

Cathelco Seafresh

Reverse Osmosis Desalinators



Cathelco Seafresh desalinators

reliable technology with worldwide service support



Seafresh have been designing and manufacturing desalinators for more than 30 years.

The desalinators are based on reverse osmosis technology, a well established and reliable method of turning sea water into potable water.

The award winning Seafresh designs have gained a reputation for reliability, durability and ease of operation on more than 1,800 craft around the world.

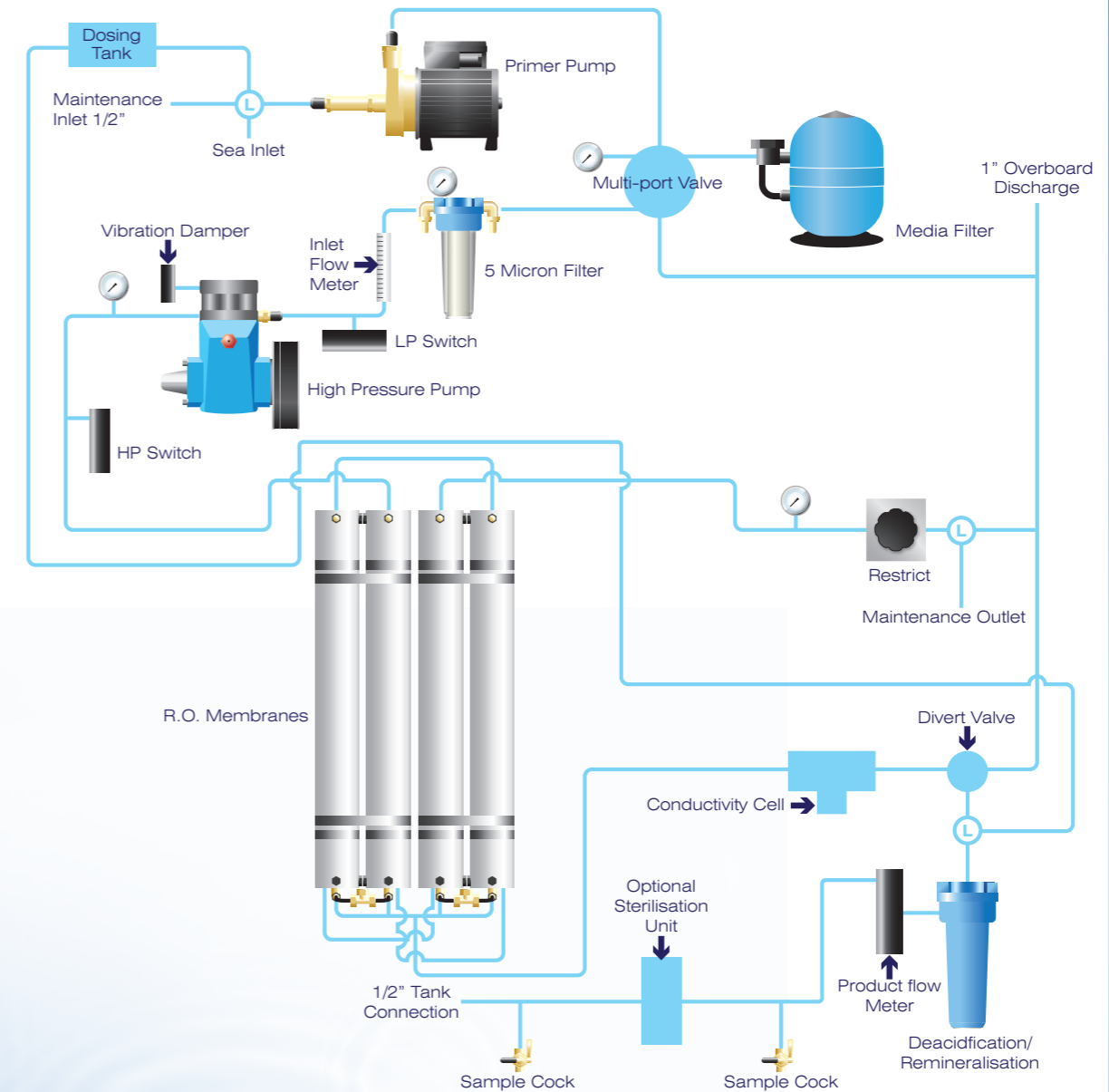
These include installations on all types of small commercial craft including ferries, research vessels, offshore supply vessels, tugs and fishing craft. In addition, the company has supplied equipment for the surface craft and submarines of 9 navies.



Now a division of Cathelco Ltd – a world leading name in marine equipment – Seafresh benefits from an international sales and service network putting the advice and experience of fully trained personnel at your disposal for installation and servicing.

As part of the company's expansion programme, Cathelco Seafresh are increasing their production capacity to provide a faster response to customers' needs worldwide.

A typical installation



Seafresh 'Ton' Series



With the capacity to produce 10 to 40 cubic metres of fresh water per day, the 'Ton' series is ideally suited to the requirements of commercial vessels.

Completely automatic in operation, the system provides fresh water for the full range of drinking, washing and cleaning requirements.

The system consists of three or more frames (or cubes) that can fit together in various combinations to suit the space that is available. The most popular configuration is two cubes stacked on top of each other with the membrane frame at the back resulting in a footprint of 1050 (L) x 800 (W) x 1600mm (H).

Pre-Treatment Cube (800 x 800 x 800mm)

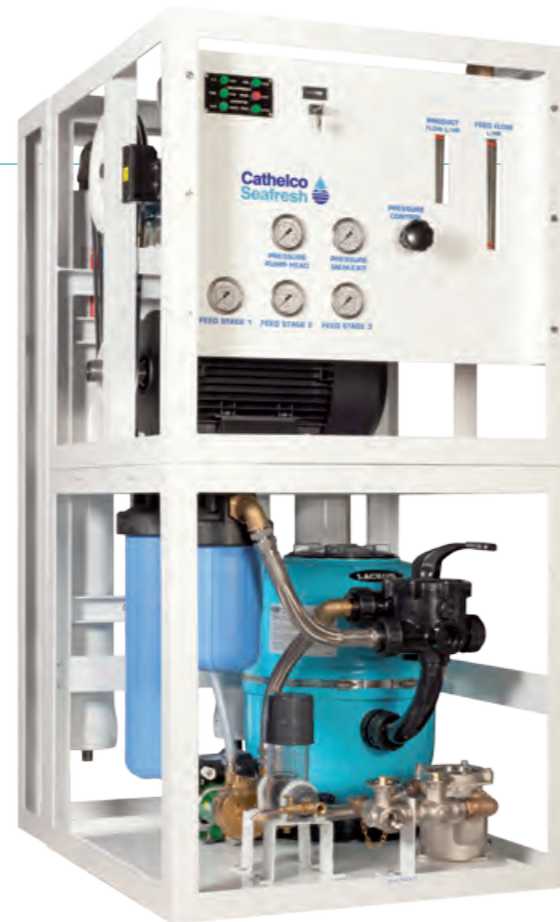
This contains the feed pump and feed pump motor, together with media pre-filter and final 5 micro element pre-filter. It also houses the product softening filter and chlorination unit.

Pump & Control Cube (800 x 800 x 800mm)

This houses the 'wet' controls for the system and has a display panel showing 'feed flow' and 'product flow' and pressure gauges for all of the major functions to simplify monitoring. This cube also contains the electrical/electronic controls.

Membrane Frame (800 x 1600 x 250mm)

Systems up to 20 tonnes have one frame, whilst systems from 25 to 40 tonnes would have two. These consist of pressure vessels containing DOW/FILMTEC membranes.



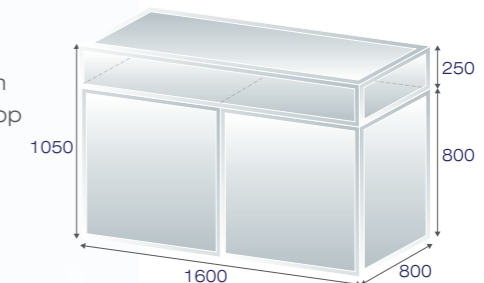
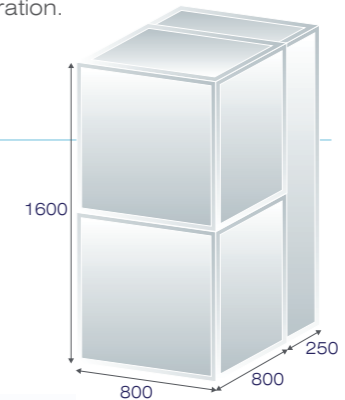
Features

- Outputs from 10 to 40 cubic metres per day.
- Automatic salinity control and 'dump' feature.
- Small footprint – typically 1050 (L) x 800 (W) x 1600mm (H).
- Electronic controls housed in steel cased enclosure to IP55 rating.
- Dosing tank for flushing fresh water and chemicals.
- System diagnostics including hour meter, digital water quality display and plant operating status.
- All low pressure pipes in ABS plastic.
- Media prefilter and product softening filter.
- Flow meters for monitoring input feed and fresh water generation.
- Quiet operation – generally 68-70dBa at 1 metre.
- Optional remote control from the bridge.

Space frame options

Plants consist of three or more frames that can fit together in various combinations. The most popular configuration, assuming machinery space has not less than 1700mm headroom, is the small footprint with the two cubes stacked on top of one another and the membrane frame at the back. The footprint size is 800 x 1050mm and the height 1600mm with the control cube above the pre-treatment cube. Low machinery spaces use the cubes side by side with the membrane frame at the back or on top. The footprint size with membranes located on the top is 1600mm x 800mm with a height of 1050mm.

The control cube can be to the left or right as desired. In difficult machinery spaces the three frames can be independently mounted.



Ton							
Model	T10	T15	T20	T25	T30	T35	T40
Tons/Day	10	15	20	25	30	35	40
Litres/hour	417	625	833	1,042	1,250	1,458	1,667
Weights Kgs	290	320	350	380	450	480	530
Dimensions							
Length – mm (inch)	800 (32) or 1600 (63)			800 (32) or 1600 (63)			
Height – mm (inch)	1600 (63) or 1050 (42)			1600 (63) or 1300 (52)			
Width – mm (inch)	1050 (42) or 800 (32)			1300 (52) or 800 (32)			



Seafresh 'H2O' Series

Ideal for the requirements of small commercial vessels, the H2O series comes in either automatic or manual models with the capability to produce outputs from 36 to 276 litres per hour.

The H2O (Automatic) ensures that a supply of fresh, pure water is always available with the minimum of effort. These fully automatic machines incorporate water quality sensing. As the water is produced it is tested electronically and the pure water is passed to the holding tank. Any which does not reach the standard is rejected and passed overboard via automatic divert valves.

The SH2O (Simple) has the same output capacity as the automatic version, but has a manual 'water taste' feature, enabling the user to sample the water and accept or reject it via a manual divert tap.

All Seafresh H2O models are available in 'frames' or can be supplied in component form, enabling items to be distributed around the vessel to make the most efficient use of available space.

The desalinators can be belt driven from a generator or powered by an AC or DC electric motor.



Features

- Outputs from 36 to 276 litres per hour.
- Ideal for small to medium size commercial vessels.
- Easy to install and simple to operate.
- Choice of automatic and manual models.
- Automatic version with electronic water quality sensing.
- Regular or 'space saving' options available. Can also be supplied in component form for flexible installation during retrofits.
- Option of remote control operation bridge (H2O Automatic only)
- Available with additional pre and post treatments
- Full spares and service kit available.



H2O Automatic

Model	H202	H204	H206	H208	H2012	H2016
Capacity						
Tonne/day	0.870	1.728	2.496	3.360	5.208	6.624
Litre/hour std	36.25	72.00	104.00	140.00	217.00	276.00
Weights (Standard models Kgs)						
Belt Drive from engine	31	37	41	44	50	56
AC Electric Motor	44	50	54	62	64	69
Dimensions (Standard Membrane Panel)						
Width - mm (inch)	610 (24)	610 (24)	610 (24)	610 (24)	1120 (44)	1120 (44)
Height - mm (inch)	330 (13)	406 (16)	406 (16)	406 (16)	406 (16)	406 (16)
Depth - mm (inch)	152 (6)	152 (6)	210 (8)	210 (8)	210 (8)	210 (8)

Optional Extras



Active carbon filters

Removes dissolved gases (including chlorine), tastes and odours to improve the taste of the product water. This unit uses the same housing as the pre-filtration cartridges for compatibility and ease of replacement.



Spares Kit

The Standard Spares Kit includes pre-filter elements, plus a range of replacement consumable items including oil for the high pressure pump, various seals, disinfectant and preservative powder, plus a service kit for the primer pump. An Extended 2 Years Spares Kit is also available including all of the above, plus a comprehensive range of electrical spares and items for mechanical servicing.



Heat Exchanger/Preheater

A pre-heater is required when the sea water intake temperature is below 8 degrees Centigrade to ensure efficient running of the RO plant and avoid damage to the membranes. Various types are available, the most common being a heat exchanger, utilising waste heat from the engines. The other main type involves an element which heats the feed water directly.



Ultraviolet Steriliser

The unit sterilises the water to be completely free from bacteria, parasites and algae spores. This can be used as a pre-treatment when operating in dirty waters and as a post treatment if the water has been held in storage for long periods of time.

Protect seawater inlets with an anti-fouling system made by Cathelco Ltd

Do you have problems with blockages in your seawater inlets and pipework caused by barnacles and mussels?

Cathelco Ltd are the world's largest manufacturer of seawater pipework anti-fouling systems and have supplied their equipment for over 20,000 vessels over a period of more than 50 years.

The systems are designed with compact control panels and miniaturised anodes which can be fitted in the smallest seachests and strainers.

Cathelco Ltd have been protecting the inlets on reverse osmosis desalinators for many years. This has no detrimental effect on the performance of the filter membranes or on the quality of the drinking water that is produced.

Economical and easy to install, the pipework anti-fouling systems provide you with the reassurance that engine cooling lines and watermaking systems are reliably protected now and into the future.



ICCP hull corrosion protection systems

Cathelco Ltd provide reliable and technologically advanced solutions to the problems of hull corrosion on all types of commercial vessels using impressed current cathodic protection (ICCP) systems.

The C-Shield system suppresses corrosion on the wetted surface of the hull using an arrangement of hull mounted anodes and reference cells connected to a control panel.

This neutralises 'corrosion cells' and eliminates the problems that arise through the use of dissimilar metals and the proximity of components such as propellers.

The Minitek system has been specifically designed to protect steel hulls. The Alutek system incorporates special controlling and monitoring electrodes to provide precisely controlled corrosion protection for aluminium hulls.



Worldwide Service Network

Our worldwide network of sales and service centres can provide immediate advice and assistance on the complete range of Cathelco Ltd products. Agents' contact details are available on our website: www.cathelco.com

Algeria	Malaysia
Argentina	Malta
Australia	Mexico
Belgium	Monaco
Brazil	New Zealand
Canada (<i>East & West Coast</i>)	Norway
Chile	Peru
China (<i>Dalian, Guangzhou, Shanghai, Hong Kong</i>)	Philippines
Croatia	Poland
Cyprus	Portugal
Denmark	Romania
Dubai	Russia (<i>St Petersburg, Murmansk, Vladivostok</i>)
Egypt	Saudi Arabia
Finland	Scotland
France (<i>Atlantic & Mediterranean Coasts</i>)	Singapore
Germany	South Africa
Greece	Spain
Holland	Sweden
Iceland	Switzerland
India	Taiwan
Indonesia	Thailand
Iran	Turkey
Ireland	United Arab Emirates
Israel	United Kingdom
Italy	USA (<i>East, West and Gulf Coasts</i>)
Japan	Venezuela
Korea	Vietnam

If you would like a quotation or further information about the range of Cathelco Seafresh desalinators, please contact:-

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