

# Products & Services Catalog 2026

Humidification, Dehumidification and Evaporative Cooling

condair

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*Humidity for a better life*

## Vision

To create healthier built environments and increase productivity with the optimal humidity for a better life.

## Mission

Driven by our customers' needs and supported by science, we engineer reliable, sustainable solutions.





# About Condair

Condair Group, founded in 1948 and headquartered in Switzerland, is the global leader in humidity control, dehumidification, and evaporative cooling. Backed by scientific research, we engineer individual, holistic solutions that support our customers throughout the entire system lifecycle.

With production facilities in Europe, North America, and China—and sales and service organizations in 23 countries—Condair delivers reliable performance and expert support worldwide.

Our approach considers the entire building ecosystem, integrating with heating and cooling systems to ensure the most sustainable use of energy and water. From product development through operation and end of life, we prioritize resource efficiency, process control, and long-term operational savings, helping customers reduce energy consumption while improving productivity.

Scientific studies show that maintaining 40–60% relative humidity supports healthier indoor environments by reducing airborne pathogens and protecting both people and materials.

Through our innovative humidity control and evaporative cooling technologies, Condair sets new standards for health, energy- and water-efficiency, and comfort across commercial, industrial, and residential spaces.

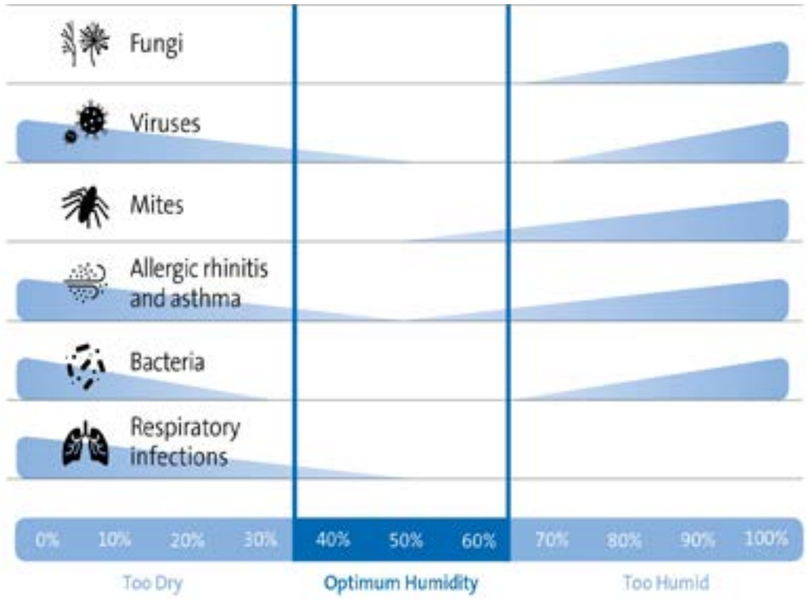



# The Ideal Relative Humidity Range

The Sterling/Scofield diagram below illustrates how different levels of room relative humidity influence comfort and health. Research shows that the risks associated with microorganisms, as well as many humidity-related symptoms, are lowest within the optimal 40–60% relative humidity range. Recent studies also confirm that virus transmission through airborne particles (such as those released when coughing) decreases significantly when relative humidity is maintained above 40%.

Humidity plays a critical role in day-to-day life—supporting health, comfort, and performance in both professional and residential environments. Its importance is recognized globally, with many countries issuing guidelines for the proper operation and maintenance of humidity control systems.

Maintaining the scientifically supported 40–60% RH range can be challenging throughout the year. For this reason, Condair offers a comprehensive portfolio of humidification, dehumidification, and evaporative cooling technologies, ensuring optimal indoor humidity control for any application or building condition.



# Applications

Humidity control is an important factor in commercial and industrial applications as it directly impacts production and employee wellbeing. Humidity control and evaporative cooling solutions must be tailored to each application and facility. Effective results depend on deliberate system planning and choosing the right technology. The table below provides typical environmental conditions for a variety of applications, as well as humidity control technologies that are commonly used in the application.

| | | | | ISOTHERMAL (VAPORIZATION) | | | | | ADIABATIC & EVAPORATIVE | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| APPLICATION | °C | °F | %RH | Electrode Steam | Resistive Steam | Gas-Fired Steam | Pressurized Steam | Steam Exchange | Evaporative Media | Hybrid | High-Pressure Nozzles | Compressed Air & Water |
| Aerospace Manufacturing | 21 | 70 | 50-55 | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Automotive Manufacturing | 21 | 70 | 50-55 | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Bread | 27 | 81 | 75 | ■ | ■ | | | | | ■ | ■ | ■ |
| Ceramics | 27 | 81 | 60-70 | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Cheese Curing | 16-18 | 61-64 | 90 | | | | | | | ■ | ■ | ■ |
| Clean Rooms | 22-23 | 72-73 | 43-47 | ■ | ■ | ■ | | | ■ | ■ | ■ | ■ |
| Data Centers (Class 1 and 2) | 15-32 | 59-90 | 20-80 | ■ | ■ | | | | ■ | ■ | | |
| Electrical (Instruments) | 21 | 70 | 50-55 | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Electrical (X-ray) | 20 | 68 | 40-50 | ■ | ■ | ■ | ■ | | ■ | ■ | | |
| Electrical (Switch gear) | 23 | 73 | 50 | ■ | ■ | | | | ■ | ■ | | |
| Fruit Storage | 4-7 | 39-45 | 85-90 | | | | | | | ■ | ■ | ■ |
| Hospitals (Admin.) | 21-27 | 70-81 | 40-50 | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | |
| Hospitals (ICU) | 21-24 | 70-75 | 40-60 | ■ | ■ | ■ | ■ | ■ | | ■ | | |
| Hospitals (Operating Rooms) | 20-24 | 68-75 | 40-60 | ■ | ■ | ■ | ■ | ■ | | ■ | | |
| Leather (Drying) | 20-52 | 68-126 | 75 | ■ | ■ | ■ | ■ | ■ | | ■ | ■ | ■ |
| Leather (Storage) | 10-16 | 50-61 | 40-60 | ■ | ■ | ■ | ■ | ■ | | ■ | ■ | ■ |
| Lenses (Optical) | 27 | 81 | 80 | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Libraries | 17-22 | 63-72 | 50 | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | |
| Meat & Fish | 0-1 | 32-34 | 88-92 | | | | | | | ■ | ■ | ■ |
| Museums | 20 | 68 | 20-60 | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Mushrooms | 9-16 | 48-61 | 80 | | | | | | | ■ | ■ | ■ |
| Office Space | 21 | 70 | 40-60 | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Paint | 16-32 | 61-90 | 80 | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Pharmaceuticals | 24 | 75 | 35-50 | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Plastics (Manufacturing) | 24-27 | 75-81 | 45-65 | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Plywood (Pressing) | 32 | 90 | 60 | | | | | | ■ | ■ | ■ | ■ |
| Printing (Storage) | 24-27 | 75-81 | 50 | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Printing (Web offset) | 24-27 | 75-81 | 50 | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Rubber (Molding) | 23 | 73 | 50 | | | | | | ■ | ■ | ■ | ■ |
| Senior Living Facilities | 21 | 70 | 40-60 | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Textiles (Knitting) | 24 | 75 | 60-65 | | | | | | ■ | ■ | ■ | ■ |
| Textiles (Spinning) | 24-27 | 75-81 | 35-60 | | | | | | ■ | ■ | ■ | ■ |
| Textiles (Weaving) | 24-27 | 75-81 | 70-85 | | | | | | ■ | ■ | ■ | ■ |
| Tobacco | 21-24 | 70-75 | 55-65 | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Schools & Universities | 20-24 | 68-75 | 40-60 | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | |
| Yoga Studios | 20-24 | 68-75 | 40-60 | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | |
| Woodworking | 20-24 | 68-75 | 30-65 | ■ | ■ | ■ | | | | | ■ | ■ |

■ Treated water recommended







## Healthcare

Healthcare environments rely on precise humidity control to support human health, reduce airborne pathogens, and protect sensitive equipment. Condair delivers hygienic, energy- and water-efficient solutions that maintain the optimal 40–60% RH range essential for patient care, staff comfort, and overall facility performance.



## Mission Critical Environments

Condair's evaporative cooling and humidity control technologies reduce energy consumption, help lower PUE, and deliver scalable, future-ready performance for facilities seeking sustainable, cost-effective environmental control. In data centers, efficient cooling is used to manage rising heat loads.



## Precision Manufacturing

Manufacturers depend on stable humidity to ensure product quality, reduce defects, and minimize material waste. Condair's precise, efficient humidity control systems support dimensional stability and consistent output across industries, helping facilities increase productivity and maintain reliable, high-performance production environments.



## Hospitality

Hotels, restaurants, museums, and entertainment spaces benefit from healthier air, protected furnishings, and more enjoyable environments. Condair provides efficient humidity and evaporative cooling solutions that enhance comfort while helping operators lower energy use and maintain high-quality guest experiences.

# Technology Overview

Condair technologies are engineered as tailored solutions, designed to work seamlessly within each application's unique requirements. By combining precise system design, intelligent controls, and complementary technologies, Condair delivers reliable, efficient, and hygienic humidity control solutions that perform together to optimize comfort, productivity, and energy use.



## Vaporization

In vaporization-based humidification, water is heated to produce steam, delivering sterile, germ-free humidity. This method offers the highest level of control, making it ideal for applications requiring precise humidity regulation. Steam can be generated using electrical power, gas-fired systems, or existing boiler steam, depending on facility requirements.



## Evaporation

Evaporative humidification introduces liquid water directly into the air as an adiabatic process. The energy required for evaporation is drawn from the air itself, providing both humidification and a natural cooling effect. Air passes through wetted evaporative media, absorbing moisture efficiently—delivering significant operating cost savings, especially where cooling benefits the space.



## Atomization

Atomization works based on the adiabatic principle. Fine water droplets are released into the surrounding air using mechanical atomizers or nozzles. In addition to humidification, high-pressure air humidification systems can also be used for cooling purposes in areas where a lot of heat is generated.





## Hybrid

Hybrid humidification systems combine the advantages of both adiabatic processes (evaporation and atomization) in a single system. Hybrid systems are characterized by a very high degree of efficiency and low energy consumption, which makes them attractive for use in large buildings.



## Water Treatment

Water quality plays a critical role in the reliable, hygienic operation of humidification systems. Condair water treatment solutions are engineered to work seamlessly with humidity control systems, ensuring optimal performance and longevity through properly conditioned water tailored to each application.



## Dehumidification

Condair dehumidification systems use advanced silica-gel desiccant rotors to remove moisture from the air through adsorption. As humid air passes over the rotor, moisture is captured and later released during a controlled regeneration process. These systems are ideal for commercial and industrial applications requiring precise control and very low dew points.

## Cooling

Due to the cooling effect, evaporation and atomization technologies are suitable for both humidification and cooling. Evaporative media systems can achieve the highest level of cooling performance of any adiabatic system and are an energy efficient way to cool and humidify many facilities. Quite often, traditional cooling systems can be reduced in size when an evaporative media system is present, saving significant energy and operating cost.

# Isothermal Humidification



**Electrode Steam**

Clean steam technology with a reliable design and touch screen controller.



**Resistive Element Steam**

Accurate, clean atmosphere steam with scale management.



**Atmospheric Steam Distributors**

Clean, precisely controlled steam.



**OEM Consoles**

Ideal solution for air handling equipment.



**Gas-Fired Steam**

Pure, clean atmospheric steam with energy efficient operation.



**Pressurized Steam Distribution Systems**

Reliable humidity from the facility steam boiler.



# Evaporative Cooling & Adiabatic Humidification



**Surface Evaporators/ Evaporative Coolers**

Provide cooling and humidification while reducing building energy usage.



**Hybrid Humidifiers**

Benefit from the advantages of atomization and evaporation.



**High-Pressure Nozzles**

Low energy, precise, and customizable modular design.



**Compressed Air & Water Spray**

Accurate humidity control with directional spray aerosols.



## Why Cylinders?

- Energy efficiency
- Reduce down time and costly maintenance
- No special tools required to remove cylinder
- Removes all minerals left behind
- No need for specially treated water
- Keep humidifiers working at optimum performance

Condair electrode steam humidifiers maintain maximum efficiency from beginning to end. As minerals build-up on the electrodes in the cylinder, the patented auto-adaptive control system automatically raises the water level slightly in the cylinder. This exposes fresh electrode surface to the water to maintain peak output and efficiency from the humidifier. Once the electrode surface is completely insulated by the minerals, the user is alerted to change the cylinder.



# Electrode Steam Humidification

- ✓ Commercial Offices
- ✓ Hospitals
- ✓ Computer Rooms
- ✓ Museums
- ✓ Clean Rooms
- ✓ Schools
- ✓ Printing Facilities

## 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 Servicing**

The EL 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 straightforward maintenance keeps downtime to a minimum and maintains humidity control.

**Simple Water Requirements**

Electrode steam humidifiers operate on potable water without any need for RO water treatment.

**Economic Efficiency**

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

# EL Electrode Steam Humidifier



The EL is the newest electrode steam humidifier from Condair. With over seventy years of experience and a leader in commercial humidification, Condair has developed an all new touch screen controller that is easy to navigate and contains more information than ever before.

- Intuitive touch screen control
- Standard building automation support with integrated BACnet™ (IP and MSTP)
- OSHPD certification for seismic environments
- USB port for performance downloads
- SIM card storage of all operational information and user changes
- Modern cabinet design with small footprint
- Zero side clearance

## 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 | 3-10 | 6-20 | 9-30 | 15-50 | 22-75 | 30-100 | 45-150 | 60-200 |
| Capacity: kg/hr* | 0.5-2.2 | 0.9-4.5 | 1.8-9 | 2.7-13.6 | 4.5-22.7 | 6.8-34 | 9-45 | 6.8-68 | 9-91 |
| Input kW max | 1.9 | 3.8 | 7.6 | 11.4 | 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 | 3 | 3 | 3 | 3 | 3 | 3 |
| No. of Cylinders/control circuits | 1/1 | 1/1 | 1/1 | 1/1 | 1/1 | 1/1 | 1/1 | 2/2 | 2/2 |

**Steam Distribution Choices ****

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Steam hose I.D. | 7/8" 2.2 cm | 7/8" 2.2 cm | 7/8" 2.2 cm | 7/8" 2.2 cm | 1-3/4" 4.5 cm | 1-3/4" 4.5 cm | 1-3/4" 4.5 cm | 1-3/4" 4.5 cm | 1-3/4" 4.5 cm |
| BP (built-on) | Yes | Yes | Yes | Yes | Yes | Yes | Yes | N/A | N/A |
| BP (remote mounted) | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| AS | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| AM | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |

* EL can be field adjusted from 30% to 100% of full output.
** Refer to Engineering Manual for steam distribution methods.

# EL Outdoor Cabinet



Outdoor models for the EL are available for almost any outdoor application.

- Range of -40˚F to 104˚F (-40˚C to 40˚C)
- Easiest and fastest installation and maintenance in the industry
- Full range of indoor capacities and voltages
- User-friendly touchscreen display with standard BMS connectivity



# MES2 Electrode OEM Humidifier



The MES2 electrode OEM humidifier is ideal for specialty air handling equipment. Using replaceable cylinders, the MES2 is the easiest component humidifier to maintain. With standard modulation and Modbus, the MES2 can be integrated into the most demanding systems. Multiple configurations and capacities are available fo installation flexibility.

## Technical Data

| SPECIFICATIONS | 05 | 10 | 15 | 20 | 25 | 30 |
|---|---|---|---|---|---|---|
| Capacity: lbs/hr (kg/hr) | 5 (2.3) | 10 (4.5) | 15 (6.8) | 20 (9.1) | 25 (11.3) | 30 (13.6) |
| Maximum input - kW | 1.7 | 3.4 | 5.1 | 6.8 | 8.5 | 10.2 |
| Voltage | 208, 220-240, 277, 380, 440-480, 550-600 | | | | | |
| Phase | 1 | 1 | 1 and 3 | 1 and 3 | 3 | 3 |
| Cylinder | 100 | 200 | 300 | 300 | 400 | 400 |

**Physical Dimensions***

| | | | | |
|---|---|---|---|---|
| Depth - in (cm) | 6.4 (16.3) | | 7.9 (20.1) | 9.8 (24.9) |
| Width (remote electrical) - in (cm) | 7.5 (19.0) | | 8.9 (22.6) | 10.3 (26.2) |
| Width (attached electrical) - in (cm) | 9.8 (24.8) | | 11.2 (28.4) | 12.6 (32) |
| Height - in (cm) | 12.7 (35.3) | 16.8 (42.7) | 20.0 (50.8) | 20.7 (52.6) |
| Net weight - lbs (kg) | 10.7 (5.0) | 12.4 (5.8) | 16.5 (7.8) | 20.2 (9.5) |
| Full weight - lbs (kg) | 14.2 (6.6) | 18.4 (8.5) | 30.5 (14.2) | 43.2 (20.0) |

* Dimensions reflect fully enclosed cabinets. Given weights include attached enclosed electronics.

# RH Classic Humidifier



The RH Classic electrode steam humidifier features the same proven technology as the EL to deliver efficient and dependable humidification for light commercial and residential applications. Two models are available to cover all applications: the RH Classic Space for in-space humidification and the RH Classic Duct for humidification through the duct system.

- Pure, clean, sterile steam humidification
- Easy maintenance using disposable cylinders
- Auto-adaptive technology adapts to changing water conditions
- Automatic fill and drain cycles
- Wall mounted for direct-room or duct steam distribution

## Technical Data

| SPECIFICATIONS | RH CLASSIC DUCT | RH CLASSIC SPACE |
|---|---|---|
| Wiring connection | Hardwired | Hardwired |
| Rated current | 15.9 A | 12.7 A |
| Maximum ext. protection | 20 A | 20 A |
| Voltage/phase | 110-240/1 | 110-240/1 |
| Capacity: lbs/hr (kg/hr) | 5.0-10.0 (2.3-4.6) | 4.0-8.0 (1.8-3.6) |
| Consumption: gal/day (l/day) | 14.5-29.0 (55.1-110.2) | 11.6-23.2 (44.1-88.2) |
| Dimensions: in (cm) | 21.4 (54.4) H x 11.4 (29.0) W x 6.9 (17.4) D | |
| Weight: lbs (kg) | 21 (9.5) | 22 (10) |
| Controls | On/off or modulating | |
| Steam distribution | Duct mounted distributor or remote blower | Built-in blower |



## Indoor Humidity Control for Health & Wellness

It's vital to maintain a relative humidity of 40-60% for human health and comfort in our homes, workspaces and third places. By staying in the optimum RH zone, we can reduce dryness and discomfort as well as make us less vulnerable to illnesses such as the flu and COVID-19.



# **NEW** RH Connect Humidifier




The Condair RH Connect electrode steam humidifier provides reliable humidity control for light commercial and residential applications, helping maintain consistent indoor humidity levels for improved comfort, occupant well-being, and protection of valuable assets. Designed for easy installation and operation, RH Connect combines proven steam humidification technology with intelligent remote monitoring to give building owners and contractors greater control, visibility, and peace of mind.

- Hygienic electrode steam humidification
- Intelligent remote monitoring through app and web portal—ideal for buildings without a BMS
- Auto-adaptive water management technology
- Automatic cylinder life monitoring
- Proactive service notifications and alerts
- Quiet operation for occupied spaces
- Simple disposable cylinder replacement
- Flexible installation options for direct or remote mounting



## Technical Data

| SPECIFICATIONS | RH CONNECT |
|---|---|
| Wiring connection | Hardwired |
| Current (MCA) A | 12 |
| Max external fuse (MOCP) A | 15 |
| Voltage | 110-120 / 208 / 220-240 |
| Phase / frequency | Phase 1, 50/60 Hz |
| Nominal capacity (gpd.kg/hr.lb/hr) @ 110-120 V | 11/1.8/3.9 |
| Nominal capacity (gpd.kg/hr.lb/hr) @ 208 V | 19/3/6.7 |
| Nominal capacity (gpd.kg/hr.lb/hr) @ 220-240 V | 22/3.6/7.8 |
| Consumption: gpd(l/day) | 20.3 (51.5) H x 10.4 (26.5) W x 7.7 (19.5) D |
| Controls | Transducer |
| Steam distribution | Duct Mounted Distributor |

# Resistive Element Steam Humidification



Scale forms.



Patented scale management breaks away scale.



Scale from the humidifier gravitates into the scale tank.



Scale collection tank is emptied.

- ✓ Commercial Offices
- ✓ Hospitals
- ✓ Computer Rooms
- ✓ Museums
- ✓ Clean Rooms
- ✓ Schools
- ✓ High-Tech Centres
- ✓ Printing Plants

## Patented Scale Management

**Technical Innovation**

The patented scale management removes the separated scale particles from the steam cylinder during operation and automatically leads them into the designated scale collection tank. Scale deposits are continuously removed from the steam cylinder.

The pieces of scale are collected in an external scale collection tank where they can be emptied easily. Maintenance work is therefore significantly reduced and operational reliability maximized. The patented scale management system ensures reduced maintenance times and long life of RS steam humidifiers.

**Easy Cleaning and Maintenance**

Maintenance intervals are extended and the actual maintenance work is reduced to a minimum due to the external scale collection tank. The external location of the scale collector tank below the unit ensures very easy access. The tank can be removed and emptied easily without the need for opening the unit housing. This makes maintenance tasks simple, quick, and cost-effective.

**Innovative Drain Pump**

Scale deposits are not only undesirable in the air humidifier itself; it can also cause problems in the drain piping of a building if scale remains are left in the drain water. This can reduce the drain pipe cross sections and even block them.

For this reason, in the RS steam humidifier, the drain pump has been placed above the scale collection tank. Scale deposits drop into the collection tank, where they accumulate. This prevents scale remains from being sucked in and transferred to the drain piping.

This arrangement of the drain pump protects the drainage system of the building against undesirable and problematic scale deposits.



# RS Resistive Element Steam Humidifier



The RS resistive element steam humidifier provides pure, clean, atmospheric steam from potable or DI/RO water with high precision. With SSR heating element control coupled with a high precision humidistat, the RS can achieve +/-1% RH, perfect for humidity-critical applications.

- For potable water applications, the patented scale management system option saves time and money during maintenance. Scale falls into the scale tank which can be easily removed and emptied
- Precise RH tolerances for humidity critical applications
- Use with potable, DI, or RO supply water
- User-friendly touchscreen controller
- Standard building automation support with integrated BACnet (IP and MSTP)
- Zero side clearance

## Technical Data

| SPECIFICATION | RS 010 | RS 015 | RS 020 | RS 030 | RS 045 | RS 065 | RS 090 | RS 090 | RS 130 | RS 180 |
|---|---|---|---|---|---|---|---|---|---|---|
| Capacity: lbs/hr* | 0-10 | 0-15 | 0-20 | 0-30 | 0-45 | 0-65 | 0-90 | 0-90 | 0-130 | 0-180 |
| Capacity: kg/hr* | 0-4.5 | 0-6.8 | 0-9.6 | 0-13.6 | 0-20.4 | 0-29.5 | 0-40.9 | 0-40.9 | 0-59.0 | 0-81.8 |
| Input kW max | 3.9 | 6.0 | 7.2 | 10.8 | 16.3 | 24.5 | 32.6 | 32.1 | 48.6 | 64.2 |
| Voltage | 208-600 | 208-600 | 208-600 | 208-600 | 208-600 | 208-600 | 208-240 | 440-600 | 440-600 | 440-600 |
| Phase | 1 / 3 | 1 / 3 | 1 / 3 | 1 / 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| No. of stainless steel tanks | 1 x small | 1 x small | 1 x small | 1 x med | 1 x med | 1 x med | 2 x med | 1 x med | 2 x med | 2 x med |
| **Steam Distribution Choices **** | | | | | | | | | | |
| Steam hose I.D. | 1-3/4" 4.5 cm | 1-3/4" 4.5 cm | 1-3/4" 4.5 cm | 1-3/4" 4.5 cm | 1-3/4" 4.5 cm | 1-3/4" 4.5 cm | 1-3/4" 4.5 cm | 1-3/4" 4.5 cm | 1-3/4" 4.5 cm | 1-3/4" 4.5 cm |
| BP (built-on) | Yes | Yes | Yes | Yes | Yes | Yes | No | Yes | No | No |
| BP (remote mounted) | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| AS | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| AM | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |

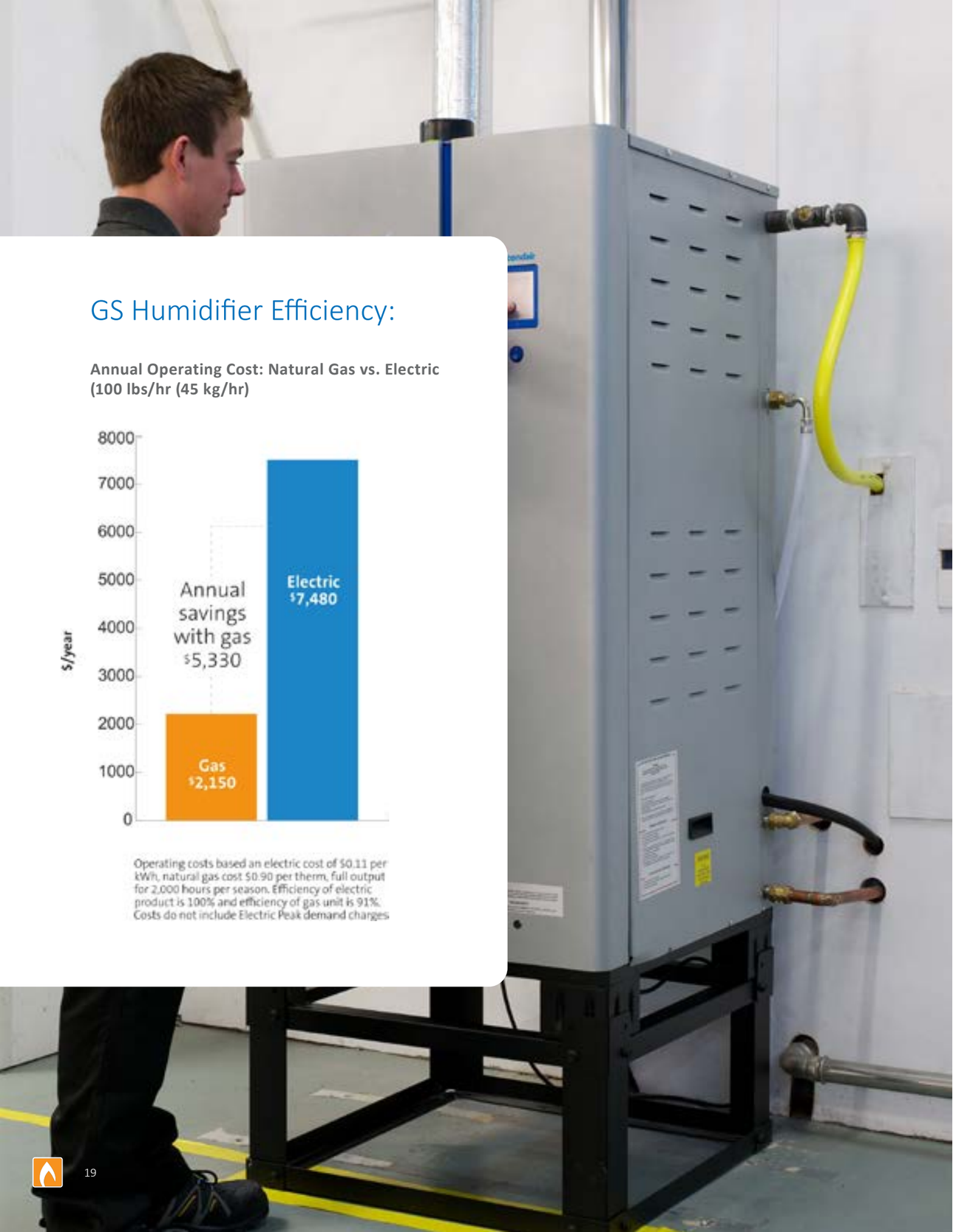
* Capacities are voltage dependent. Output can be field adjusted from 20% to 100% of rated capacity.
** Refer to Engineering Manual for steam distribution methods.

# RS Outdoor Cabinet



Outdoor models for the RS are available for almost any outdoor application.

- Range of -40˚F to 104˚F (-40˚C to 40˚C)
- Easiest and fastest installation and maintenance in the industry
- Full range of indoor capacities and voltages
- User-friendly touchscreen display with standard BMS connectivity



## GS Humidifier Efficiency:

**Annual Operating Cost: Natural Gas vs. Electric (100 lbs/hr (45 kg/hr)**




Operating costs based an electric cost of $0.11 per kWh, natural gas cost $0.90 per therm, full output for 2,000 hours per season. Efficiency of electric product is 100% and efficiency of gas unit is 91%. Costs do not include Electric Peak demand charges



# Gas-Fired Steam Humidification

- ✓ Commercial Offices
- ✓ Schools
- ✓ Libraries
- ✓ Museums & Art Galleries
- ✓ Manufacturing
- ✓ Laboratories
- ✓ Hospitals
- ✓ Printing Facilities

## More Standard Features

**Touch Controller For Precise Control**

The Integrated Controller allows verification of all unit and process data at a glance. Operating data can be called up in real time, and there is a comprehensive data history. Seamless integration into existing Building Management Systems. Standard connection using Modbus, BACnet IP and BACnet MSTP. Option required for LonWorks and BTL certified.

**Venting Flexibility**

The GS can be vented as a direct-room or sealed combustion appliance without any modification to the unit.

## Easy Cleaning & Maintenance

**Water Treatment**

The GS can operate on both potable water and mineral-free water. Operation with reverse osmosis water reduces the maintenance cycle as well as maintenance costs.

**Programmable System Drains**

Software on the GS system allows for automatic blowdowns, periodic full tank drain cycles and automatic idle drains to reduce mineral concentration in the tank. The amount of water drained can be adjusted based on water conditions and the time of full tank drains programmed for a time that fits the application.

**Large Cleanout Port**

Designed with technician feedback, the GS features one of the largest cleanout ports on the market. The whole face of the tank is removed to help simplify maintenance.

# GS Gas-Fired Steam Humidifier



The GS gas-fired steam humidifier delivers reliable, high-capacity humidification with precise control, advanced diagnostics, and robust construction. Designed for commercial and industrial applications, it combines efficient combustion, intelligent controls, and hygienic steam generation to ensure dependable performance, easy maintenance, and long service life.

**Key Standard Features:**

- Intuitive integrated touchscreen controller with onboard automatic self-diagnostics, fault history logging, and on-screen troubleshooting
- BMS connectivity via Modbus or BACnet (IP or MSTP), with optional expanded protocols
- Single or dual modulation burner with flat-plate design for efficient combustion
- Hygienic steam generation with pre-cleaning, adjustable blowdown, and built-in drain water cooling
- Durable, corrosion-resistant enclosed cabinet with internal pipe chase and zero clearance to combustibles
- Heat-treated 316 stainless steel heat exchanger and materials compatible with potable, RO, and DI water

## Technical Data

| | COMPACT SIZE UNITS | | FULL SIZE UNITS | | | | |
|---|---|---|---|---|---|---|---|
| SPECIFICATION | GS 50 | GS 100 | GS 150 | GS 200 | GS 300 | GS 450 | GS 600 |
| Capacity: lbs/hr (kg/hr) | 50 (23) | 100 (45) | 150 (65) | 200 (90) | 300 (130) | 450 (195) | 600 (260) |
| Dimensions: in (mm) W x H x D | 25.5 x 22 x 44 (640 x 542 x 1101) | | 28 x 29 x 55 (717 x 738 x 1387) | 41 x 29 x 55 (1026 x 738 x 1387) | | 57 x 29 x 55 (1448 x 738 x 1387) | 67 x 29 x 55 (1700 x 738 x 1387) |
| Operating weight: lb (kg) | 327 (148) | 351 (159) | 490 (222) | 721 (327) | 757 (343) | 946 (429) | 1460 (662) |
| Mounting | Stand / Wall | | Stand (GS CS / GS NX), Stand / Floor (GS MT) | | | | |
| Power circuit | 120V / 1 Phase / 60 Hz | | | | | | |
| Models | Condensing System (CS), Low NO. (NX), Mid-Temperature (MT) | | | | | | |

## Model Specifications

| SPECIFICATION | GS CS CONDENSING SYSTEM | GS NX LOW NOx EMISSIONS | GS MT MID-TEMPERATURE |
|---|---|---|---|
| Efficiency | Up to 93% | Up to 89% | Up to 84% |
| Exhaust temperature | 140°F / 60°C | 140°F / 60°C | 300°F / 150°C |
| Venting | CPVC, BH | CPVC, BH | BH |
| Condensing high-efficiency | Yes | Yes | No |
| Gas type | NG/P | NG | NG |



# GS Outdoor Cabinet

The GS OC gas-fired humidifier features a weather-proof cabinet that is completely integrated with familiar GS components and operation and specially designed to operate in extreme temperatures.

The GS OC has a temperature range of -40°C (-40°F) to +50°C (+122°F). The unit also features extensive IP testing and has a rating of IP 55 for dust and water ingress protection.




## Technical Data

| SPECIFICATION | GS 50 | GS 100 | GS 150 | GS 200 | GS 300 | GS 450 | GS 600 |
|---|---|---|---|---|---|---|---|
| Capacity: lbs/hr (kg/hr) | 50 (23) | 100 (45) | 150 (65) | 200 (90) | 300 (130) | 450 (195) | 600 (260) |
| Dimensions: in (mm) W x H x D | 39 x 35 x 68 (990 x 889 x 1727) | | | 49 x 35 x 68 (1244 x 889 x 1727) | | 75 x 35 x 68 (1905 x 889 x 1727) | |

**Cold Climate -40°F to +122°F (-40°C to +50°C)**

| | | | | |
|---|---|---|---|---|
| 120V/1/60 Breaker rating (A) | 25 | 40 | 50 | 60 |
| 240/3/60 Breaker rating (A) | 15 | 20 | | |

**Moderate Climate -4°F to +122°F (-20°C to +50°C)**

| | | | | |
|---|---|---|---|---|
| 120V/1/60 Breaker rating (A) | 20 | 25 | 30 | 35 |



# Steam Exchange Humidification

- ✓ Hospitals
- ✓ Educational Facilities
- ✓ Government Buildings
- ✓ Institutional Buildings
- ✓ Printing Plants
- ✓ Museums & Galleries
- ✓ Commercial Offices

## Designed to Deliver Reliable Humidity from Facility Steam Boilers

SE steam-to-steam heat exchange humidifiers use central facility steam as an energy source to boil potable, reverse osmosis, or deionized water. The result is clean, hygienic humidification steam, completely free of boiler chemicals and amines. Boiler steam passes through high-quality 316 stainless steel heat exchangers, turning fresh water into steam. This technique prevents chemical boiler treatments from being dispersed into the building air supply.



# SE Steam Exchange Humidifier

The SE is a complete, packaged humidifier and includes all required components, most of which are contained within the cabinetry. The humidifier is designed for easy installation, reliable operation, and rapid maintenance. Available capacities range from 50-1050 lbs/hr (23 to 475 kg/hr), when supplied with facility steam pressure at a maximum of 15 psi (1 bar).



- Capacities up to 1050 lbs/hr (476 kg/hr)
- Intuitive scale management based on steam production
- All components suitable for RO, DI or potable water
- Built-in drain water cooling
- Fully modulating down to 25% of capacity
- Built-in float and thermostatic steam trap(s) and P-trap
- Fully insulated tank for efficient operation
- Pre-cleaning sequence for easier and faster maintenance
- Includes valve, actuator and strainer
- Seismic certification

## Technical Data

| SPECIFICATION | SE 050 | SE 100 | SE 175 | SE 250 | SE 375 | SE 525 | SE 750 | SE 1050 |
|---|---|---|---|---|---|---|---|---|
| Pressure range - psig (kPa) | 5-15 (35-105) | | | | | | | |
| Max. capacities (at 15 psi steam pressure) - lbs/hr (kg/hr) | 50 (23) | 100 (45) | 175 (79) | 250 (114) | 375 (170) | 525 (240) | 750 (340) | 1050 (476) |
| Dimensions: in (cm) W x H x D | 25.6 x 20.6 x 18.4 (65.1 x 52.4 x 46.7) | 46.4 x 32.0 x 20.0 (117.8 x 81.4 x 50.8) | | 46.4 x 32.0 x 26.4 (117.8 x 81.4 x 67.1) | | 46.4 x 32.0 x 42.0 (117.8 x 81.4 x 106.7) | | 46.4 x 32.0 x 58.0 (117.8 x 81.4 x 147.3) |
| Standard actuator | Electric Modulating 0-10 VDC, 24 VAC | | | | | | | |
| Built-in steam trap | Float & Thermostatic | | | | | | | |
| Insulation & cabinetry | Standard | | | | | | | |
| Voltage/phase | 110-120/1 | | | | | | | |
| Full load amps | 2.1 | | | | | | | |
| Internal Smart Drain Water Cooler | Standard | | | | | | | |
| Steam outlets (s) - OD in (cm) | 1 x 1.75 (1 x 4.44) | | 1 x 3 (1 x 7.62) | | | 1 x 4 (1 x 10.16) | 2 x 4 (2 x 10.16) | |

**Options**

| | | |
|---|---|---|
| Keep warm feature | No | Yes |
| Freeze protection | No | Yes |
| Seismic kits | Yes | |
| Floor stand | Yes | |

# Steam Distribution

## LS Pressure Steam Humidifiers



The Condair LS provides accurate, cost effective humidification directly utilizing steam from your central facility boiler. Constructed from quality 304 stainless steel, the LS humidifiers are designed for long operating life with minimal maintenance. Steam is distributed through short absorption manifolds that are available in a variety of dimensions to suit many applications.

- Available with AM distributors (AM Short Absorption Manifold)
- Pressure ranges from 2-50 PSIG (14-345 kPa)
- High-capacity system up to 3200 lbs/hr (1452 kg/hr)
- Economical and cost-effective system to meet high humidity requirements
- Delivers precise humidity control
- Available tube insulation for increased efficiency
- Suitable for boilers operating on DI, RO or potable water
- Available electric controls

## SAM-e Short Absorption Manifold



The SAM-e delivers precise, hygienic steam distribution with rapid absorption and no condensate spray. Its integrated nozzles, maintenance-free stainless steel construction and optional insulation provide reliable performance, simplified installation and improved energy efficiency.

## SAM-e Mini



The SAM-e Mini brings full SAM-e performance to small duct applications from 8" × 8" to 24" × 24". Its compact design, flexible vertical or horizontal installation and easy system integration make it ideal where space is limited.

## **NEW** SAM-e Mini XL



The SAM-e Mini XL bridges the gap between the Mini and full-size SAM-e, supporting duct sizes from 24" × 24" to 36" × 36" and capacities up to 210 lb/hr. An additional condensate port opposite the inlet provides greater installation flexibility.



## Technical Data

| SPECIFICATION | SAM-E | SAM-E MINI & SAM-E MINI XL |
|---|---|---|
| Pressure range - psig (kPa) | 2-50 (14-345) | |
| Max. capacity single tube - lbs/hr (kg/hr) | N/A | |
| Max. capacity multi-tube - lbs/hr (kg/hr) | 3200 (1452) | 210 (95.25) |
| Separator physical data - H x Din (mm) | Custom | |
| Standard actuator | Electric Modulating 0-10 VDC, 24 VAC | |
| Standard steam trap | Float & Thermostatic | |
| Separator and dispersion tube material | Stainless Steel 304 | |

**Options**

| | |
|---|---|
| Pneumatic actuator | Yes |
| Electric on/off actuator | Yes |
| Tube insulation | Yes |



## BP Blower Packs

BP bower packs are an optional accessory used for direct steam distribution into localized areas, or into structures that do not have a built-in air distribution system. When used with the EL and RS models, built-on blower packs are available for ease of installation. Remote mounted blower packs are also available with the EL, RS, SE, GS, and residential humidifiers for better distribution of steam in the space being humidified.



## AS Atmospheric Steam Distributor

The AS atmospheric steam distributor allows for direct introduction of atmospheric steam into a duct system or Air Handling Unit. Atmospheric steam distributors are designed for use with EL, RS, GS, SE and residential humidifiers. All steam distributor tubes are made of stainless-steel and adjustable for horizontal or vertical flow applications. An Integral condensate return allows for condensate produced at the distributor to be returned back to the humidifier or drained through a convenient floor drain.

| DISTRIBUTOR | EL | RS | RH | GS | SE |
|---|---|---|---|---|---|
| AS | ▪ | ▪ | ▪ | ▪ | ▪ |
| BP (built-on) | ▪ | ▪ | ▪ | | |
| BP (remote) | ▪ | ▪ | ▪ | ▪ | ▪ |
| SAM-e | ▪ | ▪ | | ▪ | ▪ |
| SAM-e Mini | ▪ | ▪ | | ▪ | ▪ |
| SAM-e Mini XL | ▪ | ▪ | | ▪ | ▪ |



# Evaporative Humidification

- ✓ Data Centers
- ✓ Clean Rooms
- ✓ Warehouses
- ✓ Aerospace
- ✓ Office Towers
- ✓ Hospitals
- ✓ Museums
- ✓ Automotive
- ✓ Pharmaceuticals

## Humidification & Cooling in One

Saving energy and water, while reducing operating costs, is an important challenge in an increasingly energy conscious world. The ME evaporative media humidifier and cooler is an efficient way to provide both humidification and cooling while reducing building energy usage.



## Evaporative Cooling

For every 2.2 lbs/hr (1kg/h) of water evaporated from the ME, 630W of evaporative cooling is also delivered to the airstream. As a single ME humidifier can deliver up to 2200 lbs/hr (1,000kg/h) of moisture it can provide approximately 630kW of cooling while operating on less than 0.3kW of electricity.

This cooling technique can be employed directly on fresh air entering a building or via indirect exhaust air cooling systems. By humidifying exhaust air with a ME its temperature can be reduced to below that of the incoming fresh air. A heat recovery system then transfers some of this cool energy into the incoming fresh air, lowering its temperature and reducing the need for more energy-intensive and costly mechanical cooling.

The ME is ideal for use in free air cooling systems, such as those used in data centers; where a large volume of outside air is used to cool an internal environment. By evaporating moisture into the incoming airstream, its temperature is reduced, thus extending the cooling capacity of the system.

**Hygienic Operation**

The hygienic nature of evaporative humidification, combined with the ME's advanced features, make it one of the most hygienic humidifiers available. Evaporative humidifiers provide aerosol-free in-duct humidity control virtually eliminating the risk of microbial inhalation.

Water is prevented from remaining in the humidifier and stagnating by timer or conductivity controlled flush and drain cycles. This inhibits microbial growth within the system and combats lime scale formation. To reduce water consumption these cycles can be triggered by water conductivity or temperature with optional sensors so that flushes only occur when necessary.

The drain tray of the evaporative module can be fitted with a submerged UV water treatment unit that kills micro-organisms in the reservoir. This is more effective than treatment on a supply line as it combats microbial growth in water after it has been exposed to the contaminants in the airstream. It also provides continuous UV treatment to the water in the system even when the humidifier is not in use.

# ME Evaporative Media Humidifier & Cooler

The high performance of the ME is driven by its unique evaporative cassettes, delivering highly efficient humidification with minimal pressure drop. Glass fiber media is housed in a rigid stainless-steel frame and carries a UL 900 classification.

The ME is available in both direct feed and recirculation models. Direct feed units are ideal for potable water or systems with central recovery, while recirculation models accommodate a wide range of water types and feature a flexible, self-contained hydraulic module that can be installed inside or outside the airstream for simplified installation and maintenance.

An optional Integrated Controller with LCD touchscreen provides advanced control and adjustable operating parameters.



# MC Evaporative Media Humidifier & Cooler

The MC is our most cost-effective evaporative media solution. The MC offers a simplified design, yet still incorporates the same quality design, innovative hygiene, installation, and operational features as the ME. A single unit can offer up to 793 lbs/hr (360 kg/hr) of humidity and approximately 245 kW/h of adiabatic cooling from less than 0.15 kW of electrical energy.







## Glass Fiber Media

- Glass fiber media
- Suitable for a wide range of water types
- UL 900 classified

## Integrated Control System

- Smart water management
- Advanced hygiene control
- Modbus and BACnet interface standard
- Intuitive touch screen control
- Simple operation
- Available LonWorks or N2 gateways
- NRTL-C approved



| FEATURES COMPARISON | ME CONTROL | ME DIRECT FEED | MC |
|---|---|---|---|
| Operates on RO, potable, softened water | ■ | ■ | ■ |
| Recirculation water system | ■ | | ■ |
| Flow through water system | | ■ | |
| Integrated controller with backlit LCD touchscreen display with on screen help | ■ | | |
| Basic control panel | | | ■ |
| Smart water management system | ■ | | |
| Adjustable flush cycles | ■ | | ■ |
| Pre-cleaning sequence | ■ | | ■ |
| Bacnet MS/TP and IP protocol standard | ■ | | |
| Modbus protocol standard | ■ | | ■ |
| Programmable maintenance settings | ■ | | |
| Individual step-control, 1-7 stages | ■ | | |
| Individual step-control, 1-3 stages | | | ■ |
| Multi-unit networking | ■ | | |
| Multiple control signal acceptance | ■ | | ■ |
| Operation history log | ■ | | |
| Remote fault indication | ■ | | ■ |
| Conductivity smart monitoring | ■ | | |
| Submerged UV treatment | ■ | | ■ |
| Stainless-steel reservoir | ■ | ■ | ■ |
| Stainless side frames | ■ | ■ | ■ |
| Glass fiber media with silver coating | ■ | ■ | ■ |
| Mist eliminator v-profile polyester media (above 689 fpm) | ■ | ■ | |
| 2-Year limited warranty (excluding media) | ■ | ■ | ■ |
| Building connectivity BMS gateways – BACnet, LonTalk, N2 | ■ | | |

## Technical Data

| SPECIFICATION | ME | MC |
|---|---|---|
| Minimum size (W x H) | 600 x 625 mm | 600 x 750 mm |
| Maximum size (W x H) | 4200 x 4000 mm | 3000 x 3000 mm |
| Size increments | 150 mm W / 125 mm H | 300 mm W / 250 mm H |
| Maximum output | 2200 lbs/hr (5 pumps) | 793 lbs/hr (3 pumps) |
| Pump fault detection | Option | Standard |
| Number of stages | Maximum 7 per system | Maximum 3 per system |
| Media types | Glass-Fiber | Glass-Fiber |
| Media efficiencies | 75% \| 85% \| 95% | 85% \| 95% |
| Max media free area velocity | 689 fpm without droplet separator<br>886 fpm with droplet separator | |
| Power consumption | 85 – 278 W | 74 – 145 W |
| Controller | Condair integrated controller | Basic control with status LED (no display) |
| Control options | BACnet, Modbus, LonWorks (including certified versions) | Modbus only |
| System drain | Integrated overflow with pump assistance | Integrated overflow and gravity drain |



# Condair Kuul Evaporative Media

- ✓ Data Centers
- ✓ Gas Turbines
- ✓ Industrial HVAC Systems
- ✓ Semiconductors
- ✓ Paint Spray Booths
- ✓ Hybrid Pre-Cooling

## The Leading Evaporative Media

Condair Kuul evaporative media sets the standard for efficient, sustainable cooling in data centers, industrial facilities, and commercial buildings worldwide. Designed for any evaporative cooling and humidification applications, Condair Kuul media delivers high evaporation efficiency, low pressure drop, and reliable cooling performance in demanding environments.

**Engineered for Efficiency and Durability**

Manufactured using premium materials and a patented design, Condair Kuul media provides improved cooling effectiveness while minimizing airflow resistance. This results in lower energy consumption, longer service life, and greater return on investment across a wide range of applications.

**OEM and Replacement Compatibility**

Condair Kuul media is manufactured to meet original equipment manufacturer specifications and can be precisely cut to fit Condair and third-party systems. This ensures a precise fit, consistent performance, and reliable cooling—whether used in new installations or as a replacement solution.

# FirePro Glass Fiber Evaporative Media

Condair Kuul FirePro evaporative media is constructed from flame-retardant, inorganic glass fiber materials engineered for durability and consistent performance in demanding HVAC environments. Its material composition provides high water absorption and saturation efficiency, allowing rapid response to start-up conditions and changing load requirements.

- UL 900 certified for fire safety compliance
- High water absorption and saturation efficiency
- Low pressure drop for energy-efficient operation



# Control Cellulose Evaporative Media

Condair Kuul Control evaporative media is engineered for high-efficiency cooling in demanding HVAC and industrial applications. Its design promotes turbulent air and water interaction to maximize evaporation efficiency, while premium organic fibers provide high water absorption, low pressure drop, and long service life.

- High evaporation efficiency with reduced pressure drop
- Durable organic fiber construction for long service life
- Customizable design, including flute angle selection



# PowerGT Cellulose Evaporative Media

Condair Kuul PowerGT evaporative media is engineered specifically for gas turbine inlet air cooling, where operating conditions are among the most demanding in HVAC. Its specialized material composition provides high water absorption and saturation efficiency, enabling rapid response during fast start-ups and fluctuating load conditions. Designed for durability and structural stability, PowerGT supports reliable performance and optimized turbine output.

- High saturation efficiency for effective performance optimization
- Rapid response to start-up and changing demand conditions
- Durable cellulose-based construction for harsh environments





# FirePro DE Glass Fiber Evaporative Media

Condair Kuul FirePro DE is a high-efficiency drift eliminator designed to minimize droplet carryover at high air velocities without increasing fan load. It supports compact air-handling unit design and enables evaporative cooling systems to operate at maximum airflow without water entrainment.

- High-efficiency drift elimination at elevated air velocities
- Rigid flute geometry to prevent deformation under high airflow
- Absorbs up to 5 lb of water per cubic foot of media
- Enables effective capture and drainage of entrained moisture
- UL 900 compliant for fire safety requirements



## Technical Data

| SPECIFICATION | KUUL CONTROL 5MM 45/45 | KUUL CONTROL 7MM 45/15 | KUUL POWERGT | KUUL FIREPRO | KUUL FIREPRO DE |
|---|---|---|---|---|---|
| Density of media (lbs/ft³) | Dry media = 1.94<br>Wet media = 4.69 | Dry media = 1.38<br>Wet media = 3.34 | | Dry media = 1.29<br>Wet media = 5.14 | Dry media = 1.3<br>Wet media = 5.8 |
| Water carrying capacity from dry to wet (gal/ft³) | 0.329 | 0.235 | | 0.617 | 0.54 |
| Maximum air velocity of media before carry-over (fpm) | 700 | 750 | | 700 | N/A |
| Maximum air velocity of media using DE (fpm) | 1,000 | 1,000 | | 800 | 800 |
| Maximum height of a single piece of media | 72" | 78" | | 78.5" | 72" |
| Maximum system height per single header | 100" | 120" | | 100" | 36"* |

*Maximum safe height without horizontal stabilizer.

Condair has collaborated closely with our suppliers and supply chain to ensure that PFOA and PFOS, are not present in any Condair Kuul media product or the materials that are used in the manufacturing of our evaporative cooling media.




# High-Pressure Direct-Room Humidification

- ✓ Printing & Packaging
- ✓ Electronics
- ✓ Aerospace
- ✓ Wood
- ✓ Horticulture
- ✓ Food Processing
- ✓ Tobacco
- ✓ Medical Technology

High-pressure humidification offers low operating costs, reduces cooling costs and requires minimal maintenance. We provide the highest quality products and services to a wide range of industries in production facilities and office environments to maintain consistent relative humidity levels.

Energy incentives are often available for replacement of older, less efficient humidification technology.

**How High-Pressure Humidification Works**

Water is atomized into micron-sized particles which are absorbed into ambient air. Systems are internally controlled to monitor facility humidification zones and respond accordingly, 24 hours a day, to maintain the desired levels of humidity. Typical range of operation is ±2% from relative humidity set point regardless of environmental conditions. Humidification distribution equipment is matched to the characteristics of the facility to ensure 100% evaporation of moisture.

**How High-Pressure Humidification Reduces Energy Consumption**

High-pressure humidification not only saves energy compared to other technologies, it’s an environmentally conscious solution. The evaporation of water particles in air requires energy (0.68 kW per liter of atomized water) which is taken from the surrounding air. This process decreases the temperature of air while increasing the relative humidity.

In operations with mechanical cooling, reductions of air conditioning can be significant. Free cooling environments, such as computer data centers, realize lower energy consumption for cooling, lower power usage effectiveness (PUE) and a decrease of their carbon footprint.

# **NEW** Vita Direct-Room Humidifier System

Vita Power is a scalable high-pressure system designed for industrial applications with demanding requirements. It produces hygienic, demineralized water tailored to local water conditions, target humidity levels, and required water quality. DGUV-certified[1], Vita Power is engineered for reliable continuous operation, easy maintenance, and minimal downtime.



## Vita Power Pump Station



### High-Pressure Pump

The high-pressure pump generates a pressure that transports the treated water to the high-pressure nozzles, which atomize it and send it into the room. The pump is extremely robust and reliable, with a service interval of 8,000 hours.



### UV Reactor

In the final step, UV irradiation guarantees complete and permanent sterilization of the inlet water. The high-pressure pump then provides a hydraulic water supply, which ensures fine misting throughout the room.



### Reverse Osmosis Unit

Through reverse osmosis, in which water molecules pass through a special membrane, the water is purified to become pure water. Almost all impurities such as salts, minerals, heavy metals, chemicals and microorganisms are effectively filtered out.



### Deionization Unit

Ultra-pure water is produced from pure water (RO water) through ion exchange. Residual minerals as well as silicates are filtered out. In order to make it possible to atomize the ultra-pure water, the very low conductivity of the water must be compensated with $CO^2$. This step is especially necessary for highly sensitive applications such as clean rooms, electronics production and offices.

[1]The validity and scope of the certification depend on the model variants and country-specific requirements.
Contact your regional sales partner for more information.



### Efficiency & Reliability

- Frequency-controlled high-pressure pumps
- Precision water distribution for stable output
- Designed for minimal downtime

### Process & Occupational Safety

- DGUV and VDI certified[1] system
- Microbiological filtration with integrated UV sterilization to prevent microbial growth

### Scalability & System Integration

- Capacities up to 1100 lbs/hr (500 kg/hr)
- Scalable, tailored modular design
- Compatible with common BMS systems
- Remote monitoring and control via Condair Cloud

### Stability & Durability

- Industrial-grade construction for long service life
- Oil-free pumps rated for 8,000 operating hours
- Maintenance-free reverse osmosis system

## Technical Data

| SPECIFICATIONS | VITA POWER 100 | VITA POWER 300 | VITA POWER 500 |
|---|---|---|---|
| Humidifying capacity | 220 lbs/hr (100 kg/hr) | 660 lbs/hr (300 kg/hr) | 1100 lbs/hr (500 kg/hr) |
| Permissible input pressure | 36 - 58 psi | | |
| Operating pressure | RO-DI-CO-UV-HP / RO-UV-HP / UV-HP / Power RO - 725 - 1015 psi | | |
| Dimensions (H x W x D) | | RO-DI-CO-UV-HP | |
| | 64 x 37 x 30 in (1620 x 950 x 750 mm) | 64 x 43 x 30 in (1620 x 1100 x 750 mm) | 64 x 43 x 30 in (1620 x 1100 x 750 mm) |
| | RO-UV-HP | | |
| | 60 x 30 x 30 in (1620 x 750 x 750 mm) | 64 x 37 x 30 in (1620 x 950 x 750 mm) | 64 x 37 x 30 in (1620 x 950 x 750 mm) |
| | UV-HP | | |
| | 51 x 22 x 30 (1300 x 550 x 750 mm) | | |
| | Power RO | | |
| | 100 - 64 x 30 x 30 (1620 x 750 x 750 mm) | 300 - 64 x 37 x 30 (1620 x 950 x 750 mm) | 500 - 64 x 37 x 30 (1620 x 950 x 750 mm) |
| Operating voltage | 208 V / 3PH / 60 Hz | | |
| Electrical output | RO-DI-CO-UV-HP / RO-UV-HP | | |
| | 1480 VA / 4.1 A | 2610 VA / 7.2 A | 2960 VA / 8.2 A |
| | UV-HP | | |
| | 1100 VA / 1.6 A (400 V)<br>1100 VA / 3.1 A (208 V) | 1860 VA / 2.7 A (400 V)<br>1860 VA / 5.2 A (208 V) | 1860 VA / 2.7 A (400 V)<br>1860 VA / 5.2 A (208 V) |
| | Power RO | | |
| | 100 - 1000 VA / 2.8 A | 300 - 1400 VA / 3.9 A | 500 - 1900 VA / 5.3 A |
| Sound pressure level | RO-DI-CO-UV-HP / RO-UV-HP / UV-HP - 74 dBA / Power RO - 58 dBA | | |
| Weight (guide values) | RO-DI-CO-UV-HP | | |
| | 474 lbs (215 kg) | 617 lbs (280 kg) | 617 lbs (280 kg) |
| | RO-UV-HP | | |
| | 320 lbs (145 kg) | 463 lbs (210 kg) | 463 lbs (210 kg |
| | UV-HP | | |
| | 187 lbs (85 kg) | 198 lbs (90 kg) | 198 lbs (90 kg) |
| | Power RO | | |
| | 231 lbs (105 kg) | 353 lbs (160 kg) | 353 lbs (160 kg) |

# Vita Spray Heads

Choosing the right spray head is crucial for perfect humidification. Vita spray heads ensure the ideal evaporation rate while minimizing water consumption. The Vita Sky product line carries flexibile standard and premium options for ceiling and wall mounting to fit any application






## Vita Sky S

**Suitable For Quiet, Professional Spaces**
Specially developed for offices, medical practices and applications requiring small quantities – for very quiet and micro-fine misting.



## Vita Sky M

**More Power in Offices and Industrial Spaces**
Ensures a perfect climate in offices and industrial environments, offering flexible mounting options and the choice of nozzle types.



## Vita Sky T

**The Most Powerful Vita Sky Spray Head**
Ensures an even higher humidification capacity in demanding environments by combining two Sky M spray heads. It features a compact design and flexible mounting options, to fit your requirements.




## Vita Space

**Maximum Capacity For Industrial Applications**
Impressive capacity and robust construction for maximum performance. Flexible mounting on walls or ceilings allows easy integration into existing production facilities.





## Vita Stream

**Powerful Performance For Large Spaces**
The ideal solution for medium-sized high-tech production plants with low ceilings. Features high performance and flexible mounting options.



## Vita Line

**Strong and Sturdy**
Stands up to the challenge even in difficult and harsh environments. Thanks to the ability to expand the number of nozzles without limitation, the system can be perfectly adapted to the requirements of high-bay warehouses and very dusty environments, for example.

## Technical Data

| SPECIFICATION | SKY S | SKY M | SKY T | SPACE | STREAM | LINE |
|---|---|---|---|---|---|---|
| Nozzles | One nozzle | Up to 2 nozzles | Two Sky M spray heads | Up to 8 nozzles | 8 nozzles | Unlimited number of nozzles |
| Capacity – lbs/hr (kg/hr) | Up to 3.3 (1.5) | Up to 11 (5) | Up to 22 (10) | Up to 114.6 (52) | Up to 79.4 (36) | Flexible, depending on requirements |
| Voltage | 24VDC | 24VDC | 24VDC | 115VAC / 230VAC | 120V or 230VAC | N/A |
| Ceiling heights - ft (m)<br>ALA: 'as low as' | ALA8.5 (2.6) | M1: ALA 10.5 (3.2)<br>M2: ALA 13.75 (4.2) | T1: ALA 11.5 (3.5)<br>T2: ALA 16.5 (5) | ALA 18 (5.5) | ALA 13 (4) | 10 lb/hr: ALA 19.5 (6)<br>5.5 lb/hr: ALA 13 (4)<br>3.3 lb/hr: ALA 6.5 (2) |
| Mount | Ceiling | Ceiling | Ceiling | Wall or ceiling | Ceiling mounting with chains or ropes | Wall or ceiling mounting |
| Recommended use | Offices, medical practices, museums, laboratories | Print shops, packaging industry, electronics industry, offices | Print shops, packaging industry, electronics | Print shops, paper and packaging industry, electronics, automotive industry, aviation | Print shops, paper and packaging industry, electronics, automotive industry, aviation | High-bay warehouses, dusty environments, plenum spaces |

# ML Direct-Room Humidifier System

The ML direct-room humidification system offers low operating costs, reduced cooling costs and requires minimal maintenance. The systems can be combined or customized to fit multiple zones, high loads, many different room configurations, and applications.

- Modular design to fit many air handling units (AHU) and zones or spaces
- Extremely low energy consumption when compared to steam humidifiers (save 90% of total energy)
- Nozzles atomize water into micro-fine particles. Anti-drip nozzles and many different size nozzles (3.3, 5.5, 10 or 14.3 lbs/hr)



# ML Pump Station

ML (In-Space) Direct-Room humidifiers use the ML pump station to feed the direct-room humidification heads in the space that is being humidified.

**ML High-Pressure Pump Station and Control Standard Components:**

- Consistent high-pressure 1000 psi for fine atomization
- High-clean water filtration
- Temperature and pressure pump safety protection
- Water meter
- Hour meter
- UV sterilization of water
- Siemens PLC humidity zone controllers with auto flush feature
- Corrosion resistant materials
- Water lubricated stainless steel Danfoss pump (very low maintenance)
- Turn-key assembly on self-contained single skid frame
- Available capacity from 264 - 6,600 lbs/hr (120 - 3,000 kg/hr)
- True n+1 (or n+2, even n+3) redundancy available for entire systems or pumps
- Directly coupled motor to pump – never belt driven – no belts to change

**Integrated Reverse Osmosis Systems and More:**

- Ultra-clean deionized water filtration
- 5-micron sediment pre-filter
- Processes normal tap water
- Fully compatible with ML high-pressure systems
- Clean In Place (CIP) add-on available to periodically dose the water with sanitizing agent, for ultra low bacteria count and keeping the system hygienic
- Electrical conductivity sensors to measure water hardness and mineral quantity
- Modular add-ons to allow for de-ionized (DI) water production and CO2 dosing



# ML System Spray Heads



## ML Princess

ML Princess is a ceiling mounted humidifier. The high-pressure humidifier is ideal for use in production areas, warehouses, industrial applications and does not require compressed air. The integrated fan distributes the fog uniformly in a 360-degree fashion.



## ML Solo

ML Solo high-pressure humidifier provides energy-saving humidity control and evaporative cooling directly to the room. Ideal for low ceiling heights or spot humidification.



## ML Flex

ML Flex is a high-pressure humidifier for use in industrial productions and horticulture as well as dust and evaporative cooling. Best-suited for high-ceiling facilities, explosion-proof projects (no electrical components), and in zones where a significant cooling effect is required.

# Technical Data

| SPECIFICATION | ML PRINCESS 2 | ML PRINCESS 2 MAX | ML SOLO 1 | ML SOLO 2 | ML FLEX SYSTEM |
|---|---|---|---|---|---|
| Nozzles | 8 stainless-steel nozzles | 8 stainless-steel nozzles | One stainless-steel nozzle with adjustable vaporization angles | Two stainless-steel nozzles with adjustable vaporization angles | Customized nozzle and stainless steel pipe system with two stainless steel nozzle designs for full evaporation |
| Capacity – lbs/hr (kg/hr) | Up to 80 (36) with full evaporation | Up to 115 (52) with full evaporation | 5.5 (2.5) - 10 (4.5) | 11 (5) - 20 (9) | 3.3 (1.5) - 10 (4.5) per nozzle |
| Built-in distribution fan | Even humidification at 55 dBA and 100W | Even humidification at 56 dBA and 100W | Low noise for even humidification at 34 dBA | Low noise for even humidification at 37 dBA | N/A |
| Ceiling heights – ft (m) | As low as 13 (4) | As low as 18 (5.5) | As low as 8 (2.4) | As low as 10 (3) | 10 lb/hr - as low as 19.5 (6)<br>5.5 lb/hr - as low as 13 (4)<br>3.3 lb/hr - as low as 6.5 (2) |
| Mount | Ceiling | Ceiling | Ceiling or wall | Ceiling or wall | 5.5 lb/hr - as low as 13 (4) |
| Recommended use | Humidification and cooling in large manufacturing and production areas | Humidification and cooling in large manufacturing and production areas | Small work areas and offices | Small work areas and offices | High racking, explosion-proof and very dusty environments. Customized array construction for induct or plenum spaces. |



# High-Pressure In-Duct Humidification

- ✓ Printing
- ✓ Textiles
- ✓ Greenhouses
- ✓ Storage Facilities
- ✓ Data Centers
- ✓ Electronics



## HP High-Pressure In-Duct Humidifier

The HP delivers efficient, hygienic humidification through precise high-pressure atomization. Ultra-fine droplets are rapidly absorbed into the airstream, providing effective humidity control with significantly lower operating costs than traditional technologies. Combined with the Condair Mist Eliminator, the system ensures air that is 99% free of aerosols.

High-precision stainless-steel nozzles produce 10–40 micron droplets through a 0.008” orifice, delivering up to 12 lbs/hr per nozzle. A dedicated pump module supplies consistent 1,000 psi water pressure without the need for compressed air. The modular design integrates easily into a wide range of air-handling units and allows a single pump system to serve multiple AHUs, delivering exceptional scalability and efficiency—using up to 90% less energy than steam humidifiers.



## Key Features

- High-performance atomization: Consistent 1,000 psi operation with uniform spray distribution
- Advanced water treatment: Integrated reverse osmosis, demineralization, UV sterilization, conductivity monitoring, and pre-filtration; optional DI water production and CIP disinfection
- Robust pump technology: Water-lubricated stainless-steel Danfoss pump, direct-coupled motor (no belts), with optional variable frequency drive and stainless-steel construction
- Intelligent control & integration: Siemens PLC humidity zone controllers, auto-flush, safety protections, and full BAS/BMS communication
- Scalable, hygienic design: Skid-mounted, corrosion-resistant construction; capacities from 264 to 6,600 lbs/hr (and expandable beyond 9,000 lbs/hr)
- High availability: True n+1 (or higher) redundancy, dual-pump configurations, and system-level fault tolerance

## Technical Data

| SPECIFICATION | HP IN-DUCT HUMIDIFIER |
|---|---|
| Humidifying capacity | 26 - 6600 lbs/hr (12 - 3000 kg/hr) |
| Required humidifying section (Length) | Min. 4.2 ft. (1.3 m) |
| Pump supply voltage | 208, 480, VAC / 3 Phase / 50-60 Hz |
| Pump operating pressure (Standard) | 1015 psi (70 bar) |
| Inlet water pressure range | 30 - 102 psi (2 to 7 bar) |
| Inlet water quality | Reverse Osmosis, De-ionized (5 - 50 µS/cm) |
| Control signal connection | 0-5 VDC, 1-5 VDC, 0-10 VDC, 2-10 VDC, 0-20 mA, 4-20 mA |
| Relative humidity control accuracy | ± 4% (7 Stage), ± 2% (15 Stage) |
| Required upstream air filter class | MERV 13 |
| Allowable air velocity | 787 ft/min |

**Options**

| | |
|---|---|
| Multi-zone package | Allows up to 4 individually controlled humidifier grids to share a common pump |
| Droplet separator | Easy to install droplet filter contains water to a given evaporation distance and improves water efficiency through post evaporation |
| Conductivity sensor | Continuously monitors incoming water quality by measuring conductivity and triggers alarm if water values are out of range. Provides peace of mind as well as enhanced operational safety |
| Water meter | Integrated water meters display consumption. Ideal for building performance monitoring or claiming regional water/sewer tax credits |
| UV water treatment | Factory installed ultraviolet lamp inhibits bacterial growth in the humidification water, enhancing hygienic operation |
| High precision system | Additional valve staging allows for tighter tolerances and enables control accuracy of up to +/-2% |
| Communication gateway | Provides a factory installed communication gateway for integration of the humidifier into a building automation or SCADA system |
| Integrated RO system | Provides a high-performance reverse osmosis water treatment system integrated directly into the high-pressure pump skid |
| Water softener | Self-regenerating ion exchange softener removes hardness prior to RO system, prolonging membrane life |
| Carbon filters | Activated carbon pre-filter removes free chlorine from supply water. Recommended for systems with integrated RO system when chlorine concentrations are above 0.05 – 0.1 mg/l |
| Additional hose | Provides additional high-pressure hose for connections between pump and valve blocks |



# Hybrid Humidification

- ✓ Data Centers
- ✓ Textiles
- ✓ Automotive
- ✓ Pharmaceuticals
- ✓ Office Towers
- ✓ Hospitals
- ✓ Airports
- ✓ Museums

## Two Adiabatic Principles Intelligently Combined

The DL hybrid humidifier combines the benefits of atomization and evaporation to overcome the limitations of each technology when used independently. This hybrid design delivers exceptional hygiene, energy efficiency, and cost-effectiveness, all within a small footprint. This makes the DL a preferred solution for adiabatic in-duct humidification.

**Atomization**

Humidifying water is atomized through adjustable stainless-steel nozzles, evenly distributed across the full cross-section of the unit. This optimized layout ensures high evaporation efficiency and uniform humidity distribution throughout the airstream.

**Evaporation**

A premium ceramic evaporator unit is positioned at the end of the humidification distance to capture residual moisture and ensure complete re-evaporation. The ceramic plates maximize water utilization while preventing water accumulation in downstream components.

**Aerosol-Free Air**

Hygienic humidification requires aerosol-free air delivery. The DL Series' ceramic evaporator effectively separates and evaporates water from the airstream, preventing aerosol carryover and eliminating the risk of moisture-related contamination within ductwork.

**Advanced Hygiene Features**

The DL incorporates industry-leading hygiene safeguards and has been independently certified by SGS Institut Fresenius for hygienic operation. In six-month testing, the system exceeded VDI 6022 requirements, achieving microbial counts 85% below recommended limits. A patented HygienePlus® silver ionization system provides precisely controlled disinfection based on system output, actively inhibiting microbial growth. Combined with RO water operation, automatic flush and drain cycles, and optional pipe flushing, the DL prevents stagnation and ensures consistently hygienic performance.

# DL Hybrid Humidifier

Pressurized molecular nozzles require less compression work which translates to significant energy savings. The nozzle system has the highest control precision with 31 stages of output in conjunction with an adjustable speed driven humidification pump. Combining pressurized molecular nozzles with the ceramic media tiles minimizes absorption distance and guarantees the humidified air is absolutely aerosol-free.

- Extremely low installation length of only 48” (including clearances)
- Optimized ceramic for higher humidification efficiency
- Certificated hygiene system with HygienePlus® Concept
- Modern and intuitive touch screen controller
- Low maintenance required
- BMS connectivity available
- Independently certified by the SGS Institut Frensenius for hygienic operation



## HygienePlus®

The HygienePlus® concept is a complete hygiene solution that has the highest hygiene quality. The HygienePlus® concept is based on demand driven silver ionization of the humidifying water to prevent the growth of harmful microbial organisms. The silver ions treat all the humidification components for unmatched hygiene.




## Intuitive Touch Controller

With the Condair touch controller you have all devices and process data at a glance. Functional data can be called up in real time and by using a detailed data history. Via the IoT (Internet of Things) connection, data can be transferred to the Condair Cloud, viewed and analyzed online.

The connection to Modbus RTU or Modbus TCP as well as BACnet IP or BACnet MS/TP is easily made directly via the interfaces attached to the controller.

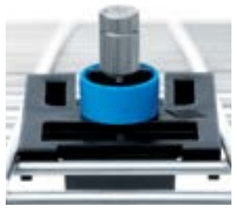
The DL has BTL (BACnet Testing Laboratories) certified BACnet technology. This certification is carried out by an accredited BTL test laboratory and is considered a worldwide test standard in BACnet communication. The optional gateway board can also be used to connect to a Lonworks network.





## Patented Ceramic Media

- Full surface evaporation
- Maximum utilization of humidifying water
- Aerosol-free
- Lasts the lifetime of the system and does not require replacement



## Molecular Atomizer Nozzles

- Flexible spray angle of 15°
- Non-wearing
- High-precision humidification
- Multiple nozzle sizes
- Made from 316 stainless steel

## Technical Data

| SPECIFICATION | TYPE A (WITH BOOSTER PUMP) | TYPE B (WITHOUT BOOSTER PUMP) |
|---|---|---|
| Maximum duct velocity | 590 fpm (3 m/s) | |
| Maximum duct velocity with droplet separator | 787 fpm (4 m/s) | |
| Power supply | 200...240 VAC / 50...60 Hz | 100...240 VAC / 50...60 Hz |
| Voltage solenoid valves | 24 V DC | |
| Inlet water quality | RO or DI (0.5-15uS/cm) | |
| Water supply pressure | 44 psi – 102 psi (3 – 7 bar) | 44 psi – 102 psi (3 – 7 bar) |
| Unit width | 17.7"– 165.4" (450 mm – 4200 mm) | |
| Unit height | 17.7"– 157.5"( (450 mm – 4000 mm) | |
| Unit depth | 23.6"– 35.5" (600 mm – 900 mm) | |
| Control accuracy | 7-Steps: ±3% RH<br>15-Steps: ±2% RH<br>31-Steps: ±2%RH | 7-Steps: ±4% RH<br>15-Steps: ±3% RH<br>31-Steps: ±3%RH |



# Compressed Air & Water Spray Humidification

- ✓ Textile
- ✓ Printing
- ✓ Food Processing
- ✓ Tea
- ✓ Tobacco

## Easy Installation For a Big Impact

The JS60C JetSpray Compact is an easy-to-install, direct-room humidifier for areas that need up to 66 lb/hr of humidification. This compressed air and water humidifier comes pre-assembled and offers guaranteed evaporation of the moisture into the atmosphere without any potential risk of drips.





# JS60C JetSpray Compact Humidifier



By forcing the water to mix with the air under pressure, the sprays produced are rapidly absorbed and highly directional. This makes the JS60C ideal for cold temperature applications, such as cold stores, where the ambient humidity is often high and moisture less readily absorbed by the air.

As no fan unit is required to encourage evaporation, the JetSpray can reliably be used in very dusty and dirty industrial environments without frequent maintenance. Nozzles contain a self-cleaning mechanism that prevents blockages and provides reliable operation.

## Advanced Hygiene

Advanced hygiene features ensure the humidifier provides safe humidification.
The JS60C is a sealed system with no open water tanks, minimizing the risk of water contamination.
Automatic purge and flush cycles ensure water cannot remain in the pipelines to stagnate.

An air run-on feature leaves the pipework dry at the end of the cycle. PureFlo filtration is incorporated on the incoming water supply line. The JetSpray Compact can operate on potable water, softened or RO water. This means it provides very efficient water consumption, when compared to humidifiers that require RO water.

## Features and Benefits

- Fully assembled unit (IP54 rating) makes installation easy
- Provides up to 66 lb/hr of humidification, which is ideal for small industrial areas
- The use of compressed air prevents nozzle dripping
- Can be operated on potable, softened or RO water
- Nozzles can be directionally adjusted horizontally and vertically

## Technical Data

| SPECIFICATION | JS60C-11 | JS60C-15 | JS60C-20 | JS60C-24 | JS60C-28 | JS60C-40 | JS60C-53 | JS60C-66 |
|---|---|---|---|---|---|---|---|---|
| Output (lbs/hr) | 11 | 15 | 20 | 24 | 28 | 40 | 53 | 66 |
| Humidity control | ±4 % RH | | | | | | | |
| Control | On/Off | | | | | | | |
| Dimension - Inches (mm) W x H x D | 20.5 x 29.1 x 6.57 (521 x 740 x 167) | | | | | | | |
| Weight - lbs (kg) | 40 (18) | | | | | | | |
| Power supply | 110VAC / 60Hz | | | | | | | |
| Power consumption (W) | 0.17 | | | | | | | |
| Fuse rating (A) | 4 | | | | | | | |



# Industrial Dehumidification

- ✓ Archival Storage
- ✓ Electronics
- ✓ Pharmaceuticals
- ✓ Ice Rinks
- ✓ Biomedical Manufacturing
- ✓ Food Processing
- ✓ Beverage Manufacturing
- ✓ Chemical Factories

# DA Desiccant Dehumidifier

The Condair DA provides safe and reliable desiccant dehumidification for nearly any space. Using industry tested silica gel desiccant technology, the DA allows for high efficiency dehumidification at low dew points for numerous applications. As a fully UL certified desiccant dehumidifier and using self-regulating PTC heaters, the DA is one the safest dehumidifier available.

As with all Condair products, the DA is a fully packaged unit. This means the fans for the system are internal to the unit. Along with the standard insulated casing, the DA is extremely quiet to operate.





## Key Features

- High-performance silica gel desiccant rotor
- Robust Magnelis housing with RAL9006 powder coating
- Insulated casing with double skin layout
- Electric reactivation with self-regulating PTC heater
- EC fans for process and reactivation air fans
- PLC control with touchscreen
- Service friendly design
- All units are fully UL Listed®

**Additional Options:**

- Pre-cooling and/or post-cooling modules (chilled water coils)
- Modbus TCP/IP & RTU RS485 board for PLC
- BACnet MS/TP & IP board for PLC
- Stainless-steel (on special request)



## Technical Data

| SPECIFICATION | DA 300N | DA 400N | DA 600N | DA 800N | DA 1400N | DA 2000N | DA 2400N |
|---|---|---|---|---|---|---|---|
| Drying capacity at 68°F (20°C), 60% RH (lb/hr) | 7.3 | 11.2 | 15.6 | 22.0 | 29.7 | 31.9 | 44.1 |
| Process airflow nominal (CFM) | 300 | 400 | 600 | 800 | 1400 | 2000 | 2400 |
| Nominal ext, static pressure process air side (in. $H_2O$) | 1.2 | 0.8 | 1.2 | 0.8 | 1.2 | 1.2 | 0.8 |
| Reactivation airflow nominal (CFM) | 88 | 129 | 208 | 235 | 294 | 323 | 500 |
| Nominal ext. static pressure reactivation air side (in. $H_2O$) | 1.2 | 1.0 | 0.8 | 1.2 | 1.0 | 0.8 | 0.8 |
| Electric power of regeneration heater (kw) | 4 | 7 | 10.2 | 13 | 17 | 18 | 23 |
| Voltage (V/Ph/Hz) | 280/3/60, 480/3/60 | | | | | | 480/3/60 |



# Water Treatment

Your water may be safe for drinking, but without water treatment it may lead to scaling or bacteria build-up in your humidification system,s as well as dusting within applications.

When paired with humidification systems, water treatment is used to:

| TECHNOLOGY | SCALE MANAGEMENT | HYGIENE |
|---|---|---|
| Isothermal | • Prevent scaling within the boiling system<br>• Reduce maintenance frequency and costs<br>• Improve operation efficiency, reduced energy costs | • Isothermal systems that boil water provide clean atmospheric steam without the requirement for water treatment |
| Adiabatic | • Prevent scaling and corrosion of media, nozzles, and other components<br>• Prevent application dusting due to carryover of particles and contaminants<br>• Reduce maintenance frequency and costs | • Eliminate bacteria content in the water which can be carried over into the air during humidification. |

| WT | EL | RS | GS | SE | ME | ML | HP | DL | JS60C | VITA |
|---|---|---|---|---|---|---|---|---|---|---|
| RO-H | | ■ | | | | | | | ■ | |
| RO-E(+) | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| MLRO | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Vita Power RO | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |







## RO-H Reverse Osmosis Water Treatment

**Compact and Economic Reverse Osmosis System**
The Condair RO-H pure water system removes over 95% of all salts and minerals contained in tap water. Models available: RO-HB and RO-HM.



## RO-E(+) Reverse Osmosis Water Treatment

**Compact and Integrated Reverse Osmosis System**
The Condair RO-E(+) pure water system can pair seamlessly with Condair humidifiers through the integrated controller or have its own controller for standalone operation.



## MLRO Reverse Osmosis Water Treatment

**Industrial Reverse Osmosis System**
The Condair MLRO standalone pure water system is ideal for large isothermal or any adiabatic applications. This system provides RO water from pre-treated water to achieve optimal water quality.



## **NEW** Vita Power RO Water Treatment

**Industrial Reverse Osmosis System**
Vita Power uses a multi-stage water treatment system to ensure that only high-quality, hygienically safe, demineralized water is used for humidification. A variable-frequency, high-pressure pump and a precision distribution system help minimize energy consumption. High-quality components ensure consistently precise humidification and reliable operation.

# Technical Data

| SPECIFICATION | RO-H | RO-E(+) | MLRO | VITA POWER RO |
|---|---|---|---|---|
| Permeate output 59°F (15°C) | 158 gpd (26 lph) | 374-3252 gpd (59-513 lph) | 1900-19000 gpd (300-3000 lph) | 3170 gpd (500 lph) |
| Humidification capacity (max.)* | 40 lbs/hr | 1130 lbs/hr | 6500 lbs/hr | 1100 lbs/hr |
| Storage tank gal (l) | 2.5, 3.8, 6 (8, 12, 18) | 6.6-119 (24 - 450) | 13-264 (50-1000) | 6.6-21 (25-80) |
| Power | 120V/1/60, 75W | 120V/1/60, 600W | 208-480V/3/60 | 208V/3/60 |
| Size (LxWxH) in (mm) | 15.2x9.8x18.7 (386x249x475) | 19.1x23.1x31.3 (487x587x795) | 63x28x34-55 (1600x711x864-1397) | 30x30-37x34 (750x950-1100x1620) |
| Standard Accessories | carbon filter, 5µ filter, tank | 5µ filter, tank, cover, pump pressure gauge | 5µ filter, tank | 5µ filter, UV, IOT |
| Recommended Pre-treatments | none | carbon filter, softener | softener, dechlorinator | softener, dechlorinator |

* Dependent on incoming water quality and temperature.



# Controls

**Seamless Control For Every Application**

Our customers deserve highly efficient, reliable humidity control systems that offer simplistic controls. This is why we at Condair have designed highly accurate control systems that perfectly complement our products.

Engineered to provide clear information regarding humidifiers and dehumidifiers and their operating conditions, they allow for users to quickly input preferred functions and maintain system operations. We can supply control technology suited for any type of humidity or dehumidity application including residential, commercial and industrial environments.







Digital wall control



Digital duct control



nLink-Analog control



nSens control

## On/Off Controls

Condair on/off controls can be used with all technologies for humidity control and/or humidification safety.

For room humidity control, Condair offers a return-air duct mounted on/off digital duct humidistat or a wall mounted on/off digital humidistat. Both humidistats come complete with a built-in sensor, a keypad for adjusting setpoint and a backlit LCD display. Features such as outdoor temperature setback and a relay for furnace/circulation fan control ensure safe, energy efficient operation. Accuracies of ±4.5% RH are expected.

For humidification safety, Condair offers an air-proving and high-limit control device. The air-proving device is used to prevent humidifying when there is no air movement in the duct. The high-limit control device is an on/off digital duct humidistat used to prevent over humidification of the supply duct.

## Modulating Controls

Condair offers modulating humidistats and transducers for more precise room and duct control.

Humidistats provide a demand signal to the humidifier, while transducers sense and transmit relative humidity levels to the humidifier, Building Management System (BMS), or wall-mounted humidistat. Typical controller accuracies of ±2.5% RH are expected with standard conditions, while tolerances of ±0.5% RH can be achieved with Condair's new High Precision Package.

Humidistats and transducers can either be wall mounted for room humidity control or duct mounted for room humidity and/or high limit control. Both wall and duct controllers come complete with a keypad for configuration as well as a backlit digital display. Controls can be combined with BMS to allow remote display and configuration of humidity setpoints.

| PROTOCOL | SE | HP | ML | MC | MLRO | DA | OE |
|---|---|---|---|---|---|---|---|
| Modbus | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| BACnet IP | ■ | ■ | ■ | | ■ | ■ | |
| BACnet MS/TP | ■ | ■ | ■ | | ■ | ■ | |
| BACnet MS/TP BTL certified | ■ | | | | | | |
| BACnet IP BTL certified | ■ | | | | | | |
| LonWorks | ■ | | | | | | |

■ Standard ■ Optional

# Delta Spa

**Steam Bath and Sauna Control From One Device**

The latest innovation from Condair allows for simultaneous control of steam baths, caldarium, rasul and different sauna variants such as bio and Finnish saunas.

The Delta Spa enables users to control every component required to operate a steam bath via one device. Components such as steam generators, lights, fragrance pumps, supply, exhaust fans, and more. Condair understands that individuals are unique. This is why every steam bath can be tailored to each individuals' preferences via a modern touch display user interface. It even allows individuals to simultaneously control both a steam bath and sauna cabin completely independently of each other.






## Key Features

- Easy switch between steam bath and sauna on the display
- Flexible number of displays, one for both cabins or one for each cabin
- External touch display
- Keep warm function saves energy

## Technical Data

| CONDAIR SPA CONTROL DELTA BOX | | |
|---|---|---|
| Nominal power | Bench heating | 1 kW |
| | Wall heating | 1 kW |
| | Accessories | 1 kW |
| Dimensions (W x H x D) | 13 ⅜" x 13 ⅜" x 4 ⅛" | |
| Net weight | 12.12 lbs | |
| Type of protection | IP22 | |

| APPLICATION | VARIANT |
|---|---|
| Steambath | Standard |
| Steambath with benchheating | Bench heating |
| Caldarium | Bench and wall heating |
| Rasul | Bench and wall heating |
| Finnsauna | Finnsauna |
| Bio sauna for sauna heater with integrated steamer | Bio Sauna (generator and Spa Control Delta) |
| Bio sauna for pure sauna heater, steam produced by ES4-2 | Fin sauna |
| Dual cabin | Fin sauna |





# Building Connectivity

Condair Building Connectivity offers monitoring and control allowing humidifier(s) to communicate to your Building Management System (BMS). The controller is factory installed and is located internally to the humidifier. Simply specify at time of order what operating protocol you are using – Modbus, BACnet IP, BACnet MSTP or LonWorks.

# Integrated Controller

The Condair products that come equipped with a touchscreen Integrated Controller (IC) can communicate with common building management systems such as BACnet IP or MS/TP, Modbus, and LonWorks. Products equipped with the Integrated Controller can, as a standard feature, communicate with Building Automation Systems via Modbus RTU, BACnet IP, BACnet MS/TP (lead or follow).*

Additionally, the following protocols can be accessed with an optional add-on card: BACnet IP with BTL Certified, BACnet MS/TP (lead or follow) with BTL certified hardware, LonWorks.

*Standard BACnet MS/TP master support is available for products running 5.8.x.x or newer. Products equipped with the second generation integrated controller are BACnet BTL certified as a standard feature.

# Integrated Controller Products & Standard Connectivity Options

| PROTOCOL | EL | RS | GS | ME | DL | VITA | RO-E(+) |
|---|---|---|---|---|---|---|---|
| Modbus | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| BACnet IP | ■ | ■ | ■ | ■ | | | ■ |
| BACnet MS/TP | ■ | ■ | ■ | ■ | | | ■ |
| BACnet MS/TP BTL Certified | ■ | ■ | ■ | ■ | ■ | ■ | |
| BACnet IP BTL Certified | ■ | ■ | ■ | ■ | ■ | ■ | |
| LonWorks | ■ | ■ | ■ | ■ | | | |

■ Standard ■ Optional

# Design Tools

## Condair Help Software

Help is an interactive humidification engineering and load-sizing program that guides you through the process of selecting humidification systems. The web-based software is designed to make humidification/dehumidification quotes quicker and easier. It includes:

- **NEW Energy Analysis Tool**
- Online product catalog
- Wizard-based product selection to build a complete humidification system
- Specification and schedule tools with pdf or excel export
- Intuitive graphical load sizing system
- Dynamically generated humidifier dimensional drawings
- Layout tools
- Visual schematics
- Application resources and product recommendation by application
- Cloud saved quotes
- Built-in representative finder to connect you with your local Condair rep
- Integrated ordering and shipping tools

Visit **na.condairhelp.com** to register for a free account and see how effortless humidification/dehumidification quotes can be!

## BIM Objects

Condair offers Building Information Modeling (BIM) models for all product lines! The models are complete with detailed 3D geometry, submittal data, specifications, and product details. Condair is the first humidifier manufacturer to offer this important support tool for architects and consulting engineers.

To access Condair models, go to **condair.com** and click on **tools** in the menu.





# Product Service

**Quality Service Straight From The Manufacturer**

As the global market leader for humidification/dehumidification and evaporative cooling solutions, Condair is continuously aiming to exceed customer expectations through reliable and durable solutions. With the Service provided by Condair, we transfer the knowledge from our team at the factory right to the customer's site. We deliver to you, the benefits of a wide range of service offerings, spare parts portfolio, service specialists, and over 75 years of experience in reliable Service delivery.

**Service and Maintenance Expertise**

When choosing Condair to assist with installation support, start-up or provide preventative maintenance for Condair products, the facility owner, engineer, and contractor will reap the benefits of having the manufacturer's expertise delivered directly onsite. Your humidifier/dehumidifier will receive service support guaranteed to the highest standard, providing everyone peace of mind.

All Condair orders are automatically archived including the system design data for each delivered unit. During service work, a Condair expert can access this data onsite, via mobile software, to get the most updated installation plans or an accurate picture of the system's history. Condair's humidity control specialists are the preferred solution when it comes to the expertise for commissioning support or to maintain a Condair humidification/dehumidification system.

**With Condair Count On:**

- Technical expertise delivered directly from the manufacturer
- Efficient and long humidifier operational lifetime
- Accommodation for contractor and engineering partners
- Peace of mind knowing that an expert will be on site
- Focus on other projects while we handle your humidifier service
- Professional project management
- Commissioning and start-up support



# Condair Parts

## CondairParts.com

**One-Stop Shop For Official Condair Spare Parts and Consumables**

Are you a service contractor, facility manager or equipment owner looking for genuine Condair parts, directly from the manufacturer? It is now easier than ever before with **condairparts.ca** (Canada) and **condairparts.com** (United States) which provide parts professionals with a robust set of tools to identify, price, and order spare parts.

**Intuitive Search**

Shop and search by part number, part description, product category, humidifier series, model and voltage. Predictive search and intuitive filters help you find parts you need quickly and easily.

**Detailed Product Information**

Parts information has been greatly expanded and enhanced with all of the necessary information regarding the kit: 360-degree images, “what’s in the box?” a list of components included with the kit, humidifier compatibility and kit specifications. You’ll also have easy access to downloads including engineering manuals, service manuals and exploded view diagrams.

**Seamless Orders**

Places orders directly with a click of a button! Simply fill a cart with items you wish to order and checkout. You have the option to pay by credit card (Visa and MasterCard), Interac debit or by accelerated checkouts (Apple Pay, Google Pay and Shop Pay).

**Express Shipping**

Parts orders are now fulfilled and delivery exceptionally fast with same day shipping for US orders placed before 5 PM ET. Faster and lower cost shipment options ensure critical parts get to where they are needed in the shortest possible time.

**Find a Rep**

Not sure where to start? Can’t find exactly what you’re looking for? Looking for more than just spare parts? Find the Condair representative in your local area and their contact information with our **Find a Rep** feature. Simply type in your zip code or postal code and hit enter. Contact your local Condair rep and they will help point you in the right direction.

## Ready to Try CondairParts.com?

Head to the website by scanning the QR code above and either choose to browse and shop as a guest or create your own account. An account will allow you to save your information, like shipping address, email and payment preference, as well as keep track of your past orders. Contractor accounts vetted by Condair may be entitled to special discounts.



**Explore Condair Parts:**

# Notes

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