

humiSteam:
the evolution of the species
of electrode humidifiers

CAREL



Integrated Control Solutions & Energy Savings

humisteam

a completely upgraded range



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 3 versions:

- **humiSteam "basic"**, humidifier managed by an external controller or BMS, range from 1 to 65 kg/h;
- **humiSteam "X-plus"**, with integrated controller and range from 1 to 130 kg/h;
- **humiSteam "Wellness"** for steam baths, available up to 65 kg/h (described in a separate document).

The new 18 kg/h model is available in all versions.

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

- simpler 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;
- better 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 optimise maintenance-free life.

All the new 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 90 & 130 kg/h 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 exploit 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.



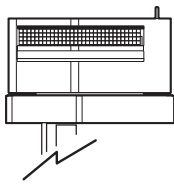
Basic controller (Y):

- 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.

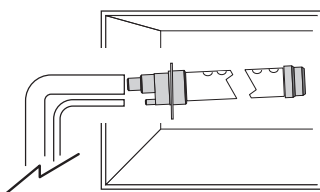
ACCESSORIES

room applications



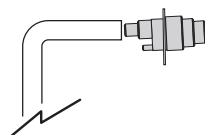
VSDUA0002 & VRDXL0000: steam blower
VSDBA50001: remote support

duct applications



DP*: linear steam distributor (inlet Ø 22 mm, Ø 30 mm, Ø 40 mm)

steam bath applications



SDP*: plastic nozzle up to 15 kg/h steam

Probes



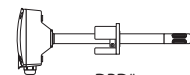
DPW*: temperature and humidity probe for civil environments



DPP*: temperature and humidity probe for industrial environments



ASET*: temperature and humidity probe for steam baths



DPD*: temperature and humidity probe for ducts



MODELS

Specifications	UE001*	UE003*	UE005*	UE008	UE009*	UE010*	UE015*	UE018*	UE025*	UE035*	UE045*	UE065*	UE090*	UE130*
General														
Rated steam production (kg/h)	1.5	3	5	8	9	10	15	18	25	35	45	65	90	130
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)	•	•	•		•									
• 200, 208 or 230 Vac (+10 to -15%), 50/60 Hz single-phase		•	•	•		•	•		•	•	•			
• 200, 208, 230 Vac (+10 to -15%), 50/60 Hz three-phase		•	•	•		•	•	•	•	•	•			
• 400, 460, 575 Vac (+10 to -15%), 50/60 Hz, three-phase		•	•	•		•	•	•	•	•	•	•	•	•
Steam connection (mm)	Ø 22/30	Ø 22/30	Ø 30	Ø 30	Ø 30	Ø 30	Ø 30	Ø 30	Ø 40	Ø 40	Ø 40	Ø 2x40	Ø 2x40	Ø 4x40
Outlet pressure limits (Pa)	0-1500	0-1500	0-1300	0-1300	0-1350	0-1350	0-1350	0-1350	0-2000	0-2000	0-2000	0-2000	0-2000	0-2000
Number of boilers	1						1						2	
Operating conditions	1T40 °C, 10 to 90% rH non-condensing													
Storage conditions	-10T70 °C, 5 to 95% rH non-condensing													
Index of protection	IP20													
Water fill														
Connection	3/4"G male													
Temperature limits (°C)	1T40													
Water pressure limits (MPa-bar)	0.1 to 0.8 - 1 to 8													
Instant flow-rate (l/m)	0.6				1.1				5.85				7	14
Total hardness (°fH) (*)	≤40													
Conductivity limits (µS/cm) (*)	75 to 1250													
Water drain														
Connection	Ø 40													
Temperature (°C)	≤100													
Instant flow-rate (l/m)	7						22.5						45	
Steam blower														
Number	1						2						3	
Type	VSDU0A*						VRDXL*							
Power supply (Vac)	24						230							
Rated power (W)	37						35							
Rated air flow (m3/h)	192						650							
Network														
Integrated network connections	UEX* & UEY*: Modbus®													
Optional network connections	UEX* & UEW*: RS485, BACnet™, LON®, Ethernet™, RS232 + GSM (optional)													
Controller	UEY* / UEX* / UEW*						UEY* / UEX* / UEW*						UEX*	

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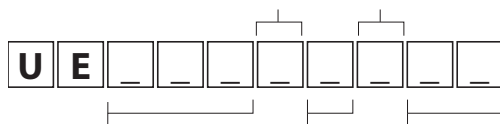
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UNIT CODE

type of controller:
 X= X-plus controller
 W= Wellness 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= 1.5 kg/h 003= 3 kg/h 005= 5 kg/h 008= 8 kg/h 009= 9 kg/h 010= 10 kg/h 015= 15 kg/h 018= 18 kg/h 025= 25 kg/h 035= 35 kg/h 045= 45 kg/h 065= 65 kg/h 090= 90 kg/h 130= 130 kg/h	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 = UL certified version for the American market
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