



 NORTEC
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TRIED, TRUE, AND TRUSTED

Nortec EL Series

Electrode Steam Humidifier



Humidification and Evaporative Cooling



Tried, true, and trusted electrode steam technology for over 40 years.

Intelligent design for quick maintenance

Cylinders can be replaced in minutes ensuring reliable humidity control and minimal downtime.



Electrode plugs

Robust and touch protective electrode plugs for easy and safe cylinder change.

Minimize water usage

Auto-adaptive control cycle is used to ensure cylinders operate with minimal water usage and experience the longest possible life.

Auto-tempering of drain water

The drain valve combines hot drain water with colder supply water to ensure the water leaving the humidifier to drain is no more than 140°F (60°C).



Steam distribution options



EL with steam hose for use in duct.

EL with fan unit for direct room humidification.

Large output from a single unit

The EL Series is available with a single cylinder for outputs up to 100 lbs/hr (45kg/hr) and a double cylinder model for outputs of up to 200 lbs/hr (90kg/hr). Up to twelve single units can be controlled on a master/slave configuration (LinkUp) for outputs up to 1200 lbs/hr (545 kgs/hr).

Touch screen control panel

Advanced user interface offers detailed operational control and diagnostic reporting. A USB connection allows performance data to be downloaded into Excel, as well as software updates to be loaded.

Easy integration into Building Management Systems

Standard connection using Modbus, BACnet IP, and BACnet MSTP (Slave). Option required for LonWorks or BACnet MSTP (Master).



Nortec EL Series
Electrode Steam Humidifier

The EL Series electrode boiler steam humidifier provides hygienic steam for either in-duct or direct air humidification.

Servicing is simple and quick through replacement of the steam cylinder when it becomes full of scale. The humidifier is returned to operation rapidly controlling and maintaining humidity control.

The steam cylinders of the EL Series last up to three times longer than similar models due to advanced water quality management and staged electrode use. The unit is easy to install and its touch screen controller makes it simple to use.

EL Series Outdoor Enclosure

Heavy Duty Weatherproof Cabinet

Robust outdoor cabinet provides protection from all of the elements. Complete shielding from rain, snow and dust to allow for installation in all climates.

Compact Design

Fully integrated enclosure to minimize the outer cabinet dimensions. Industry leading space efficiency to optimize the available rooftop area.

Standard Remote Status indication

Outdoor model complete with remote status relay board which indicates if the unit is operating, producing steam, requires maintenance or has a fault.



Wide Temperature Range

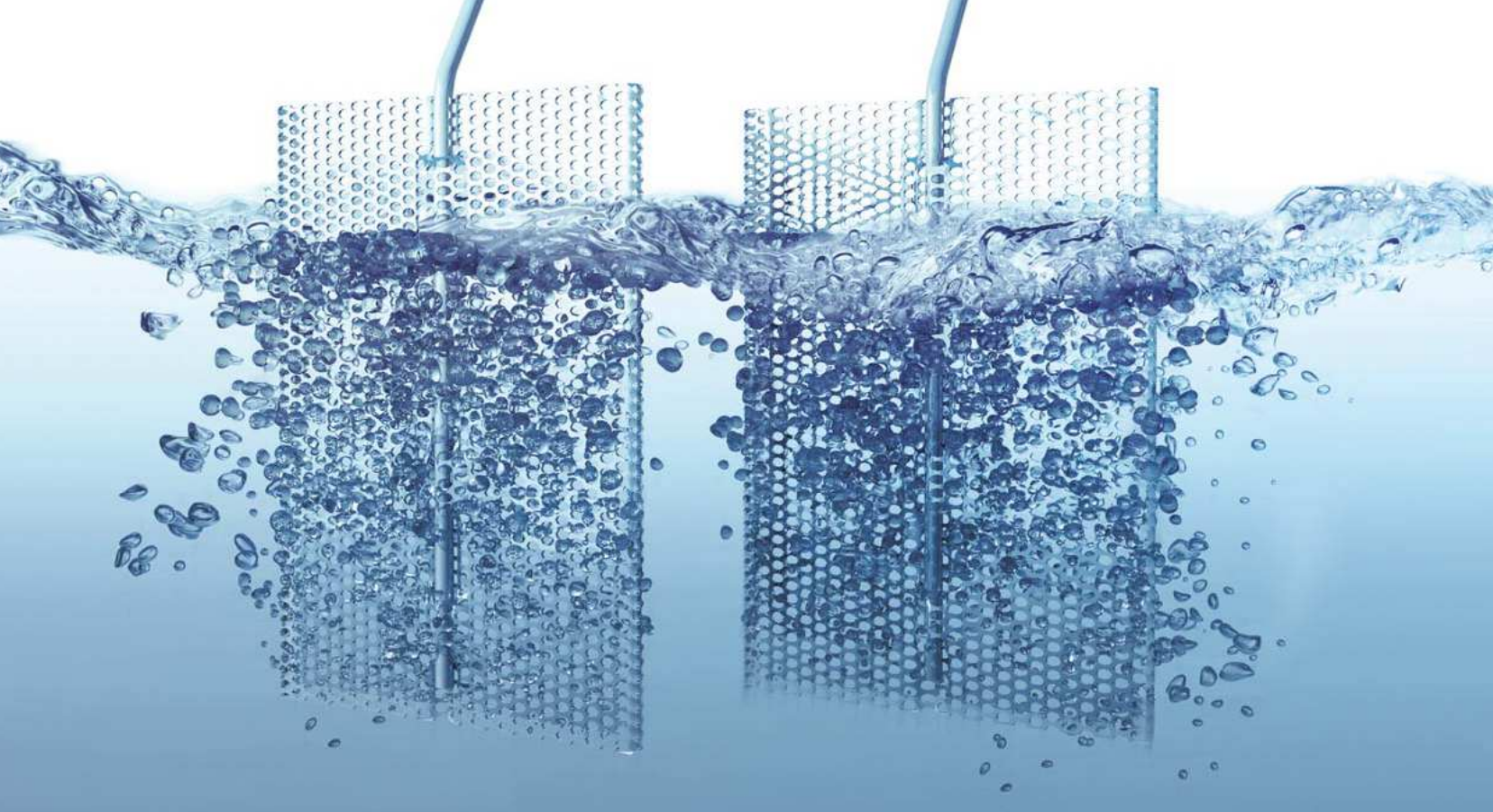
Built-in heater designed to maintain full operational capabilities of the unit down to -40°F (-40°C).

Single Power Supply

Standard 120V transformer internal to the electrical cabinet allows for the built-in heater to be powered directly from the single power supply to the humidifier.

Touch Screen Display

Now fully integrated with the Indoor unit, providing a flexible and user friendly controller interface. Provides the same convenient building management system connectivity as the Indoor model.



Advanced water quality management extends cylinder life, while saving water and energy

Long lasting, high performing steam cylinders

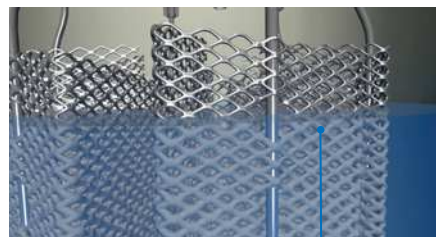
Water conductivity management

Electrical current levels in the steam cylinder are monitored, which ensures the mineral concentration of the water remains at an optimal level. When the conductivity of the water becomes too great, the precise volume of water needed to reduce the mineral level sufficiently is drained and replaced with fresh water. This differs from other electrode humidifiers that use a timer controlled drain and a standard

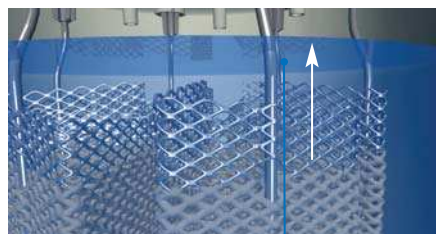
By intelligently monitoring current, precisely controlling mineral levels and minimizing water drainage, scale build-up is controlled, extending the cylinder life, and water consumption minimized. This in turn also reduces the energy needed to heat the fresh supply water.



Water level
Clean electrodes
Scale encrusted electrodes



Scale forms



Water level rises

Staged electrode use

Only the lower sections of the electrodes are initially submerged in water. As they become encrusted in scale, the water level rises to submerge clean electrodes. This staged approach to water level control ensures optimal transfer of current to the water throughout the cylinder's long operational lifetime, without any drop in performance or efficiency.



Replaceable steam cylinders ensure fast and simple maintenance and minimal downtime

Benefits of electrode steam technology

Electrode steam technology is an economic, simple and reliable humidification system for in-duct or direct room humidification.

Installation flexibility

EL humidifiers offer unprecedented installation flexibility. They can be configured for both small and large systems. All EL humidifiers are completely packaged for installation ease. The standard drain water cooling ensures drain water does not exceed

140°F (60°C) to meet local plumbing codes.

Easy to service

The EL Series informs the user when a cylinder is full of scale and needs replacing. This is a simple and quick process of draining the unit, removing the old cylinder and replacing it with a new one. This straight forward maintenance keeps downtime to a minimum and maintains humidity control.

Operates on potable water

Electrode steam humidifiers operate on potable water without any need for RO water treatment. This simplifies installation and reduces on-going water consumption.

Economic

The EL Series has an economic capital cost yet is an extremely dependable solution for hygienic steam humidification.

Applications needing pure, clean steam

Productivity and quality of life are directly affected by the indoor environment. People work better and feel better in favorable surroundings. So do products and machines! They all respond in various ways to changes in air quality, temperature and

just right to maximize performance and reliability, both in humans and equipment. Correct humidity is critical, since too much humidity can be as destructive as too little. The EL Series is suitable for a wide range of applications including:

- commercial offices
- hospitals
- computer rooms
- museums
- clean rooms
- schools
- high-tech centres
- printing plants



Easy integration into Building Management Systems

Remote monitoring for piece of mind

The EL Series steam humidifier includes an interface for connection to common BMS systems as standard. Remote control or remote monitoring is therefore possible without problems. For several humidifiers as part of a more complex installation, the "Linkup" networking system provides a detailed overview of the system with rapid and early response in operation.

EL Series Options

Accessory board

New option available with on-board relays to turn on an external fan. (AHU or furnace fan).

Built On Blower Pack (BOBP)

For direct room humidification; the fan unit can be located directly on top of the humidifier or remotely.

Touch controller for precise control

The EL Series incorporates the latest touch screen control panel, providing intuitive operation and extensive reporting information.

All operating parameters can be seen at a glance with on-screen features offering the user further information on operation and detailed trouble-shooting suggestions. The touchscreen interface is easy to navigate. The user simply needs to touch what they

want to see on the display. In case of an operational error, the humidifier will make service adjustments automatically or trigger a shutdown while displaying the error code.

BMS connectivity is included as standard with BACnet and Modbus protocols. BACnet IP, BACnet MSTP (Slave), and Modbus are all standard. BACnet MSTP (Master) and Lonworks are available with options. BTL options are also available.

Humidity sensors and hygrometers

Full range of in-duct and in-room systems

Mounting rack

Adjustable mounting rack for easy installation on-site at different heights.

RMBP power

Power for a Remote Mounted Blower Pack is from a 120V wall outlet as standard. With an option, power can come from the humidifier.



Typical system overview

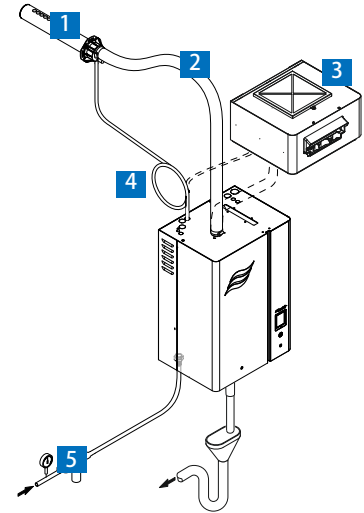
- Replacement steam cylinder
- Touchscreen controller for intuitive user-interface
- Internal PI humidity controller
- Self-diagnostic system
- Real-time clock
- Modbus and BACnet-connectivity
BACnet IP, BACnet MSTP (Slave), and Modbus as standard. BACnet MSTP (Master) and Lonworks available as options. BTL options

Accessories


- 1 Steam distribution tube for duct installation
- 2 Steam distribution hose
- 3 Remote mounted blower pack for direct room humidification
- 4 Condensate hose
- 5 Filter valve

Options

- Remote fault indication board
- Accessory board
- Over-pressure kit for installations with duct static pressure greater than 5.5" WC
- Humidity sensors and humidistats
- LonWorks-connectivity
- Enhanced foam detection



Technical data

SPECIFICATION	EL 005	EL 010	EL 020	EL 030	EL 050	EL 075	EL 100	EL 150	EL 200
Capacity: lbs/hr	1-5	2-10	4-20	6-30	10-50	15-75	20-100	30-150	40-200
Capacity: kg/hr	1-2	1-5	2-9	3-14	5-23	7-34	9-46	14-68	18-91
Input kW max	1.9	3.7	7.5	11.2	18.7	28.1	37.4	56.1	74.8
Voltage	110-120	208-600	208-600	208-600	208-600	208-600	208-600	208-600	208-600
Phase	1	1	1 and 3	3	3	3	3	3	3
No. of Cylinders	1	1	1	1	1	1	1	2	2
 Built-on Blower Pack	yes	yes	yes	yes	yes	yes	yes	no	no

As the leading manufacturer of commercial/industrial humidification systems for more than 70 years, Condair has the technology and application expertise to meet the needs of any application.

Contact us today and ensure you have the best humidification solution for your application.

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