



## Condair HP

### The powerful

Advanced high pressure humidification systems with available water treatment



Humidification and Evaporative Cooling

 **condair**

# Condair HP

HUMIDIFICATION



Fogging principle



Advanced Nozzles



Humidifier air – free from aerosols

The Condair HP supplies demineralized water 70 bars of pressure to atomizer nozzles installed inside of an air duct. Advanced atomizing nozzles generate an extremely fine mist which is rapidly absorbed into the airstream while a highly efficient droplet separator contains any excess water within section. Cool, humidifier air is then released into rooms, creating a healthy environment and enhancing productivity.

Precision manufactured stainless steel nozzles atomize water into a fine mist. The nozzles are installed on stainless steel manifolds and are optimally distributed throughout the duct. This ensures that water quickly and efficiently evaporates into the airstream. Seven available control options tailor the performance of the system to the needs of nearly any project.

Any water which isn't evaporated within the available distance is captured and drained off by a droplet separator. The droplet separator is designed for quick and easy assembly and features stainless steel framing.



## Integrated Water Treatment

Featuring an reverse osmosis system built directly onto the pump skid, the Condair HP-RO is the perfect solution for applications where demineralized water is not readily available. High quality reverse osmosis membranes provide long life, and produce clean water for the atomizing nozzles.

-  Demineralized water
-  Concentrated water
-  Domestic water

### Why Condair HP?

#### Minimal Evaporation Distance

The extremely fine fog droplets evaporate quickly and most are absorbed within 0.8 to 1.3 meters. This ensures high water efficiency and avoids the need for long humidifier duct sections.

#### Premium Quality and Low Maintenance

Flexible, modular components assemble easily and require minimal maintenance. Precision water-lubricated stainless steel pumps are guaranteed for 8000 hours and require no oil or belt changes. All wetted parts are corrosion resistant and suitable for highly pure water. Pump stations are thoroughly tested at the factory and feature easily accessible components, simplifying maintenance.

#### Safe and Hygienic Operation

All wetted parts are manufactured in strict accordance with the HACCP/ISO 22000 hygiene management system. Intelligent control systems are included as a standard feature include automatic flush functions, ensuring that water in the system is cycled at least 4 times per day. Additionally, systems can be ordered with an optional hygiene management program that fulfills the requirements of the VDI 6022 standard.

#### Uniform Distribution

Durable stainless steel nozzle manifolds and supports are easy to assemble and allow precise nozzle placement. This enables even humidity distribution across the duct and ensures optimal cooling and humidification performance.

#### Flexible Capacities

The Condair HP is available in capacities from 10 to 1300 kg/hr allowing to be adapted to almost any applications. Low system pressure losses and an available variable frequency drive reduce energy consumption and increase efficiency.

#### Precise Control

Intelligent valve staging controls output to an accuracy of +/- 4%, ensuring consistent control of humidity for a wide variety of applications. In cases where even tighter control is required, an available high precision system enables accuracies of up to +/- 2%.

## Technical data

Evaporation Distance	Minimum 1.3 m		
Humidifier Capacity	10...1300 kg/hr		
Available Voltage Options	208...600 VAC/3, 50..60 Hz		
Pump operating pressure	70 bar		
Model Overview and Performance	Pump Capacity	Rated Power (400V/3/50 VAC)	Rated Current (400/3/50 VAC)
HP 100 (200 VFD)	10-100 l/h (VFD 5-200 l/h)	0,5 kW	1,5 A
HP 300 (500 VFD)	30-265 l/h (VFD 20-500 l/h)	0,75 kW	1,9 A
HP 500 (800 VFD)	35-440 l/h (VFD 40-850 l/h)	1,5 kW	3,7 A
HP 800 (1300 VFD)	80-790 l/h (VFD 60-1300 l/h)	2,2 kW	5,3 A
Inlet Water Pressure	2..7 bar		
Inlet Water Temperature	max. 30 °C		
Inlet Water Quality	Reverse Osmosis, De-ionized (5...30 µS/cm)		
Control Signal Input	0..5 VDC, 1..5 VDC, 0..10 VDC, 2..10 VDC, 0..20 mA, 4..20 mA		
Relative humidity control accuracy	+/-4%		
Required Upstream Air Filtration	F7		
Acceptable Duct Velocity	0.5..4.0 m/s		

## Options

<b>Multi-zone Package</b>	Allows up to 4 individually controlled humidifiers to share a common pump.
<b>Droplet Separator</b>	Easy to install droplet filter contains water to a given evaporation distance and improves water efficiency through post evaporation.
<b>Conductivity sensor</b>	Continuously monitors incoming water quality by measuring conductivity and triggers alarm if water values are out of range. Provides peace of mind and well as enhanced operational safety.
<b>Water meter</b>	Integrated water meters display consumption. Ideal for building performance monitoring or claiming regional water and sewer tax credits.
<b>UV Water Treatment</b>	Factory installed ultraviolet lamp inhibits bacterial growth in the humidification water enhancing hygienic operation and improving operational safety.
<b>High Precision System</b>	Additional valve staging improves allows for tighter tolerances and enables control accuracy of up to +/-2%.
<b>Communication Gateway</b>	Provides a factory installed communication gateway for integration of the humidifier into a building automation or SCADA system.
<b>Integrated RO System</b>	Provides a high performance reverse osmosis water treatment system integrated directly into the high pressure pump skid.
<b>Water Softener</b>	Self-regenerating ion exchange softener is ideal for systems with integrated RO systems. Removes hardness prior to RO system prolonging membrane life.
<b>Carbon Filters</b>	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.
<b>Additional Hose</b>	Provides additional high pressure hose for connections between pump and valve blocks. Available in 3, 5, and 10 meter lengths.
<b>Feed through</b>	for insulated or double walled ducts.