



**HATENBOERWATER**

*Fresh in water since 1906.*



## **Hatenboer-Water RO systems**

Reverse Osmosis water maker series  
for the Maritime & Offshore market

# Hatenboer-Water

Fresh in water since 1906,  
independent, privately owned



## Water treatment & services

With specialist expertise, in-house engineering, design and production in a modern operating environment, Hatেনboer-Water supplies solutions for all your water-related challenges and basic needs. Economically sound and environmentally sustainable with all necessary worldwide after sales service. Hatেনboer-Water, your partner in maritime water treatment and services.

## Maritime expertise

Good and safe water on board is essential for the operation of any vessel or rig. Our vast maritime experience gives us a thorough understanding of your organisation. We treat water from every source till it is of the proper quality on every tap point. Safe and healthy. The track record of more than two thousand maritime water treatment units worldwide is proof of our high standards.



*Your partner in maritime water treatment  
and services. Providing safe water on board.*

**GREEN  
THINKING**

Solutions by Hatেনboer-Water are designed with sustainability and environment in mind. Please contact us for more details on energy saving, low life cycle costs and high sustainability of our solutions.





## Hatenboer-Water RO desalination systems

### Custom built

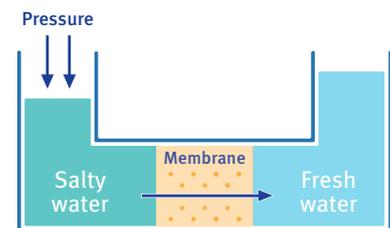
Our RO seawater desalination systems provide reliable potable water production on board and are available in a wide range of capacities. Your maritime and offshore demands and conditions are met in a proven heavy duty design. Your system is designed to your specifications and constructed according to our high Hatেনboer-Water standards, based on more than a hundred years of experience in the maritime and offshore market.

### Standard series

Besides the successful custom built RO range Hatেনboer-Water has developed a standard reverse osmosis series for the maritime and offshore market. These standard water maker systems are part of the proven Hatেনboer-Water RO family and will provide safe and reliable water for the ships crews against the best value for money.

### Hatenboer-Water RO water makers

- Oceanus series: 8 - 24 m<sup>3</sup>/day
- Proteus series: 36 - 100 m<sup>3</sup>/day
- Custom built: to your specifications



*Reverse osmosis desalination process*

### Advantages reverse osmosis

For the production of your water on board, reverse osmosis (RO) has, over the last decade, proven to be the best technology available. A reverse osmosis water maker produces good quality water which requires limited post treatment. The energy consumption is relatively low and the required maintenance is limited and can be performed by the crew. All these advantages result in a low Total Cost of Ownership for your water production.



Easy installation | Compact | Automatic | Reliable



## Hatenboer-Water RO Oceanus series

8 - 24 m<sup>3</sup>/day fresh water production

The Oceanus series is intended for vessels with limited space for installation, such as: tugs, support vessels, dredgers, unmanned platforms, merchant ships etc.

### Durable design

- Rigid steel coated base frame for easy installation.
- High pressure duplex stainless steel plunger pump for extended trouble free operation.
- Automatic fresh flush and integrated chemical cleaning unit for long membrane life time.

### Ensured water quality

- Product water monitoring and indication for water quality control.
- Product water dump at off spec quality.

### Optional features

- Cyclone separator for improved pre-filtration in coastal areas.
- Post-treatment equipment to preserve water quality.
- Pre- and post-treatment backframe, saves installation time and costs.

### General specifications

- Service space: 800 mm
- Feed flow: 2,4 m<sup>3</sup>/h
- Feed pressure: 3 - 5 bar
- Power: 3 x 400V-50Hz, P = 7kW (including feed pump)  
3 x 440V-60Hz, P = 7kW (including feed pump)
- Connection type: 1" BSPF Feed  
3/4" BSPF Feed fresh water  
1/2" BSPF Product  
1" BSPF Brine
- Dimensions (L x W x H)  
Excluding backframe: 800 x 750 x 1850 mm  
Including backframe: 800 x 1200 x 1850 mm



Oceanus RO module  
(DOS Series)



Model	Capacity*	Weight	
		Dry (kg)	Wet (kg)
Oceanus	m <sup>3</sup> /day		
DOS 40-2	8	312	542
DOS 40-3	12	326	564
DOS-40-4	16	340	586
DOS-40-5	20	355	609
DOS-40-6	24	369	631

\* Capacity based on a seawater temperature of 25°C at 35.000 ppm TDS





Heavy duty design / Large production

## Hatenboer-Water RO Proteus series

36 - 100 m<sup>3</sup>/day fresh water production

The Proteus series is intended for jack-up drilling rigs, semi subs, drill ships, pipe lay vessels, accommodations, cattle ships, cruise ships, chemical tankers etc. The Proteus series offers a heavy duty design with a large production capacity for a continuous and reliable operation all over the world.

### Heavy duty design

- Rigid steel base frames for safe transport and easy installation.
- Duplex stainless steel high pressure manifolds for long life time.

### Enhanced membrane life time

Our Proteus series are standard provided with:

- Large pre filtration surface and multimedia filtration for increased performance.
- Conservative membrane design with low loads to minimise fouling.
- Automatic fresh flush system to prevent fouling at standby modus.
- Chemical cleaning unit for cleaning fouled membranes.
- Chemical conservation to preserve membranes in offline modus.

### Ensured water quality

- Product water monitoring and indication for water quality control.
- Product water dump at off spec quality.

### Optional features

- Post treatment equipment to preserve water quality.
- Sea water intake pressure control system.



Proteus RO module  
(DPS 80-2/3 Series)



Proteus RO module  
(DPS 80-4/6 Series)

Model	Capacity*	Power	Dimensions			Weight		Feed		Flange connection types		
			L (mm)	W (mm)	H (mm)	Dry (kg)	Wet (kg)	Flow	Pressure	Inlet	Product	Brine
Proteus	m <sup>3</sup> /day	kW						(m <sup>3</sup> /h)	(bar)	150# ASME B16.5		
DPS 80-2	36	11	1800	1500	1800	800	1350	4	4 - 6	1 1/4"	1 1/4"	1 1/4"
DPS 80-3	55	11	1800	1650	1800	1100	1900	5,2	4 - 6	1 1/4"	1 1/4"	1 1/4"
DPS 80-4	70	15	2800	1700	1800	1150	2300	7	4 - 6	1 1/4"	1 1/4"	1 1/4"
DPS 80-6	100	18,5	2800	1700	1800	1200	2450	8,9	4 - 6	1 1/2"	1 1/2"	1 1/2"

\* Capacity based on a seawater temperature of 15°C @ 35.000 ppm TDS





Two pass unit



Winterised ATEX water maker

## Custom Built Series

Advanced range designed according to specs

### Tailored to your specifications

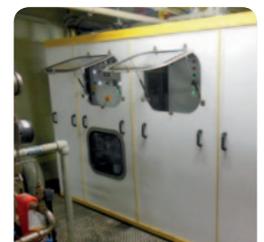
Next to the standard heavy duty features of our systems, it is possible to include several design options tailoring to the more extreme demands rising from the vessel or rigs operating conditions or design specifications:

- **Arctic design:** allowing you to operate under harsh conditions of temperatures below 0°C.
- **Estuary design:** extensive additional pre-treatment allowing you to operate near coast lines or estuaries.
- **Explosion proof design:** for placement of the system outside the safe areas of your rig (Zone 1 or 2).
- **Shock proof design:** continuous water production even up to 20 G-force movements meeting navy requirements.
- **Eco design:** your water maker equipped with an energy recovery unit. A design that stands for an environmentally friendly and cost effective operation.
- **Owner specifications:** tailored to meet owners design specifications and owners preferred vendor list for key components.
- **Containerised:** for easy and quick sheltered installation.

*Please contact Hatlenboer-Water with your specific demands for our tailor made solutions.*

#### Advanced range specs:

- ATEX
- NORSOK
- NIPH
- IEC
- NR13
- AS1210





## Rental fleet

Hatenboer-Water offers a fleet of mobile water treatment systems to help you to achieve key business goals. Ready-to-run equipment that is available when you need it. In times the demand for safe drinking water is higher than normal or capital resources are scarce.

### Rapid deployable mobile units

Hatenboer-Water provides units in various configurations: available quickly for emergency, additional, or prolonged term service! Contact us for temporary equipment services offering a flexible solution at minimum required time, effort and costs.

## High quality service department

Operating performance and your return on investment will be maximised when installation, commissioning and maintenance of your drinking water systems are done properly. Hatেনboer-Water provides a comprehensive programme providing technical assistance as well as knowledge by means of the Water Quality department.

### Worldwide offshore trained assistance

You can count on our elaborate network of qualified and trained service partners. Partners that understand that it is crucial that down time is minimised. You can rely on adequate local first-line support. 24/7.

### Our Technical services:

- Commissioning
- Training of your crew
- Checking your logsheets
- Online monitoring
- Preventive / corrective maintenance
- System optimisation
- System surveys
- Midlife updates
- Retrofits
- Cold stacking

### Our Water Quality services:

- Sampling
- 2-day Potable Water Courses
- Risk assessments
- Water management plans
- Water analyses
- Potable water manuals
- Audits existing plans
- Troubleshooting



### Service agreements

Many of our relations encounter the benefits of a customised 'Hatenboer-Water Service Agreement'. Please feel free to contact us for an informal proposition on basis of your needs.



# Hatenboer-Water

## Your partner in maritime water treatment & services

### Your benefits choosing Hatেনboer-Water

- Safe water on board, meaning a safe working environment for your crew
- Good water from production to consumption
- Strong focus on service, quality, innovations and improvement
- Minimal downtime
- Easy access to spare parts and consumables
- Worldwide services
- Local, skilled, support

### Hatenboer-Water in a nutshell

- More than 100 experienced professionals
- Based in the Netherlands and Singapore
- All disciplines and facilities under one roof
- In-house engineering, 3D CAD design
- Continuous R&D
- Fully equipped workshop

#### ON STOCK

##### Short delivery times

Next to providing fully integrated water treatment systems, we stock critical spare parts and consumables as pumps and filters in both Europe and Singapore.

*With proven track record of more than two thousand maritime water treatment units Hatেনboer-Water 'takes care of your needs'.*

#### RENTAL

##### Rapid deployable mobile units

For temporary solutions you can contact us for our rental units. Offering a unique flexible solution at minimal required time, effort and costs.



#### DISTRIBUTOR/AGENT:

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