

Gas powered steam humidifier

Powered by 

Humidify & save!



CAREL
Technology & Evolution



 **gaSteam**

Birth of a legend

It was only to be expected that when the worldwide leader in humidification and OEM air-conditioning control (**Carel**) got together with the European leader in gas heating technology (**Ecoflam**), the result would be the finest gas-fired humidifier ever built!

gaSteam represents the state-of-the-art in gas-fired steam humidifier technology:

- Low operating cost: the cost-effectiveness of gas
- High efficiency – 89% non-condensing
- High surface area heat exchanger
- Modulation from 25 to 100% of capacity
- Redundant safety systems
- Low NOx emissions
- Microprocessor control with AFS® Anti-Foaming System
- Low maintenance – Teflon® coated heat exchanger

gaSteam is the standard by which all gas-fired humidifiers will be measured.

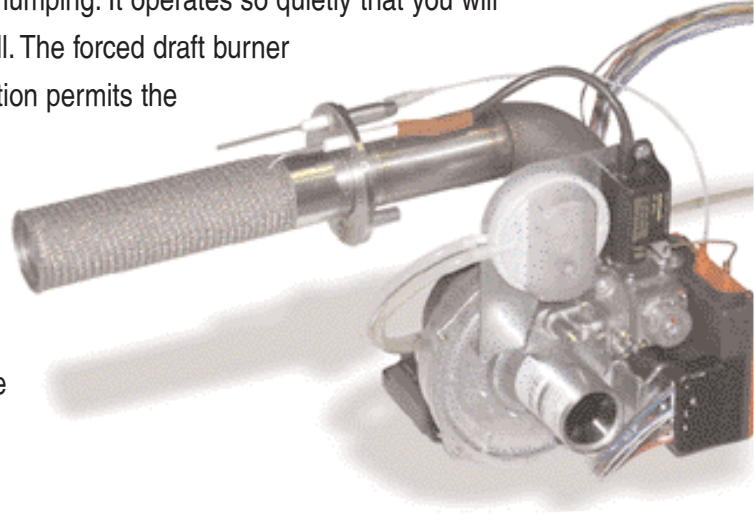




gaSteam: humidify & save

Beauty inside and out

Although the **gaSteam**'s modern design makes it one great looking humidifier, the real beauty is inside. The advanced Ecoflam® burner, with its double shutter gas valve, fires off without a sound. No clicking, no whirring, no thumping. It operates so quietly that you will wonder if its working at all. The forced draft burner and cabinetized construction permits the **gaSteam** to be mounted against a wall with minimal clearance, where it can pull combustion air from outside and discharge the exhaust back outside.



Beauty with brains

A proportional gas valve maintains exact steam output as required and seeks the most efficient fuel/air mix during operation. Redundant safety systems warn of improper operation, and take action when necessary. Sensors even allow the control to let you know when maintenance is required.



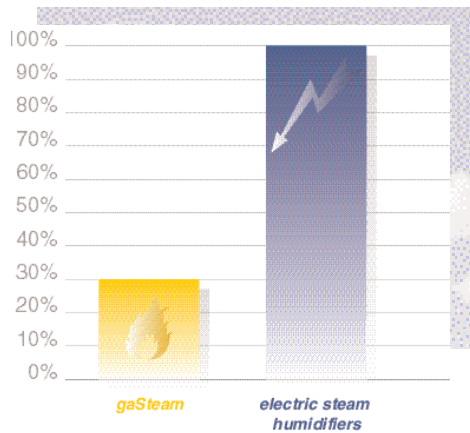
Beauty with brains and brawn

gaSteam is built to last. The steam generator is 316 stainless steel with heat treated welds to avoid corrosion. A 16 gauge steel frame and shell hold all components tightly in place. A quick look inside tells you this beauty was built to last.

gaSteam is ideal for hospitals, laboratories, libraries, museums, art galleries, pharmaceutical and textile industries and food storage – almost any application requiring efficiency and low operating cost.



Example for production of 100lb/h.



The advantage of gas

Steam for humidification can be produced using electricity, oil or gas. But unlike electricity, which is a secondary fuel (often produced using gas), gas is a primary fuel and therefore will always be less expensive. There are also no such things as gas demand meters. This means savings of up to 70% for a gas-fired vs. electric humidifier.

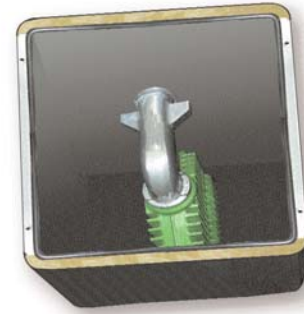
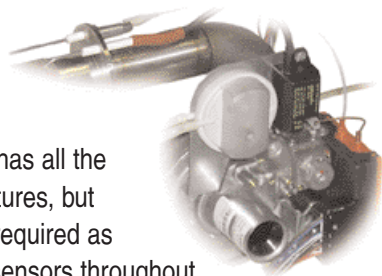
If you are in an area with limited electric power availability, clean burning, efficient natural gas or propane is the key to meeting humidification requirements without spinning the demand meter. Based on a standard 12-hour day operation, your investment in gas-fired humidification can probably be returned in around 15 months.

Exclusive adjustability

gaSteam is designed so that it can be adjusted for the fuel (propane or natural gas) and for altitude by a qualified installation contractor at startup time. No orifice or nozzle change-outs required.

Operational safety

gaSteam not only has all the required safety features, but many that are not required as well. Temperature sensors throughout the unit provide the microprocessor with information on unit operation. Three water level floats, external to the dirty, boiling water, provide redundancy for safe water level control. No fill, no drain, overflow, leakage, maintenance required – all are part of the extensive diagnostics.



Ease of maintenance

A drain pump (not valve) is used to efficiently remove mineral-laden water during programmed drain cycles. But when gaSteam does require maintenance (the microprocessor lets you know), the steam generator and heat exchanger are easily accessible by removing the top and a bottom hand-hole. If desired, the entire steam generator and heat exchanger can be removed from the cabinet.

To make maintenance even easier, the heat exchanger is Teflon® coated to reduce the adhesion of mineral deposits, making it easily cleanable with a poly brush. No steel wool, no scrapers.

Low NOx emissions

gaSteam is a true low NOx product. This makes gaSteam a class 5 under European standards EN 483 and EN 297, which define the class of appliance based on the quantity of exhaust emissions.

High operating efficiency

The heat exchanger is an advanced design, specifically shaped for efficient heat transfer from hot gases inside the heat exchanger to the water surrounding it. Constructed of a special, corrosion-resistant aluminum alloy (able to handle deionized water), the gaSteam's heat exchanger is more efficient than stainless steel.

Stand-by preheat mode for fast response

gaSteam has an exclusive water preheating system which maintains the water temperature near boiling in stand-by mode to allow instantaneous response to a request for humidity.

AFS Anti-Foaming System

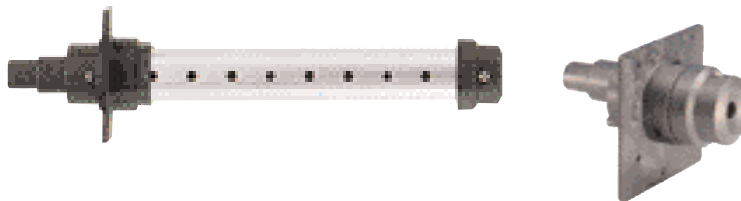
When water is boiled, minerals present in the water can cause foaming. Foam does not transmit heat, nor does it produce steam. As with other Carel steam humidifiers, gaSteam has the patented Carel AFS® Anti-Foam System. Special probes in the steam generator detect when foaming occurs and a special control algorithm then not only eliminates it, but prevents it from recurring.



Ventilated steam distributor

A remote ventilated steam distributor is available for the distribution of steam directly to the space: product code VRDXL.

The VRDXL uses a single-phase blower, statically and dynamically balanced, with "lifetime" support bearings. An external air intake can be used to inject fresh, humidified air into the space.



Duct steam distributors

Carel stainless steel duct steam distributors are designed to spread the steam out evenly to the air stream to reduce evaporation distance and minimize condensation. A flanged mounting plate allows easy installation to most ducts or inside air handlers. An integral drain removes condensate to prevent spitting.

... humidify & save!



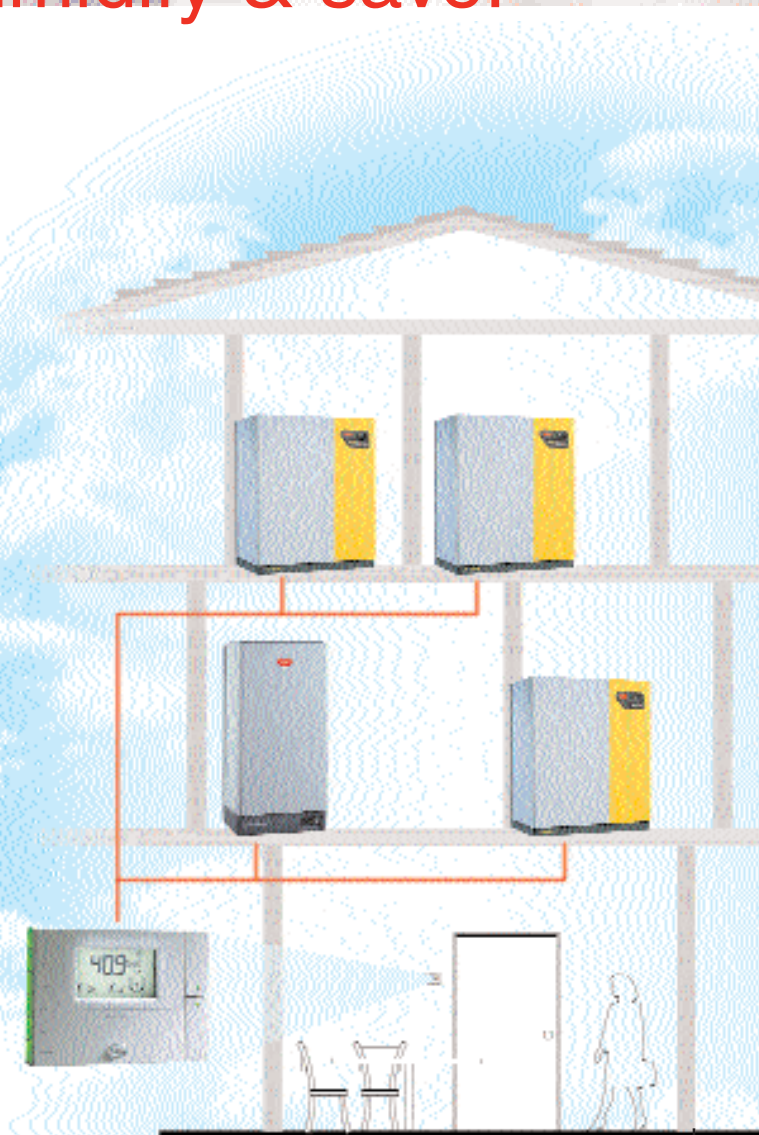
Microprocessor control

Carel's advanced HumiControl is specially programmed to modulate not only the gas to the burner, but also the air flow to achieve the highest possible efficiency with lowest possible emissions.

Two analog inputs allow connection of control and high-limit sensors as well as outdoor air auto-reset to prevent condensation. Through an integral RS485 interface, the HumiControl can also be connected to remote supervisor systems, or any Building Automation System.

Remote monitoring

The HumiControl also connects to Carel's humidifier network, allowing up to 4 units to be connected, at distances up to 3,000 feet, to the HumiVisor remote terminal. The HumiVisor remote terminal displays the operating conditions of each humidifier on the network and allows changing of set points and parameters, and scheduling to its internal time clock.



V/PH	FACTOR	UNIT MODEL NUMBER, CAPACITY, AMPERAGE, WATTAGE		
		UG045	UG090	UG180
230/1	Lbs/hr	100	300	400
	Kg/hr	45	90	180
Width – in. (mm)		35.4" (900mm)	40.2" (1020mm)	40.2" (1020mm)
Depth – in. (mm)		19.7" (500mm)	22.5" (570mm)	45" (1040mm)
Height – in. (mm)		47.3" (1200mm)	47.3" (1200mm)	47.3" (1200mm)
Ship Wt. – Lbs. (Kg.)		300 lbs (137kg)	363 lbs (165kg)	507 lbs (230kg)
Oper. Wt. – Lbs. (Kg.)		408 (185kg)	595 (270kg)	950 (430kg)
BTU Input		120,490 BTU/hr	232,640 BTU/hr	444,000 BTU/hr
Types of Gas		Natural Gas, Propane, Butane		
Steam Outlets		1 x 1-5/8" (40mm)	2 x 1-5/8" (40mm)	4 x 1-5/8" (40mm)
Control Voltage		24 VAC 50/60 Hz		
Maximum Steam Pressure		(0 - 2000 Pa)		
Feed Water		15 – 120 psi (1-8 bar), <= 24 grains (418 ppm) hardness		
Instant Maximum Feed Water Flow		2.62 gpm (10 l/min)		
Instant Maximum Drain Water Flow		8 gpm (30 l/min)		
Room Distribution Units (1 VRDXL per steam outlet)		VRDXL00000U01		
		35 Watts		
		40 dBA		
		380 CFM		
		645 m3/h		

Model Selection

UG	045	H	D	000	U	00
UG = GaSteam	Capacity	H Control	D	Version	USA	0
	045 = 100 lbs/hr	For use with: On/Off Or Modulating Or DDC	Power supply: 220/1/60 Vac Only	000 = UG045 & UG090		Internal Use Only
	090 = 200 lbs/hr			001 = UG180		
	180 = 400 lbs/hr					

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