

humiSteam:  
the next generation of  
electrode humidifiers

CAREL  
**CAREL**



# humisteam

advanced technology



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

Today humiSteam is available in a completely upgraded range, in 2 versions:

- **humiSteam "basic"**, humidifier managed by an external controller or BMS, range from 3.3 to 143 lbs/hr;
- **humiSteam "X-plus"**, with integrated controller and range from 3.3 to 286 lbs/hr;

- easy to use: large user-friendly control panels with wide graphic LCD & detailed diagnostic information;
  - improved reliability: the cylinders have exclusive connectors that do not require tools, and all units are fitted with drain pump;
  - fast performance: the humidifier starts faster and accepts a wider range of supply water conductivity. The control software automatically adjusts operation based on the characteristics of the water, so as to simplify installation and optimize maintenance-free life.
- All models feature Modbus® connection.



Easy to use: backlit LCD for clear understanding of the unit status and diagnostics



Reliability: cylinders with quick power connectors for easy, fast and risk-free maintenance



Performance: the unit starts faster and reaches the set point much quicker



Connectivity: integrated Modbus® communication protocol

### X-plus controller:

The type "X" humiSteam humidifiers have a built-in controller with graphic display and keypad for programming and controlling operation.

The following modes can be selected:

- ON/OFF by external humidistat
- Proportional based on an external voltage or current signal
- Proportional based on an external signal plus a safety limit probe in the duct
- Modulating based on the set point and a humidity probe reading
- Modulating based on the set point, a humidity probe reading and a limit probe in the duct.
- Modulating based on the set point and the reading of an external temperature probe (e.g. steam baths)
- Controlled by BMS

The steam flow-rate is modulated continuously from 20 to 100% of maximum capacity (10 - 100% in the 198 and 286 lbs/hr models).

The type "X" humiSteam humidifiers can accept the following signals, selected on the keypad: voltage-free contact from a humidistat, 0 - 1 V, 0 - 10 V, 2 - 10 V, 0 - 20 mA, 4 - 20 mA, 0 - 135 Ohm external load.



The type "x" controllers use all the advantages of pCO technology, the family of CAREL programmable controllers:

- simplicity, with the graphic display and messages in different languages;
- operation with daily and weekly time bands & variable set points;
- BMS connectivity via various types of LAN (e.g.: Modbus®, BACnet™, LON®);
- complete diagnostics with text messages, alarm log with time stamping;
- remote diagnostics via GSM (optional);
- automatic draining in standby.

### Basic controller (Y):

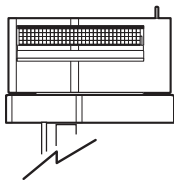
- ON/OFF or proportional control (voltage or current signal);
- flow-rate modulation: 20% - 100%
- adjustable maximum capacity
- cylinder life counter
- automatic draining in standby
- complete diagnostics with memory

The "basic" humidifiers have a large LCD display with numbers and graphic icons for easy and intuitive operation.



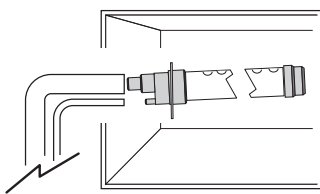
### ACCESSORIES

room applications



VSDUA0002 & VRDXL0000: steam blower  
VSDBAS0001: remote support

duct applications



DP\*: linear steam distributor (inlet Ø 0.86 inch, Ø 1.18 inches, Ø 1.57 inches)

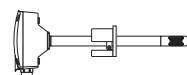
### Probes



DPW\*: temperature and humidity probe for civil environments



DPP\*: temperature and humidity probe for industrial environments



DPD\*: temperature and humidity probe for ducts



## MODELS

Specifications	UE001*	UE003*	UE005*	UE008	UE009*	UE010*	UE015*	UE018*	UE025*	UE035*	UE045*	UE065*	UE090*	UE130*	
<b>General</b>															
Rated steam production (lbs/hr)	3.3	6.6	11	17.6	19.8	22	33	40	55	77	99	143	198	286	
Power input (kW)	1.12	2.25	3.75	6.00	6.75	7.50	11.25	13.5	18.75	26.25	33.75	48.75	67.5	97.5	
Power supply (other volt. on request)	<ul style="list-style-type: none"> <li>• 200, 208 or 230 Vac (+10 to -15%), 50/60 Hz single-phase</li> <li>• 200, 208, 230 Vac (+10 to -15%), 50/60 Hz three-phase</li> <li>• 400, 460, 575 Vac (+10 to -15%), 50/60 Hz, three-phase</li> </ul>														
Steam connection (inches)	0.86/1.2	0.86/1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.6	1.6	1.6	2x1.6	2x1.6	4x1.6	
Outlet pressure limits (*w.c.)	0 to 6.0	0 to 6.0	0 to 5.2	0 to 5.2	0 to 5.4	0 to 5.4	0 to 5.4	0 to 5.4	0 to 8.0	0 to 8.0	0 to 8.0	0 to 8.0	0 to 8.0	0 to 8.0	
Number of boilers	1								1				2		
Operating conditions	33.8 to 104 °F, 10 to 90% rH non-condensing														
Storage conditions	14 to 158 °F, 5 to 95% rH non-condensing														
Index of protection	IP20														
<b>Water fill</b>															
Connection	3/4" NPT male														
Temperature limits (°F)	33.8 to 104														
Water pressure limits (psi)	14.5 to 116														
Instant flow-rate (gpm)	16				29				1.6			1.9	3.7		
Total hardness (°fH) (*)	≤40														
Conductivity limits (µS/cm) (*)	75 to 1250														
<b>Water drain</b>															
Connection	Ø 1.57"								Ø 1.96"						
Temperature (°F)	≤212														
Instant flow-rate (gpm)	1.9								5.9				11.9		
<b>Steam blower</b>															
Number	1								2			3			
Type	VSDU0A*								VRDXL*						
Power supply (Vac)	24								230						
Rated power (W)	37								35						
Rated air flow (cfm)	113								382.6						
<b>Network</b>															
Integrated network connections	UEX* & UEY*: Modbus*														
Optional network connections	UEX* & UEW*: RS485, BACnet™, LON®, Ethernet™, RS232 + GSM (optional)														
Controller	UEY* / UEX*												UEX*		

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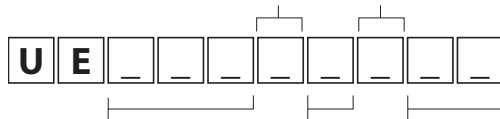
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### UNIT CODE

type of controller:  
 X= X-plus controller  
 Y= basic controller

options:  
 Ø = standard cylinder  
 C= standard openable cylinder  
 1= cylinder for low conductivity  
 2= openable cylinder for low conductivity



steam production: 001= 3.3 lbs/hr 003= 6.6 lbs/hr 005= 11 lbs/hr 008= 17.6 lbs/hr 009= 19.8 lbs/hr 010= 22 lbs/hr 015= 33 lbs/hr 018= 40 lbs/hr 025= 55 lbs/hr 035= 77 lbs/hr 045= 99 lbs/hr 065= 143 lbs/hr 090= 198 lbs/hr 130= 286 lbs/hr	power supply: U= 208 V 1~ D= 230 V 1~ W= 208 V 3~ K= 230 V 3~ L= 400 V 3~ M= 460 V 3~ N= 575 V 3~	Ø Ø = European version U Ø = ETL approved version for the American market
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