



AIR CLEANING EQUIPMENT INC  
303 N Main St • Broadway NC 27505 • 800-962-0650

WWW.INDUSTRIALAIRTREATMENT.COM

## HydroStream Model HC-25

Evaporative Humidification (25 lbs/hr)  
Produces “Already Humidified Air”

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### HydroStream Humidifier Model HC-25 (25 lbs/hr)



*Low energy production of “already humidified air” within a completely packaged “user friendly” system – and easily installed.*

- Fully automatic with Intelligent LCD controller – *easy to operate and understand.*
- Streamlined durable design using low energy.
- Independent control of temperature & humidity.
- Floor or wall mounted.
- Requires water supply, 115V electrical, and access to a drain.

### HydroStream Model HC-25

#### Specifications

- Unit sits either on floor or wall shelf.
- Humidistat and controller integral to unit.
- Function features include low water protection, auto drain every 8 hrs, pad pre-dust filter, automatic float/valve assembly providing automatic fill from permanent inlet water connection.
- Airflow: 1875 CFM (3 speed fan).
- Humidification Capacity: 25 lbs/hr @ 70°F / 40%RH Room Conditions.
- Voltage: 115V / 1Ph / 60Hz.
- Fan Type: Axial.
- Vent Size: 22.6” x 21.6”.
- Fan 3 Speed Amp Draw
  - 1.25 / 0.8 / 0.7 Amps
- Sound Level: 68 dBA.
- Dimensions: 30”W x 18”D x 45”H.
- Net Weight: 66 lbs
- Operational Weight: 130 lbs.
- 1 piece pad set
- Typical Humidifier Pad Life:
  - Replace pad every 1-2 years.
- Pad Replacement Cost:
  - 1 piece pad set - \$35.00
  - (Current pricing as of Dec 2013)
- Pad size: 25”L x 26.4”W x 3.9” D.
- 8 gallon water reservoir
- 2 ea washable air pre-filters (included)
- Uses potable water supply. In excess of 8 grains per gallon, use either softened or RO quality water. The main water treatment issue is the control of water hardness scale buildup in pads. ACE provides a very low cost optional system called ScaleX2 which renders calcium carbonate (CaCO<sub>2</sub>) harmless. In all quotations for HydroStream, ACE includes the option to use the ScaleX2 water treatment system.



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### • Operational Overview

The HC-25 produces 1875 cfm of an “already humidified air stream” rated at 25 lbs/hr. No visible moisture exits the unit – just a cool, humidified airstream migrating and equalizing quickly throughout your entire plant air space via Dalton’s Law of Partial Pressure.

The HC-25 Humidifier is the smallest (30”W x 18”D x 45”H) size within the HydroStream units and designed for smaller space areas, low ceiling areas, or tighter areas where smaller size units make for the best application to maintain your required humidity set point (e.g. 45%RH @ 72°F) during the dry air periods of plant and production operations.

This size unit operates with one pad only in the rear of the unit where the air is pulled into the water saturated pad from the back of the unit and then delivered out of the top front horizontal discharge area through four way controlled (multi-directional) louvers for maximum air control directed into your plant space.



Operation consists of the intelligent LCD controller regulating continuous flowing water from the HC-25 water reservoir through a water saturated pad while dry filtered air passes through the pad creating an air flow stream of evaporated moisture directly into your manufacturing air space. As the unit receives a call for humidity from the humidistat sensor, the circulating pump begins to pass water down through the evaporative pad media. Air passing through the pad media evaporates the water off of the pad media surfaces and the cooler and more humid air is introduced into the room. Water is introduced into the humidifier via the float and valve assembly. The reservoir should be drained once per day to keep the water fresh and clean. This function alone is your most important automatic operation feature which allows the unit to produce daily and continuous humidified air with the least amount of any ongoing maintenance. The auto drain function will drain the unit every 8 hours to insure daily fresh water. In addition, the reservoir automatically drains during periods of non-use.





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### • Controls & Programing

The HC-25 User Manual provides detailed instructions for all control functions which all are totally self-contained to the unit so no external wiring or mounting is required. All controls and humidistat are integral to the unit.

Your unit is factory pre-programed for all functions including your required set-point (e.g.45% RH) and only changes to settings would be required (fan speed adjustments, timer settings for all functions and clean cycles can be re-set). If there is a loss of building power, the unit will restart automatically.

The LCD Control Module is permanently mounted to the front of the unit and easily accessible. The humidity sensor is permanently mounted to the side of the unit. However, the unit does come with a remote control, allowing you to change settings from the floor if you have mounted the unit 10' up on a wall.

The unit when plugged in is in Standby State alternating display of room temperature and humidity. In ON/OFF mode, pressing ON button, humidifier runs in last set mode.

Controls allow louvers to be completely adjustable for air flow direction into the air space by the Swing/Oscillation control button and manipulated in both vertical and horizontal directions for precise air flow direction.

Automatic Control using the AUTO button sets your desired humidity set point from 35% - 95%.

AUTO CLEAN mode button sets clean cycle for drain valve to empty reservoir which is factory pre-set for every 8 hours.

Unit with power connected is in Standby State alternating display of room temperature and humidity. After inputting your operating parameters, system runs in AUTO Mode during the winter by the Humidistat Sensor automatically controlling all of your input parameters with real time humidity readings on display.

The added functionality of using both humidity and temperature allows you to operate the HC-25 year round for both winter humidification and summer evaporative cooling:

Air passing through the wetted media gives up some of its heat energy to evaporate the water off of the media. This adiabatic process yields both humidification and cooling. In the wintertime, the humidity setpoint becomes the control (typically 45-50%) and the temperature control provides a limit (typically 60°F). In the summertime, the temperature becomes the control point (75°F for example) and the humidity would be the limit control (65% for example). Changing the setpoint is easy on the included digital controller. In either mode, operation is automatic and overcooling (in winter) and overhumidifying (summer) is prevented by the control parameters you set.



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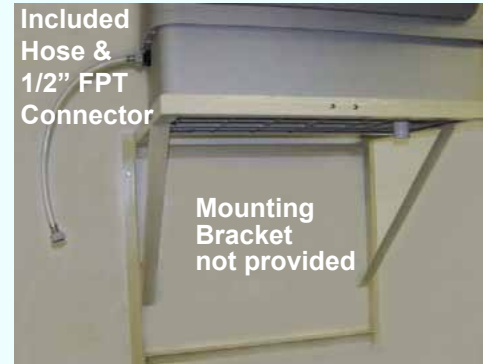
### • Installation Overview

Floor or Wall Located: Unit is free standing and can easily stand on wall shelf or wall bracket / allow approximately 10" from the wall for air intake in rear of unit.

Power – Plug into standard 115 VAC outlet.

Water Supply – Incoming water pressure between 20 & 50 psig at the unit. Use clean water (hardness level greater than 9 grains use either softened water or optional ScaleX2 water conditioner

Drain Water Connection – Located under unit



### • Pad Care & Maintenance

The HC-25 has one pad located on the back of the unit. The pad is accessed by removing the clip on the top side of the unit and the panel separates from the top of the unit.

The pad should be cleaned periodically to ensure unit output performance. Pad cleaning frequency is dependent on both duty cycle and water supply. The key to maintenance is to allow the units to drain once per day and insure the pad is dried thoroughly before extended periods of unit/fan shutdown. Average cleaning frequency will be every 3-6 months. To clean pads, completely dry pads and clean with soft brush.



For seasonal shutdown, empty and clean reservoir, run the fan (only) for two hours to completely dry out pad, remove pad, clean with soft brush and store until next season startup. Note: pad can be also placed back into the unit in the event of dry air conditions during off-season and the HC-25 used as needed.



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## HydroStream Recommended Water Treatment: ScaleX2®

**A Superior Water Softener Alternative – Prevents Scale Caused by Calcium Carbonate for Industrial Humidity Control Systems**

- **Chemical-Free Scale Prevention** – Requires no salt, chemicals or electricity – Template Induced Crystallization (TIC) – Chemical-free scale prevention – converts scale-causing calcium carbonate into harmless, inactive microscopic crystals.

- **NSF Tested & Certified** against the international protocol for scale prevention – ScaleX2® achieved a 99.6% effectiveness rating – the highest among all water softener alternatives. Used in business applications successfully for 6 years.

- **Simple & Efficient Operation** – Converts dissolved hardness ions (scale-causing calcium carbonate) into harmless, inactive microscopic crystals - No backwash water waste – Long lasting media-not consumed by the reactions – Great fit for corporate "Green" programs or initiatives.

"Nano-Crystal" observed on the ScaleX2 media surface by a scanning electron microscope – ScaleX converts formerly dissolved calcium into harmless microscopic solid crystals



*How it Works: ScaleX2 induces atomic sized nucleation sites on the surface of small polymer beads converting dissolved hardness into microscopic crystals. Once the crystals grow to a certain size they are released from the bead and harmlessly carried away with the flow of water. The crystals maintain their solid form in solution and keep the hardness out of the water so that it can't form scale.*

### Your Incoming Raw Water Chemistry Limitations (Use only on municipal water)

- pH: 6.5 to 8.5
- Max Hardness: 75 grains (1300 ppm CaCO<sub>3</sub>)
- Water Temperature: 41 to 140° F
- Chlorine: less than 3ppm
- Iron: 0.3 mg/l max.
- Manganese: 0.05 mg/l max.
- Copper: 1.3 mg/l max.
- Oil & H<sub>2</sub>S: Remove prior to ScaleX2®
- Polyphosphates: Remove prior to ScaleX2®



Model	SX2-11	SX2-12	SX2-12B
GPM Capacity	1.5 GPM	2 GPM	4 GPM
Dimensions			
Height	14.5" H	25" H	28.25" H
Width	8.5" W	8" W	11.75" W
Depth	5" D	5" D	8" D
Weight	8 lbs	10 lbs	16 lbs
Annual Cartridge Replacement	Reorder as SCLX2-1	Reorder as SCLX2-2	Reorder as SCLX2-4

• Note: Each cartridge provides one year of treatment, replace yearly (HydroStream Quotation includes two year supply)