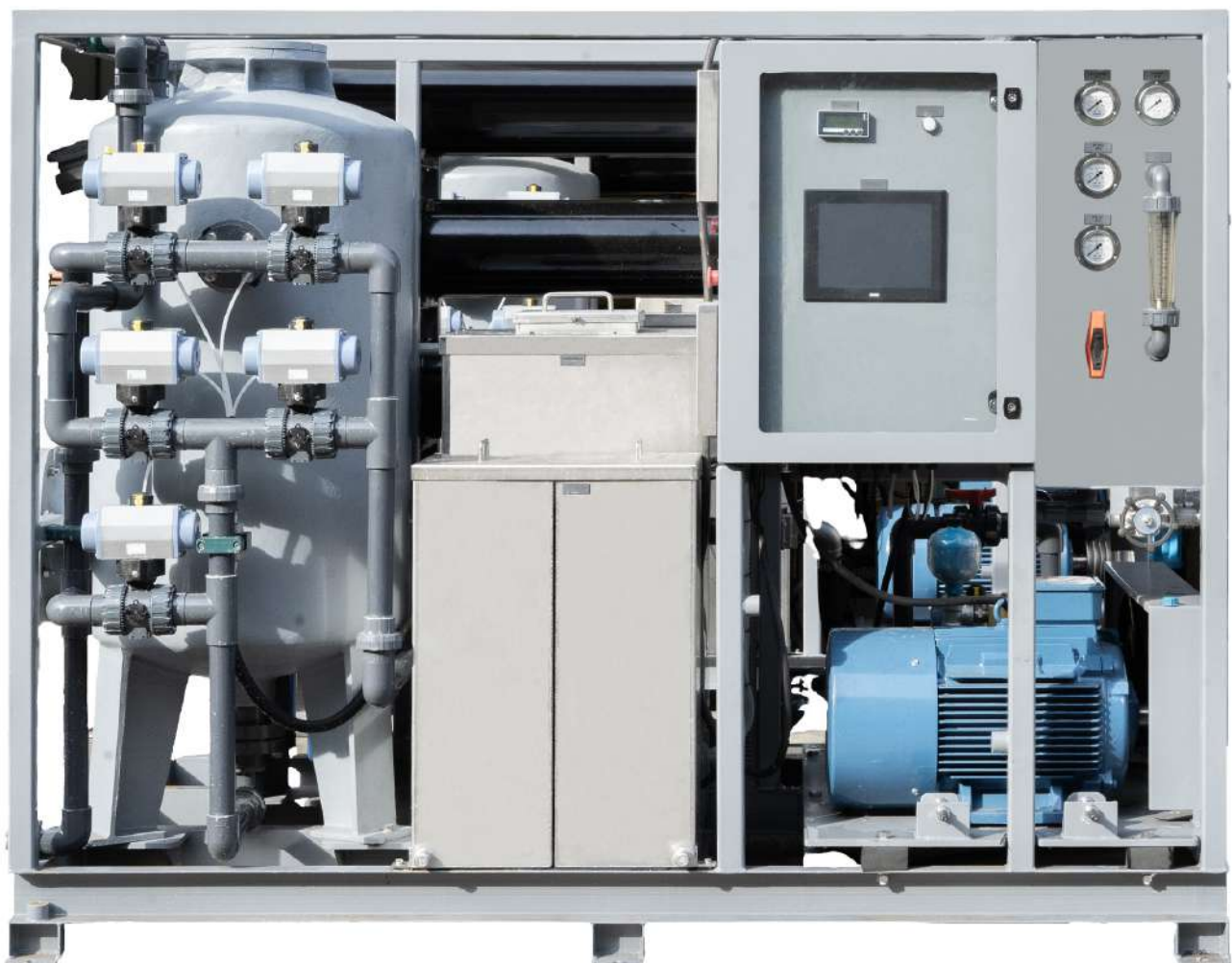


**In short, ULTRO stands for Strength, Spontaneity and Beyond Expectation.**

**We are a provider of sustainable solutions exceeding our clients' expectations in both performance and prompt and seamless after sales support.**

Reverse Osmosis ("RO") is a water purification technology that uses a semipermeable membrane. Different from a filtration method of desalination and solid suspension treatment, RO applies high pressure to overcome osmotic pressure, a colligative property that is driven by chemical potential, a thermodynamic

parameter. RO effectively retains many types of molecules and ions in a solution on the pressurized side of the membrane, while allowing the smaller components (the solvent) to pass through. This method is commonly used in Marine, Offshore O&G and industrial processes to produce potable water.

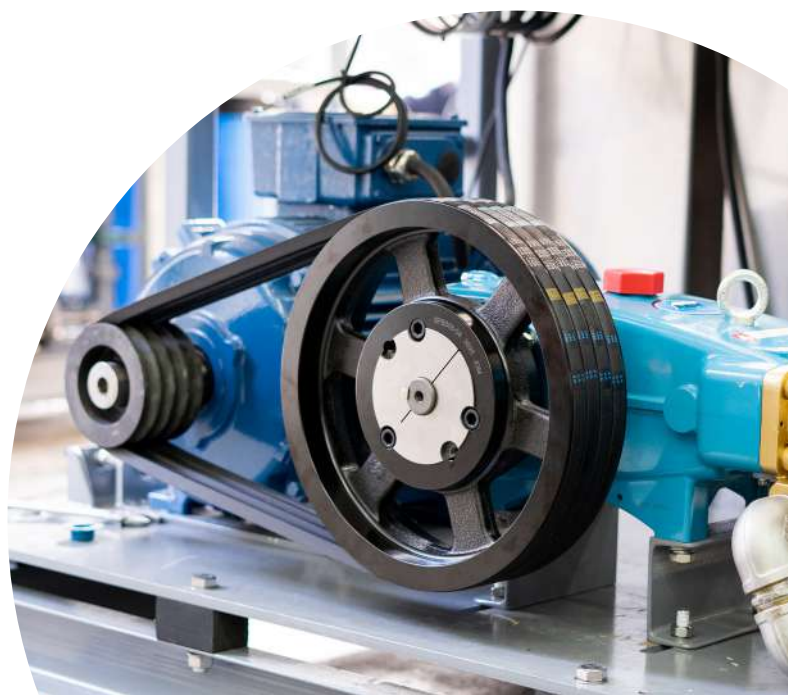




Model	Capacity (L/day)	Dimensions (mm)	Dry Weight (kg)
SW-5T	5,000	1310 x 700 x 1600	467
SW-10T	10,000	1310 x 860 x 1655	578
SW-20T	20,000	1530 x 950 x 1600	816
SW-40T	40,000	2200 x 1300 x 1810	1368
SW-60T	60,000	2200 x 1300 x 1810	1798
SW-80T	80,000	2200 x 1300 x 2120	1955
SW-100T	100,000	2800 x 1910 x 1850	3565
SW-150T	150,000	2800 x 1910 x 2250	3712
SW-300T	300,000	5000 x 2035 x 1850	5000

## Hotels & Resorts

Water is a big deal in Maldives. The archipelago nation of 500,000 people is more water than land. Being abundant in ocean resources, the only freshwater is rainwater that is harvested in special collection tanks but poor rainfall leaves groundwater table's low and harvesting tanks half empty. This leaves many people and communities straining resources to buy bottled water or struggling to get by. Therefore, desalination plants have been widely installed in Maldives' tourist resorts since the late 1970s. Currently each resort has its own desalination plant, which is usually operated and maintained by a technician appointed for that purpose. ULTRO Reverse Osmosis Watermakers has successfully designed and delivered large desalination systems to sustain heavy consumption of fresh and drinking water for both tourists and workers on each island. As a sustainable water solution provider, we will design the complete potable water treatment system of the whole island.







**Single and double pass, for ultra pure (technical water) requirement, Automatic back flushing function, Durable for 24 hours operation, PLC touch screen control panel, Compact design suitable for marine & offshore requirements**

The Reverse Osmosis water treatment process can be extended to industrial processes and procedures in power plants. For instance, huge, expensive plants require large volumes of process and cooling water that must be demineralised in order to safeguard the system against limescale, which could potentially damage essential components. Pharmaceutical and microchip manufacturers need unusually pure water, and ULTRO Reverse Osmosis Watermakers are commonly utilised for the production of the ultra-pure water required - a crucial resource for the manufacturing. Correctly designing treatment plants for this purpose and receiving comprehensive consulting are of critical importance for the production of ultra-pure water required - a crucial resource for the manufacturing process



# Hot Water Systems

**OSO Hotwater** is a leading provider of a calorifier tanks to the shipping, cruise, and offshore industries, with extensive experience and expertise in the field. Notable projects include supplying Norwegian oil and gas platforms such as Troll, Oseberg and Valhall, as well as renowned cruise ships worldwide.

We hold ISO 3834-2 welding certification, providing independent third party certification of its quality requirements for fusion welding of metallic materials. Additionally, all pressure vessels are designed according to EN 13445 standards, with the option for additional certificates upon request. OSO Hotwater is committed to meeting its customers' requirements and providing tailored solutions to their needs.



## Perks of OSO Hotwater

- Customizable SS316 tanks from 100 – 15,000 litres capacity
- Heat exchanger capacity from 10 – 250kW for steam or boilers
- Electric heating from 5 -100kW as backup or booster
- Available in two series – Maxi Marine or Triton Marine subject to user's preference
- Complete assembly with SS316 piping works, PLC control panel and skid installation done in Singapore before delivery

### Certificates available upon request

- **ABS**
- **BV**
- **DNV-GL**
- **LR**





# Environmental Treatment System

## Marinfloc Advanced Sewage Treatment System

Vessels differ in design, number of person onboard, tank arrangement, trading area, age etc. As the conditions differ from ship to ship, the ideal treatment system solution also differs from ship to ship.

TEHO Water offers one of the most durable Marine Sewage Treatment Plants (STP) in the market. The system was designed with years of technical expertise which is specialized in making the most out of what is at hand onboard to tailor a system that optimizes the use of tanks, space and existing system components. **We provide tailor-made solutions to make the most out of your vessel.**



### Key Benefits

- Baltic Sea approved as per MEPC.227(64) §4.24
- Tailored solutions to get the most out of your vessel
- Reduction of physical footprint using hull tanks to save space in the engine room
- Reduction in environmental footprint by treating both black and grey water
- Designed for retrofits

# Marinfloc

## Oily Water Separator

### Developed to meet onboard conditions

The CD unit is a dissolved air flotation and flocculation unit that treats bilge water to **below 5ppm**. The technology enables treatment of bilge water of various composition as the operator can adjust the dosage to the current conditions at hand. **It was developed onboard ships not simply to fulfil the MARPOL requirements but to meet onboard conditions.**

### The Treatment Process

The process can be divided in five stages:

1. Oil Separation: Free oil floats on water and is separated in the oil descender by gravity to the sludge tank.
2. Aeration: Air is dissolved in the water under pressure.
3. Flocculation: Flocculation chemicals are added and coagulate emulsions, chemicals and particles to flocs.
4. Flotation: The dissolved water from the aeration process is released into the flocs that are lifted to the top of the flotation tank and removed to the sludge tank.
5. Filtration: The clean water from the flocculation process is filtered to 0-5ppm before being discharged overboard.

### Key Benefits

- Flocculation Technology: no cartridge filters nor centrifuges required
- Adjustable to the ship's specific bilge water composition
- 5ppm type approved
- Low energy consumption for low carbon footprints
- Can be integrated with the Whitebox
- Low operational cost



# High Pressure Plunger Pumps

**TEHO Water is an authorized OEM  
and service centre for CAT Pumps  
in SEA region**

## CAT 2531



## CAT 3560



TEHO Water offers high-pressure pumps from CAT Pumps, a renowned manufacturer of pumps for both commercial and industrial use. With more than 40 years' experience in the industry, CAT Pumps produces durable and reliable pumps for use with high pressure water and other fluids. TEHO Water has been appointed as the official service centre for CAT Pumps in Southeast Asia; we have a healthy inventory of new parts at our warehouse to meet customers' needs for fast delivery or replacement of used pumps. Our wide range of pumps are available in brass, nickel aluminium bronze, 304 or 316 stainless steel and duplex stainless steel for different levels of corrosion and environmental conditions. Headquartered in Singapore, we fulfil the role as proficient service centre for stock and after-sales support in the Southeast Asia region.



## IDROMAXI JET 518 B



The addition of marine pumps and blowers further expanded TEHO Water's product portfolio of water treatment systems. Gianneschi's range of pumps and blowers have been in the market since 1969. Its long standing in the market among the stiff competition stemmed from its impeccable performance and durability. Designed and made in Italy with reliable casting, all products have been attested to suit different applications and specification needs in the Marine and Offshore O&G industries. We are always diligently looking for opportunities to establish a comprehensive product range so that our customers can benefit from a convenient one-stop shop, with quality assurance

## BMA-S Series



**TEHO Water collection of Self-priming Centrifugal Pumps feature high efficiency and low pulsation, low running speed, robust body design, low maintenance and is cost effective.**

# After Sales Support: RO Chemical

TEHO Water offers a range of readily available high-quality chemicals, developed for cleaning and treatment efficiency while keeping cost control in mind.



**ULTRO-7198**  
pH Stabilizer



**ULTRO-9198**  
Membrane Anti Scalant



**ULTRO-0583**  
High pH Cleaner



**ULTRO-1574N**  
Sodium Metabisulfite



**ULTRO-9291**  
Low ph Cleaner



**ULTRO-1529** is a liquid product for membrane cleaning formulated to remove biofilm, color compound, organic matters etc. from reverse osmosis (RO). This can inhibit and removes biological fouling effectively in activated carbon filter and cartridge filters.



**ULTRO-1529**  
Biocide

- Proprietary biocide for RO system
- NSF certified for online application in drinking water system
- Effective against large variety of bacteria
- "Peeling off" effect: Can penetrate into biofilm and remove the biological matters from membrane surfaces.
- Reduce chemical cleaning downtime
- Effective in inhibiting and removing biological fouling in activated carbon filter and cartridge filter.
- It does not cause RO membrane deterioration by oxidation.
- Liquid type for ease of handling.



# After Sales Support: Spare Parts & Filter



Having fostered relationships with some of the industry's best manufacturers, we are able to offer superior-quality products at economical prices. These products include: RO membrane, RO electrical components, RO chemicals, Cartridge filters, Multi-media filters, UV sterilizers, CAT Pumps oil, CAT Pumps spares, Grundfos pumps and spares, Pre-filters and troubleshooting services

## Hydranautics RO Membrane SWC5-LD

Features LD Technology - high-performance RO technology that helps reduce fouling from colloidal particles and biological growth.



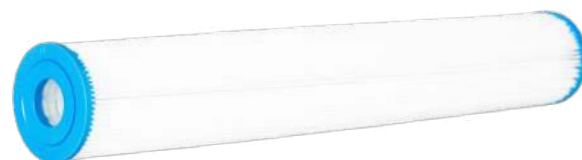
## Melt Blown Cartridge Filter

Consistent flow rate and superior filtration performance.



## ULTRO-5 Micron Cartridge Filter WB18

- This pleated polyester design can provide more surface area, and maximize dirt-holding capacity.
- Size: 2 1/2"



## ULTRO-20 Micron Cartridge Filter HB18

- This pleated polyester design can provide more surface area, and maximize dirt-holding capacity.
- Size: 4 1/2"



## Headquarter

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