



Cathelco 

**Reverse Osmosis
Desalinators**



Cathelco desalinators

reliable technology and easy operation
with worldwide service support

The design of Cathelco desalinators has been significantly enhanced during recent years making them more compact, efficient and easier to install. Furthermore, the range of capacities has been extended to 50 cubic metres per day.

These developments build on the strength of Seafresh Desalinators which was acquired by Cathelco in 2010 and has subsequently grown to become a worldwide exporter of watermakers with a strong reputation for quality and service.

In 2015, the scope of Cathelco's desalinator division was enlarged and extended by the acquisition Hydro Electrique Marine (HEM), the French based manufacturer of water treatment systems for superyachts, military and commercial vessels. With a world leading reputation, HEM produce a complete range of products including reverse osmosis desalinators, water softening and sterilisation equipment.

This provides all of Cathelco's customers with access to a wealth of expertise in reverse osmosis technology and related products.

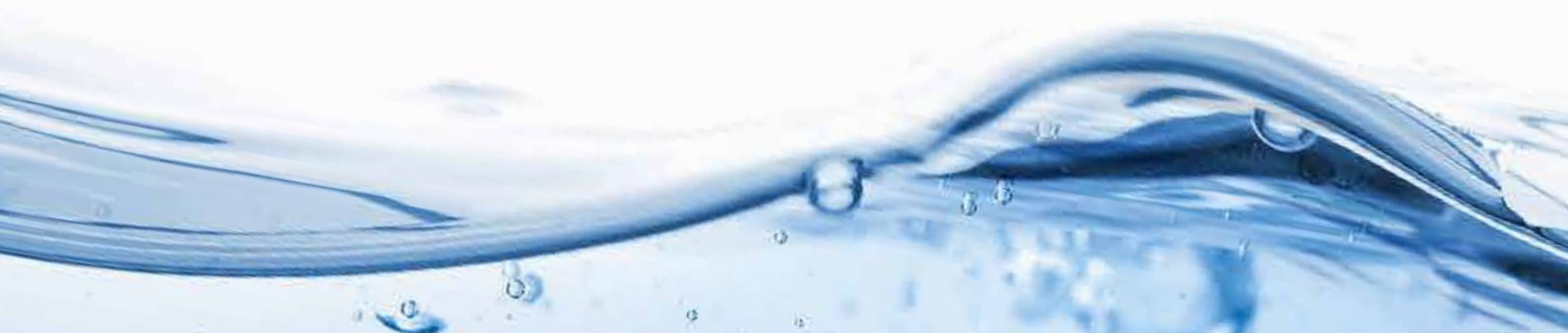
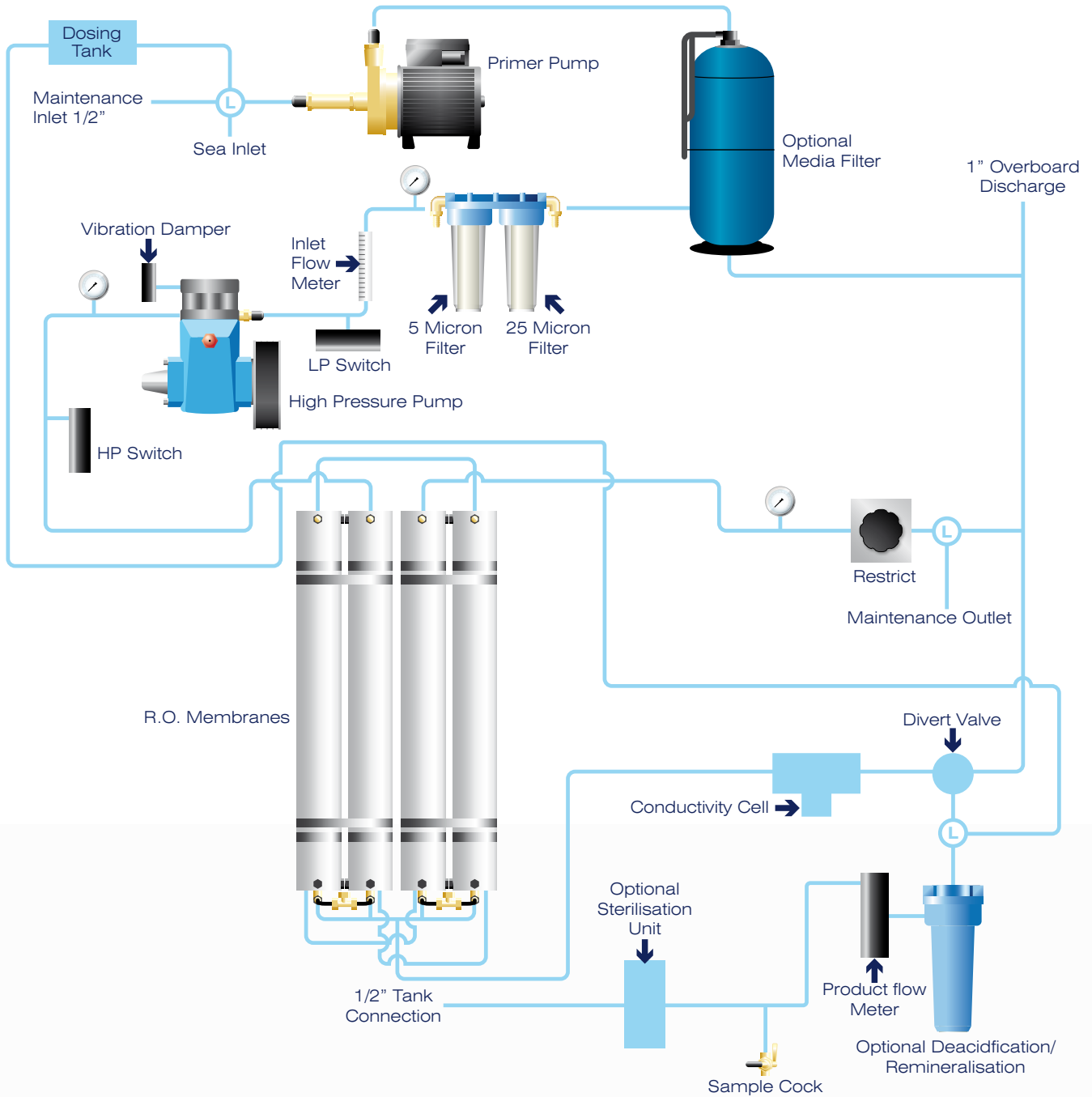


Today, over 2,000 vessels around the world are installed with Cathelco desalinators including commercial vessels such as container ships, offshore supply vessels, tugs and fishing craft. In addition, the company has supplied equipment for the surface craft and submarines of 13 navies.

Another important factor is Cathelco's worldwide sales and service network which puts the advice and practical support of engineers at your disposal for installation and servicing.



A typical installation



Cathelco Ton Series Desalinators

Designed to be robust and reliable, the capacities of the Ton series now extend from 8 tons to 50 tons of product water per day. Space is always a major consideration in engine rooms and therefore the models are available skid mounted or in modular form, enabling components to be distributed in available areas.



The models are completely automatic with salinity and 'dump' features as standard, plus flow meters for monitoring input feed and product water generation. In addition, there are a range of optional features including media pre-filters and product softening filters.

- Automatic salinity control and 'dump' features.
- Small footprint – modular or skid mounted.
- Durable construction – enclosed in powder coated frames.
- Diagnostic equipment to continually monitor the performance of units in operation.
- Custom made designs are available to individual specifications.
- Optional extras include media filter and product water rehardening filter, fresh water flush and clean-in-place chemical dosing unit.
- A comprehensive range of product water sterilisation systems are also available.

Ton T8 – T16 Series

Capacities from 8 to 16 tonnes per day

This new medium duty range of desalinators has been built to a space saving design and incorporates numerous features for ease of operation. This makes them particularly suitable for retrofitting on a wide range of vessels including patrol craft, offshore supply vessels, anchoring handling tugs and other commercial craft. The framed units are very compact, but still provide good access to all components for servicing.



Ton Series T8 – T16 capacities

Model	Ton 8	Ton 12	Ton 16
Tons/Day	8	12	16
Litres/Hour	333	500	666
U.S. Gallons/Hour	88	132	176
U.S. Gallons/Day	2112	3168	4224

Dimensions

Standard frame sizes – all models: Length: 1137mm | Width: 595mm | Height: 750mm

Ton T20 – T35 Series

Capacities from 20 to 35 tonnes per day

These units provide a high output for their size and are ideal for installation in areas where space is limited. They provide potable water for the full range of drinking, washing and cleaning requirements on vessels including patrol craft, small container ships and supply vessels. In the offshore market, they have also been supplied for watermaking on Floating Storage and Offloading (FSO) vessels. Available fully framed or modular form, the units provide good access for routine maintenance.



Ton Series T20 – T35 capacities

Model	Ton 20	Ton 25	Ton 30	Ton 35
Tons/Day	20	25	30	35
Litres/Hour	833	1,042	1,250	1,458
U.S. Gallons/Hour	220	275	330	385
U.S. Gallons/Day	5,280	6,600	7,920	9,240

Dimensions

Standard frame sizes – all models: Length: 1410mm | Width: 1150mm | Height: 800mm

Ton T40 – T50 Series

Capacities 40 & 50 tonnes per day

Built with high quality components and 8" filters for dependability, these large capacity desalinators can operate on a continuous basis producing 40 or 50 tonnes of product water per day. Multi-cartridge pre-filters are fitted as standard and 'soft start' controls avoid power surges on start-up. Although the desalinators produce large volumes of water, they are easy to operate using touch pad controls. They are suited to the requirements of small container vessels, offshore supply vessels, FOS and other offshore applications.



Ton Series T40 & T50 capacities

Model	Ton 40	Ton 50
Tons/Day	40	50
Litres/Hour	1,667	2,083
U.S. Gallons/Hour	440	550
U.S. Gallons/Day	10,560	13,200

Dimensions

Standard frame sizes – all models: Length: 2000mm | Width: 1300mm | Height: 1722mm



Cathelco Seafresh H2O Series

Capacities up to 6.5 tonnes per day

A versatile range of desalinators covering the requirements of small to medium sized luxury yachts and small commercial vessels, particularly where space is limited in retrofit applications.

These fully automatic machines incorporate water quality sensing. As the water is produced it is tested electronically and the pure water is passed to a holding tank. Any water which does not reach the standard is rejected and passed overboard via automatic divert valves.

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

The desalinators are most commonly powered by AC generators, but can also be belt driven from the vessel's engine or powered by the DC battery supply.



- Outputs from 36 to 276 litres per hour.
- Easy to install and simple to operate.
- Fully automatic, temperature compensated, electronic water quality sensing.
- Available in frame or can be supplied in 'space saving' component form.
- Option of remote control operation.
- Available with additional pre and post treatments.
- Full spares and service kit available.
- Full range of optional extras for comprehensive water production and treatment.

H2O Series - capacities

Model	H202	H204	H206	H208	H2012	H2016
Tons/Day	0.87	1.72	2.49	3.36	5.20	6.62
Litres/Hour	36	72	104	140	217	276
U.S. Gallons/Hour	9.5	16	27.5	37	57	73
U.S. Gallons/Day	228	456	660	888	1368	1752

Dimensions

Standard frame sizes H202-H208: Length: 677mm | Width: 521mm | Height: 514mm

Standard frame sizes H208 2 Pass, H2012, H2016: Length: 1159mm | Width: 521mm | Height: 514mm



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Additional water treatment products

Technical water producer

These units are specially designed to produce demineralised water which can be used as technical water, generally for cleaning and other purposes.

The equipment produces up to 2m³/hr (32 ltr/min) at a maximum salinity of 25 ppm TDS.



Technical water producer	Softened shore water as feed	RO water as feed
Feedwater from ship's tank	40 LPM	40 LPM
Permeate flow	25 LPM	32 LPM
Operating range	5-35 deg C	
Feedwater pressure	0.5 – 4 bar	
System operating pressure	10-16 bar	
Max operating pressure	18 bar	
Permeate nominal quality	5 ppm TDS	
Permeate max TDS	25 ppm TDS	
Main motor drive	Shaft power: 2.2Kw 400V 50 Hz 3 phase	
Feedwater	Supplied by ship's hydrophore system	
Recovery Rate	65%	80%



Proportional chlorine dosing unit

Consisting of a dosing unit and flow meter, the chlorine dosing system is used to introduce Hadex into the vessel's water supply. Hadex is a safe and effective chlorine based product which disinfects tanks and pipelines. Completely automatic in operation, the dosing unit comes within a frame or in kit form where space is limited.

- Designed for dosing water with Hadex disinfectant.
- Completely automatic in operation.
- Available in frame or modular form.



Silver ion and copper sterilisers

These sterilisers produce a combination of silver and copper ions which are more effective than silver alone in the disinfection of potable water systems. The ions are produced as the result of electrolysis and fed into the freshwater system. Alternatively, Cathelco can supply a silver only steriliser which is economically priced and easy to install and use.

- Choice of silver/copper or silver only sterilisers.
- Compact designs with user friendly interfaces.
- Automatic controlled to avoid over dosing.



UV steriliser

Disinfection by means of ultraviolet light is a well proven method of killing pathogens and micro-organisms without the use of chemicals. One of the advantages is that it does not impart any smell or taste to the drinking water. The steriliser is fitted between the fresh water tank and the water distribution system of the vessel.

- Effective method of killing pathogens and micro-organisms.
- Does not impart any smell or taste to the water.
- Does not involve the use of chemicals.



Marine growth prevention systems



Eliminates blockages in seawater pipework caused by the growth of barnacles and mussels. Copper and aluminium anodes installed in seachests or strainers are wired to a control panel. Does not interfere with reverse osmosis systems.

ICCP hull corrosion protection systems



Reliable corrosion protection for steel and aluminium hulls. Uses small hull mounted anodes and reference electrodes connected to a control panel for careful monitoring and optimum protection. Anode life 15 years – considerably longer than sacrificial anodes.

Ballast water treatment



An innovative ballast water treatment system with capacities from 34m³/h to 1,200m³/h with IMO and AMS approval. Combines filtration and UV technology to kill micro-organisms and pathogens. The new Cathelco Evolution BWT system is being tested for U.S. Coast Guard Type Approval under the 'live/dead' standard.

Worldwide Service Network

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

Abu Dhabi	Italy
Algeria	Japan
Argentina	Korea (<i>Seoul & Pusan</i>)
Australia	Malaysia
Belgium	Mexico
Brazil	New Zealand
Bulgaria	Norway
Canada (<i>East & West Coast</i>)	Peru
Chile	Philippines
China (<i>Hong Kong, Shanghai, Qingdao</i>)	Poland (<i>Gdansk & Szczecin</i>)
Croatia	Portugal
Cyprus	Romania
Denmark	Russia (<i>Murmansk, St Petersburg, Vladivostok</i>)
Ecuador	Singapore
Egypt	South Africa (<i>Durban & Cape Town</i>)
Finland	Spain
France (<i>Atlantic & Mediterranean Coasts</i>)	Sweden
Germany	Taiwan (<i>Kaohsiung & Taipei</i>)
Greece	Thailand
Holland	Turkey
Iceland	United Arab Emirates
India	USA (<i>East, West & Gulf Coasts</i>)
Indonesia	Vietnam
Ireland	Venezuela