

HYGROMATIK®

member of CAREL group

CAREL

with excellent
planning and after-sales
services

Maritime air humidification

for cruise and container ships, yachts, naval vessels, drilling platforms



Maritime air humidification on board – protects lives, goods and equipment.

All maritime air humidification systems are installed on board to protect life, health, goods and sensible equipment and systems.

Maximum flexibility for your maritime air humidification project.

HygroMatik has a long history of providing durable offshore air humidification solutions to the maritime industry. HygroMatik electrode and heater type humidification systems can be equipped with manifold hard- and software options to match every application requirement, regardless if on land or on water. High quality "Made in Germany" combined with an outstanding service along the entire product life cycle make HygroMatik products the best choice if you are looking for a customised high-end solution.



Container ships

Offshore installations and drilling platforms

Cruise ships



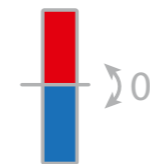
Human comfort above 40% air humidity

In all areas where people work, sleep or travel, a minimum air humidity of approx. 40% must be ensured under all circumstances in order to protect the mucous membranes from dehydration and to prevent diseases.



Optimum conditions for moisture-sensitive goods

When storing or transporting moisture-sensitive products the air humidity conditions must be controlled to prevent e.g. fruit and vegetables from drying out and losing quality.



Maritime facilities located in areas around the freezing point

In areas with temperatures around the freezing point, the air also loses its ability to absorb moisture as the temperature decreases. Therefore, it is necessary to control the air humidity in sensitive areas permanently and to regulate them according to the needs.



Optimum environment for sensitive electronic equipment

The right air humidity level prevents sensitive navigation and measuring instruments and electronic equipment from impairment and distortion due to static discharges. A controlled air humidity reduces dust exposure and the propensity to electrostatic charging, thus protecting against malfunction or damage.



Wellness and spa areas at sea

Humidification up to 100% air humidity has a relaxing effect on people. Whether in the spa area of a cruise ship or on the offshore oil platform for e.g. steam generators provide hygienic steam for valuable recovery of passengers and crew members.

HygroMatik FlexLine services and options

made with passion for individual and optimised solutions

HygroMatik FlexLine series perfect for maritime use.

HygroMatik steam humidifiers are matched for the marine engineering industry in a corrosion-resistant stainless steel housing. Additionally, they are powder-coated for greater durability. With compact dimensions, hygienic humidification is achieved with mineral-free steam in heating and ventilation systems. Developed and manufactured in Germany.

Depending on the water quality you can choose between **electrode or heater type** steam humidifier. Electrode units can be operated with tap water or softened water, the heater type units can also be operated with demineralised water. All units can be further adjusted to suit the different water qualities. HygroMatik is happy to help with the selection and adjustment.

The FlexLine units can be supplied in the range of 200-690V / 3phases. They allow isolation resistances of > 50MΩ which is important for electrode steam humidifiers. A high performance electronic control allows fastest possible control and can be easily accessed through a touch control interface.

All units are equipped with reusable cylinders that are easy to clean and maintain. Heavy duty drain pumps accelerate the water blowdown process.

Excellent services – planning and after-sales.

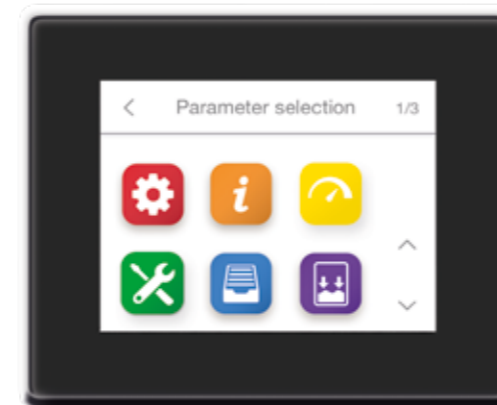
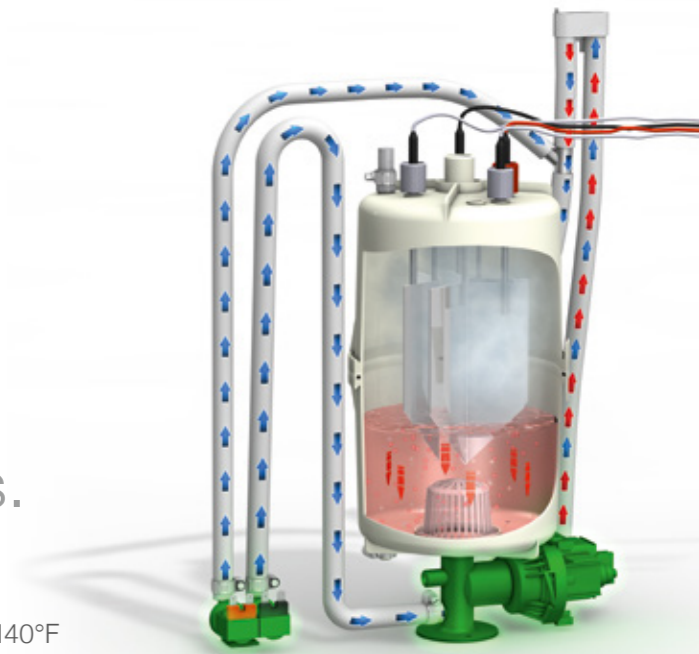
HygroMatik FlexLine units offer optimum component accessibility for easy, time- and environment-saving as well as cost-effective maintenance. HygroMatik provides excellent support during the planning phase, a vast product range and many options to choose from. We also offer advice and supply products and spare parts to international ports and on site.

HygroMatik service means 100% customer satisfaction!



Custom-made with manifold hardware options.

- **Ship installation** – high isolation system > 50 MΩ
- **HyCool** – reducing the drain water temperature below 60°C/140°F
- **Deadleg flushing** – reducing the formation of biofilms in water supply pipes
- **Built-in transformer or separate control voltage**
- **Relay board** – 2nd sensor input, digital input for load shedding and many more functions
- **Extended drain hose system** – solving overpressure problems in air ducts
- **CylinderStar** – solving problems with high conductive water for electrode units



Capacitive 3.5" touch colour display for excellent ease of operation.

Individual configuration with smart software options.

- **Standby blowdown** – programmable water blowdown if a device is not in operation
- **Standby heating** – keeping water hot for faster steam supply on demand
- **Preventive maintenance messages** – adjustable pre-warning system to reduce downtimes
- **Built-in timer** – daily and weekly programming
- **Data logger and USB connection plug** – analysing operation data, loading software / firmware updates
- **Modbus and BACnet connectivity** – hook-up to BMS system aboard a vessel

HygroMatik FlexLine series

Technical specifications.

The HygroMatik FlexLine series is a perfect match for maritime conditions.
But other HygroMatik products also qualify for maritime use. Please contact us.



Technical specifications FlexLine electrodes

Type	FLE05	FLE10	FLE15	FLE20	FLE25	FLE30	FLE40	FLE50	FLE65	FLE80	FLE100	FLE130
Steam output [kg/h]	5	10	15	20	25	30	40	50	65	80	100	130
Rated power [kW]	3.75	7.5	11.25	15.0	18.75	22.5	30.0	37.5	48.75	2 x 30.0	2 x 37.5	2 x 48.45
Electrical connection (1)												
208-240V 50-60Hz single phase or two phase (7)	●		●									
208-240V 50-60Hz three phase (7)	●	●	●		●	●		●			●	
380-415V 50-60Hz three phase	●	●	●	●	●	●	●	●	●	●	●	●
440-480V 50-60Hz three phase	●	●	●	●	●	●	●	●	●	●	●	●
575-600V 50-60Hz three phase			●	●	●	●	●	●	●	●	●	●
660-690V 50-60Hz three phase			●	●	●	●	●	●	●	●	●	●



Technical specifications FlexLine heater type

Type	FLH03	FLH06	FLH09	FLH15	FLH25	FLH30	FLH40	FLH50	FLH80	FLH100
Steam output [kg/h]	3	6	9	15	25	30	40	50	80	100
Rated power [kW]	2.25	4.5	6.75	11.25	18.75	22.5	30.0	37.5	2 x 30.0	2 x 37.5
Electrical connection (1)										
208-240V 50-60Hz single phase or two phase	●	●		●						
208-240V 50-60Hz three phase	●	●		●		●				
380-415V 50-60Hz three phase		●	●	●	●	●	●	●	●	●
440-480V 50-60Hz three phase		●	●	●	●	●	●	●	●	●
660-690V 50-60Hz three phase		●	●	●	●	●	●	●	●	●

We reserve the right to make technical changes.

(1) Other voltages upon request. (7) Reduced steam output capacity due to lower voltage

Our service for 100% customer satisfaction

- Long availability for replacement parts
- Technical hotline +49 4193 895-293
or hotline@hygromatik.com
- HygroMatik distributes in more than 45 countries
- Operating manuals, planning data and information
on workshop events available online at
www.hygromatik.com

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