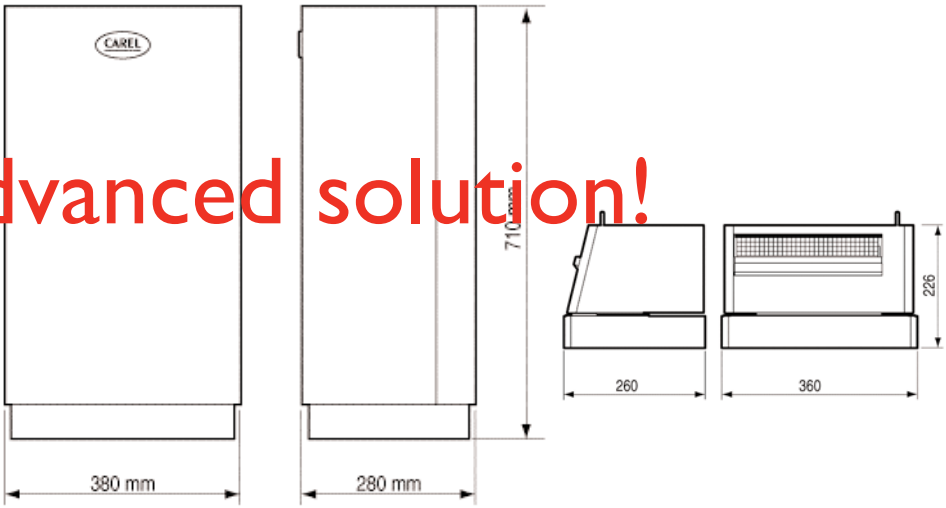


Electric element steam humidifier

The advanced solution!

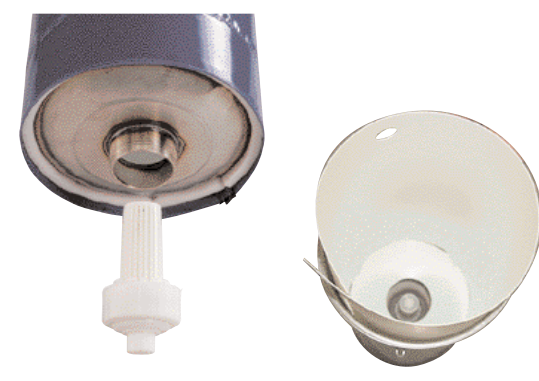
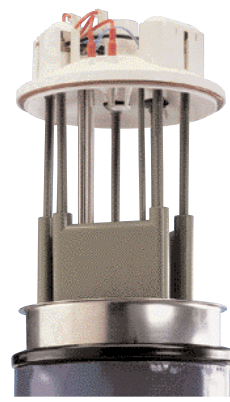


CAREL
Technology & Evolution



heaterSteam

The advanced solution. We just didn't like those messy horizontal pan-coils with the huge, heavy reservoirs, slow response, messy cleanup, useless skimmers, and electric elements that keep burning out. So we went VERTICAL and designed the perfect electric element steam humidifier. The vertical design takes up less space, and results in faster response and longer maintenance cycles. The **heaterSteam** has an easily cleanable steam generator, state of the art 4th generation controls which automatically adjust the drain and fill cycles according to water conductivity, and our exclusive AFS Anti-Foaming System. Water level is controlled by an external double float water level control system that operates on raw, softened, or demineralized water and is located outside of the steam cylinder. Precision SSRs (solid state relays) allow the **heaterSteam** to track right on the control signal and draw perfect circles on humidity charts. The **heaterSteam** is available in capacities up to 132 lbs/hr (60 kg/hr).



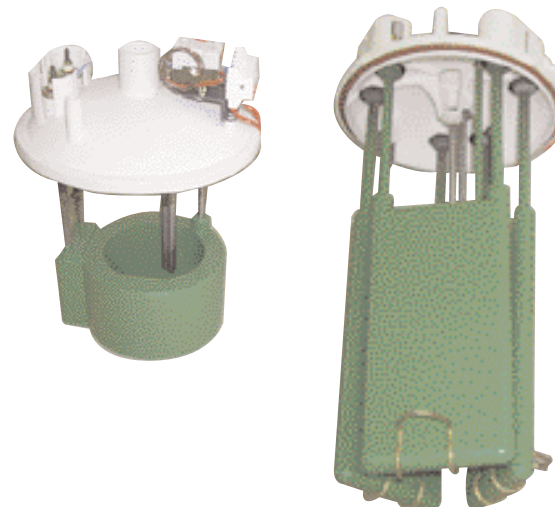
Stainless steel cylinders

The **heaterSteam** humidifier steam generator cylinder is all stainless steel with a conically shaped bottom for proper and complete drainage. The Teflon coated heating elements are suspended from the top with shielded electrical connections. The top is attached with either a full circumference quick release band clamp or nuts and sealed to insure against leaks. The materials used in the construction of the **heaterSteam** humidifier steam cylinder allow it to use standard or demineralized water without modification.

Removable filter and plastic cylinder liner

The bottom of the steam cylinder is equipped with a removable, cleanable drain filter to prevent mineral chunks from jamming the drain valve.

A plastic liner in the smaller **heaterSteam** units collects the mineral and keeps it away from the cylinder walls. At maintenance time, simply unclamp the top, lift out the heating elements, slide out the liner (and all the mineral), rinse and put back into service.



Patented mineral detection system

A precision temperature sensor, embedded in each heating element, protects it from burn out and also senses as mineral begins to build up on the elements. Once the efficiency of heat transfer begins to fall below acceptable levels, **heaterSteam** lets you know its time for maintenance.

Dynamically-shaped heating elements

The **heaterSteam** has low density, high surface area electric heating elements for fast, even response. A precision temperature sensor, embedded in each heating element, protects it from burn out and also allows the microprocessor controller to know when maintenance is required, and then to let you know. Additional temperature sensors in the water allow

heaterSteam to operate in a “stand-by”

mode, maintaining the water temperature for virtually instant response.

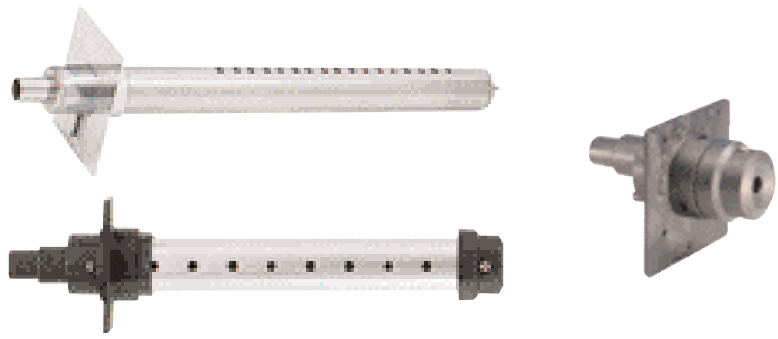
Teflon coating on the heating elements allows them to be wiped clean without the need for scrapers or acids.

Stand-by mode

The **HumiControl** used on the **heaterSteam** can be set to “stand-by” mode where the humidifier will keep the water in the steam generator cylinder at a preset temperature 93°C (200°F) ready for instant response on a call for humidity. This eliminates lag time and adds to the high precision capability of the **heaterSteam**.

Patented foam elimination system

Probes in the fiberglass top allow the microprocessor controller to determine the difference between water and foam. Foam doesn't produce steam and indicates that mineral concentration has gotten too high. When foaming occurs, a patented algorithm in the controller automatically eliminates the foam and seeks to prevent its recurrence.



Room steam distributors

The HeaterSteam range features a new room steam distributor that fits on top of the humidifier unit, or can be mounted remotely with an optional base. Constructed of 16 gauge powder-coated steel, the distributor includes a built-in air direction baffle to help keep the steam away from the ceiling. An optional blower speed control allows for quiet operation or faster steam dispersion as desired.

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.

CROP
AREA

... the advanced solution!



Controls and sensors

heaterSteam uses the new *HumiControl* advanced microprocessor humidifier controller. This controller monitors and controls all functions of the *heaterSteam*, including drain & fill, conductivity control, anti-foaming control, alarms and communications. The *HumiControl* features a full LED display for modulating control to a DDC signal or stand-alone with Carel sensors. As with all Carel humidifiers, the *heaterSteam* can be connected to a Supervisor or Building Automation System.

Remote monitoring & control

For remote monitoring and control requirements, the new *HumiVisor* remote supervisor terminal is available. *HumiVisor* can supervise a network of up to 4 different or similar Carel humidifiers at distances up to 975m (3,200 feet). Supervision is complete, allowing display and modification of each individual humidifier's operation and settings. A real time clock permits scheduling routines.



HeaterSteam: the advanced solution

The **heaterSteam** features advanced technology, unavailable in any other element type humidifier:

- electric heating elements embedded in dynamically shaped, low density, easy to clean, Teflon coated aluminum alloy plates to avoid burnout;
- patented mineral detection system using embedded temperature sensors in the heating elements to prevent burnout and also signal when excessive mineral buildup requires maintenance;
- AFS Anti-Foaming System - the one that truly works;
- “standby mode” allowing the humidifier to maintain water temperature near boiling and ready to produce steam instantly in response to demand;
- full modulation through high precision solid state relays (SSRs) that pulse power to the heating elements and can track a control signal exactly;
- double water level floats located outside the steam generator cylinder and away from the mineral laden water, provide reliable operation on standard or demineralized water;
- stainless steel steam generator with drain screen designed for easy cleaning;
- removable plastic cylinder liner to collect minerals and prevent adhesion to the stainless steel cylinder walls; in UR002 to UR010.
- advanced HumiControl microprocessor controller able to communicate with HumiVisor remote control supervisor, available for On/Off or modulating operation, stand-alone or DDC controlled.



There simply is no equal to the **heaterSteam!**

V Ph.	FACTOR	UNIT MODEL NUMBER, CAPACITY, AMPERAGE, WATTAGE								
		UR002	UR004	UR006	UR010	UR020	UR027	UR040	UR060	
208 1	Lbs/hr	4.8	7.9	11.9						
	Kg/hr	2.2	3.6	5.4						
	Amps	7.8	13	19.6						
	Watts	1622	2704	4077						
230 1	Lbs/hr	5.3	8.8	13.2						
	Kg/hr	2.4	4	6						
	Amps	7.8	13	19.6						
	Watts	1800	3000	4500						
208 3	Lbs/hr			11.9	19.8	39.2	52.6			
	Kg/hr			5.4	9	17.8	23.9			
	Amps			11.3	18.8	37.1	49.8			
	Watts			4071	6773	13366	17941			
230 3	Lbs/hr			13.6	22	43.3	58.1			
	Kg/hr			6.2	10	19.7	26.4			
	Amps			11.3	18.8	37.1	49.8			
	Watts			4500	7500	14700	19.8			
460 3	Lbs/hr			13.2	22	46.2	57.9	88.9	133.3	
	Kg/hr			6	10	21	26.3	40.4	60.6	
	Amps			5.7	9.4	19.7	24.7	38.1	57.1	
	Watts			4500	7500	15700	19700	30300	45500	
575 3	Lbs/hr			13.2	22	43.1	57.2	88.2	132.2	
	Kg/hr			6	10	19.6	26	40.1	60.1	
	Amps			4.5	7.5	14.8	19.4	30.2	45.3	
	Watts			4500	7500	14600	19500	30000	45100	
Width – in. (mm)		14.4(365)	14.4(365)	14.4(365)	14.4(365)	27.2(690)	27.2(690)	27.2(690)	34.5(876)	
Depth – in. (mm)		10.8(275)	10.8(275)	10.8(275)	10.8(275)	17.2(438)	17.2(438)	17.2(438)	17.2(438)	
Height – in. (mm)		24.4(620)	24.4(620)	28(710)	28(710)	34.9(887)	34.9(887)	34.9(887)	34.9(887)	
Ship Wt. – Lbs. (Kg.)		57(26)	57(26)	68(31)	68(31)	161(73)	161(73)	169(77)	216(98)	
Oper. Wt. – Lbs. (Kg.)		59(27)	59(27)	77(35)	77(35)	213(97)	213(97)	251(114)	341(155)	
No. Elements		1	1	3	3	6	6	6	9	
Steam Outlets		1-1/4" (30mm)				1-5/8" (40mm)			1-5/8" (40mm) x 2	
Control Voltage		24 VAC 50/60 Hz								
Ambient		34 – 104 °F, 10 – 80 %RH non-condensing, up to 6" (152mm) W.C. duct static pressure								
Feed Water		15 – 150 psi (1-10 bar), <= 24 grains (418 ppm) hardness								
Instant Maximum Feed Water Flow		0.20 gpm (0.6 lpm)		0.30 gpm (1.2 lpm)		1.1 gpm (4 lpm)		2.6 gpm (10 lpm)		
Feed Water Attachment		1/4" O.D. Comp.				3/8" O.D. Comp.				
Instant Maximum Drain Water Flow		1.3 gpm (5 lpm)				6 gpm (22.5 lpm)				
Drain Water Attachment		1 -1/2" (40mm)								
Room Distribution Units		VSDUOA 34 WATTS 46 dBA 103 CFM 174 m3/h				VRDXL 35 Watts 40 dBA 380 CFM 645 m3/h				

Model Coding								
UR	003	H	U	1	01	U	0	0
UR HeaterSteam	Model in kg/h from chart above	H Control On/off or Modulating or DDC	Power U=208/1 D=230/1 W=208/3 K=230/3 M=460/3 N=575/3	Type 1=Deluxe	Version 01=all 0S=UR020	USA	Reserved	Options 0=standard B=direct mount blower

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