

...advanced humidification solutions!

CAREL

isothermal

adiabatic

T e c h n o l o g y & E v o l u t i o n

# ...advanced solutions for humidification!



## heaterSteam

Electric heater steam humidifier

### The innovative solution!

**heaterSteam** produces aseptic steam from any type of drinking, demineralised or mains water. It is ideal for humidifying technological or medical environments, where the maximum purity of steam and extended maintenance-free operation are required. Made with a stainless steel cylinder, **heaterSteam** features exclusive technological solutions, such as the electric heaters embedded in aluminium castings with a high heat exchange surface.

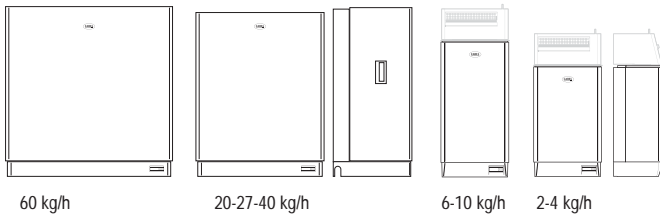
The built-in temperature sensors prevent overheating and signal when the lime scale needs to be removed. In the top version, the heating elements have a non-stick lining that prevents the lime scale from attaching to the heaters, making cleaning simpler.

The appliance is available with ON/OFF and modulating electronic control. In the latter version, **heaterSteam**, connected to a control probe and a limit probe, where required, can operate with a range of modulation from 10% to full capacity, with high precision ( $\pm 1$  %RH).

It can also be managed by an external controller with modulating output. Finally, a specific version is available with temperature control, designed especially for steam baths. All models feature the preheating function, which allows the humidifier to start operating immediately when steam is required.

**heaterSteam** can be connected to a network for remote control.

The **heaterSteam** models range from 2 to 60 kg of steam per hour.



60 kg/h

20-27-40 kg/h

6-10 kg/h

2-4 kg/h



## gaSteam

Gas-fired steam humidifier

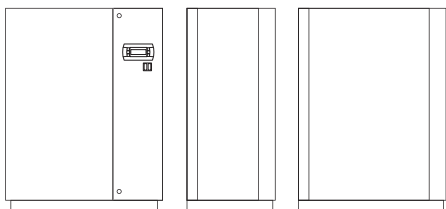
### Humidify and save!

CAREL's extensive experience in the humidification sector, combined with Ecoflam gas heating technology, has led to the development of **gaSteam**, the gas-fired humidifier.

**gaSteam** can operate on any type of drinking, demineralised or mains water. **gaSteam** can be supplied with natural gas or LPG, and combines respect for the environment with maximum operating economy: the cost savings over time are clear when comparing the prices of gas and electricity.

The result of an original design, the appliance offers energy efficiency between 92% and 95%, and avant-garde technological solutions, such as the heat exchanger with non-stick lining and the stainless steel boiler that is opened from the front to remove the lime scale. The steam delivery flow-rate can be modulated continuously between 25% (12.5% for the UG180) and full capacity for maximum precision of humidity control.

The **gaSteam** control system offers the same possibilities as the other CAREL humidifiers: built-in control system with humidity probe or operation modulated by an external controller. **gaSteam** can also be connected in a network for remote control. **gaSteam** is approved by the main international safety organisations and is available in the models producing 45, 90 and 180 kg/h steam, equivalent to 100, 200 and 400 pounds per hour.



45 kg/h (100 lb/hr)  
90 kg/h (200 lb/hr)

180 kg/h (400 lb/hr)



# humiSteam

Immersed electrode steam humidifier

## The rational choice!

**humiSteam**, the immersed electrode humidifier, is the result of CAREL's thirty-year experience in the field of steam humidification, and is the most rational choice for a wide variety of applications: civil environments, offices, industrial facilities and steam baths.

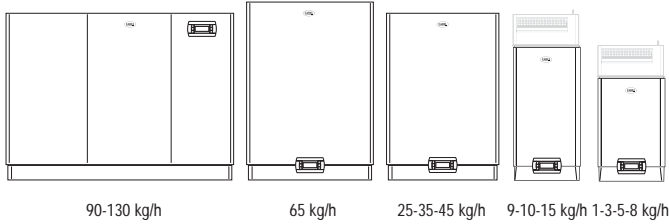
**humiSteam** is now available in a completely upgraded range, with 3 versions:

- **humiSteam "Basic"**, humidifier managed by an external controller or BMS, with range from 1 to 65 kg/h;
- **humiSteam "X-plus"**, with built-in controller & range from 1 to 130 kg/h;
- **humiSteam "Wellness"** for steam baths, available up to 65 kg/h.

Compared to the previous series – UEP & UEH – the new range offers:

- easier operation: large user-friendly control panels with wide graphic LCD and detailed diagnostic information;
- better reliability: the cylinders have exclusive connectors that do not require tools; all the units are fitted with drain pump;
- better performance: the humidifier starts faster and accepts a more extended range of supply water conductivity. In addition, all the new models feature Modbus® connection, and the X-plus model also includes automatic time band operation, LAN connection with other protocols, and remote diagnostics.

**humiSteam** works on mains water with conductivity between 75 and 1250  $\mu\text{S/cm}$ , and its control software adapts automatically to the characteristics of the water, so as to simplify installation and optimise operating life without maintenance.



90-130 kg/h

65 kg/h

25-35-45 kg/h

9-10-15 kg/h 1-3-5-8 kg/h



# humiFog

High pressure atomising humidifier

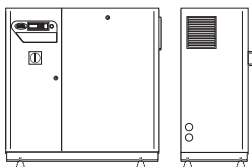
## Very low power consumption

**humiFog** is the very high efficiency humidification system for air handling units in industrial and commercial environments, and public buildings, as well as for all large-scale adiabatic cooling applications.

The very low energy consumption, around 4 W for each litre/hour of atomised water, and the high precision in the modulation of the flow of water, adjusted continuously from 14% to full capacity, make **humiFog** a revolutionary system. Atomising water at high pressure through special nozzles, **humiFog** produces a very fine and uniform aerosol that is easily absorbed by the air, even in short distances. The water is pressurised at up to 75 bar by a pump assembly, available in various models with a capacity of up to 500 litres/hour. The stainless steel rack with the atomising nozzles is customised for each application, simplifying installation in any AHU.

The system works on demineralised water, thus minimising the mineral dust produced, and at the same time ensuring bacteriological purity. **humiFog**, moreover, is hygienically safe as it has no water collection sump nor recirculation: in addition, it is certified as compliant with the strictest hygiene standards (above all, VDI6022) by ILH Berlin (Institute for the hygiene of HVAC systems).

**humiFog** is fitted with an RS485 interface for connection to BMS systems. The system for distributing the atomised water directly into the room makes this appliance ideal for direct humidification applications in printing facilities, textile industries, etc.



60-120-180-250-350-500 kg/h  
(up to 5000 kg/h upon order)



## The solution for industrial environments and produce stores

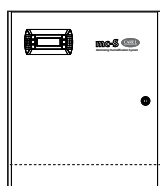
The **mc multizone** adiabatic humidification system is ideal for the humidification of medium/large industrial environments and large volumes of air, in the duct and for air handling units, and cold rooms.

The system uses compressed air to atomise the water into very fine droplets that evaporate spontaneously in the air, humidifying and cooling it. The new electronic controller manages the supply of water and compressed air to the nozzles, as well as all the automatic cycles, such as nozzle cleaning and washing.

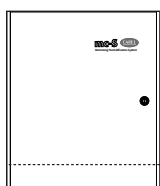
In addition, the humidity can be controlled independently in multiple zones using a Master-Slave arrangement. Special care has been paid to the user interface:

**mc multizone** is fitted with a large LCD and a 6 button keypad that provides immediate and user-friendly access to the main information on the status of the unit and the parameters. **mc multizone** ensures a very high level of hygiene, thanks to the automatic emptying of the water line whenever the unit stops, plus automatic periodical washing cycles during standby. In addition, an effective UV steriliser lamp, installed upstream of the **mc multizone**, shines UV light on the flow of supply water, helping to eliminate any biological contaminants, such as bacteria, viruses, mould, spores and yeast.

The AISI316 stainless steel nozzles are available with different capacities and feature a patented automatic cleaning system that greatly reduces maintenance requirements. The cabinet is available in various models, depending on the maximum capacity, the type of control - ON/OFF or modulating, the type of supply water, and Master or Slave.



Master  
60-230 kg/h



Slave  
60-230 kg/h

## humiDisk

Centrifugal humidifiers

## The practical and flexible solution

**humiDisk** is a small and sturdy humidifier that is easy to install. It works on mains or demineralised water, and is based on a simple and effective principle. By exploiting the centrifugal force produced by a spinning disk, **humiDisk** atomises the water into very fine droplets that can be easily absorbed by the surrounding air, humidifying and cooling at the same time.

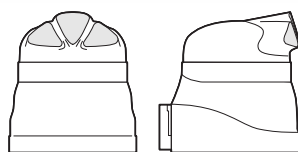
The energy consumption is just 34 W/h per kg of atomised water.

**humiDisk** is easy to install and requires minimum maintenance.

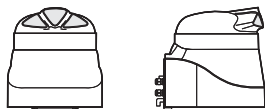
CAREL also supplies the electrical panels fitted with electronic humidity controller or simple and low-cost mechanical humidistats, allowing one or more **humiDisk** appliances to be operated in parallel to ensure the humidity is maintained at the set value. The automatic draining of the water tank after each operating cycle guarantees hygiene and makes the appliance ideal for applications in produce stores, cold rooms and other small industrial environments and stores. Using the CAREL electrical panels, an additional washing cycle is also performed whenever the humidifier starts.

The humidifier can be fitted with optional heaters that are activated automatically at temperatures around 0°C, allowing operation down to -2°C.

**humiDisk** is supplied with assembly brackets for easy wall mounting, or can be hung from the ceiling using metal chains.



6,5 kg/h



1,0 kg/h