



## CONDAIR RS

Resistive steam humidifier  
With advanced scale management



Humidification and Evaporative Cooling

 condair

# Innovative scale management extends periods between servicing

## **Stainless steel boiling cylinder**

Cleanable cylinder eliminates the need to buy disposable plastic boiling cylinders, reducing operating costs.

## **Resistive heating elements give close control**

Consistent and accurate humidity control is offered with resistance heater technology. Steam output is directly controlled by the heat given from the elements. This is unlike electrode boiler humidifiers, which pass current through the water and control output by varying the water level.

The Condair RS can provide  $\pm 3\%RH$  humidity control with mains water and  $\pm 1\%RH$  with RO water.

## **Plastic inner liner**

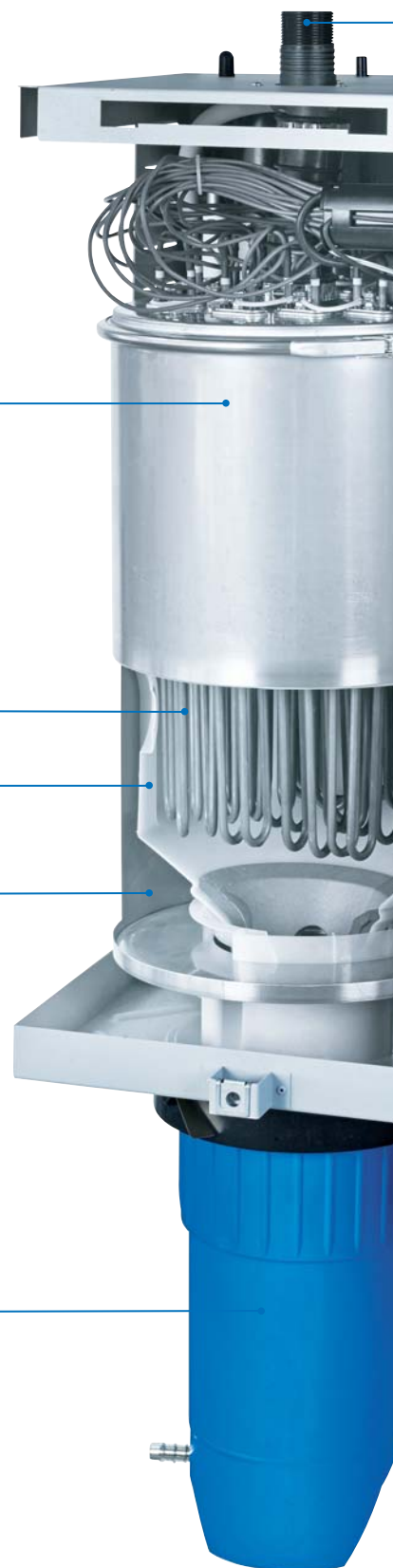
Provides thermal insulation to create two temperature zones inside the cylinder.

## **Cold water pool prevents inlet and drain blockages**

By locating the water inlet and drain between the twin walls of the outer cylinder and inner plastic liner, the temperature by these orifices is kept at a level that inhibits the formation of scale. This prevents blockages and further enables extended operational periods between servicing.

## **Scale collector tank**

An externally located tank under the boiling cylinder collects scale that detaches from the heating elements and plastic liner. It can be drained, removed, emptied of scale and reattached within minutes. This extends the periods between major services by up to three times.





## Steam distribution options



Condair RS with steam hose for use in duct.



Condair RS with fan unit for direct room humidification.

## Large outputs from single unit

The Condair RS is available with a single cylinder for outputs up to 40kg/hr and a double cylinder model for outputs up to 80kg/hr. Up to four single units can be controlled on a master/slave configuration for outputs up to 160kg/hr.



## Touch screen control

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

BMS integration comes as standard (Modbus and BACnet).

**Modbus®**

**BACnet™**

The Condair RS resistive steam humidifier provides reliable and accurate humidity control without the expense of replaceable boiling cylinders.

Patented scale management features allow scale to be removed from the system quickly and efficiently. This extends the periods of operation between major services by up to three

times when compared to any other resistive humidifier.

Accurate humidity control can be achieved of up to  $\pm 1\%RH$  with RO water and  $\pm 3\%$  with mains water.





Scale that forms on the elements detaches and falls into the scale collector tank where it is easily removed.

## Patented scale management

When operated on mains water, all steam humidifiers build up limescale in the boiling cylinder as water evaporates. How a humidifier manages this scale determines how easy the system is to use and service.

The Condair RS' patented scale management system sets it aside from all other humidifiers in its class and makes it the most user-friendly resistive humidifier in the world.

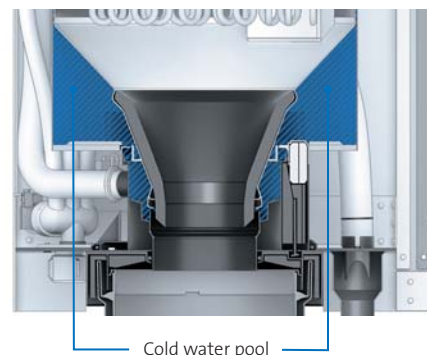
Scale that forms on the heating elements is dislodged during normal operation and falls into the externally located collector tank. To remove the

scale, the unit is drained, allowed to cool and then the collector tank can be disconnected.

This allows intermittent servicing to take place quickly and easily without even needing to open the humidifier's cabinet and extends the periods between major services by up to three times.

### Pumped drain

By locating a pumped drain above the scale collector tank, scale is collected rather than being flushed into a building's drainage pipework. This avoids scale blockages of the pump and pipework.



### Cold water pool

Locating the water inlet and drain orifices between the inner plastic liner and outer metal casing of the cylinder protects them from blockages due to scale. Scale can neither fall into this area nor form here, as the temperature is maintained at around 55°C. This innovative design further enables long operational periods between major services.



High performance and low operating cost

## The benefits of resistive humidifier technology

Resistive humidifiers create steam through the transfer of heat from the resistance heater elements to the water. This is unlike electrode boiler humidifiers that pass electrical current through the water. This different heating strategy has several benefits when comparing the two technologies.

### **No disposable plastic cylinders**

As electrical current is not applied to the water, cleanable metal cylinders can be used, significantly reducing operating costs.

### **Very close control**

Steam output is controlled by applying more or less heat to the water rather than controlling water level or conductivity. This results in responsive and close humidity control of  $\pm 3\%RH$  with mains water and  $\pm 1\%RH$  with RO water.

### **Can use RO water**

As the mineral content of the water has no impact on steam output, resistive humidifiers can operate on RO water. This virtually eliminates scale build-up, thus reducing servicing, and improves humidity control by removing the need for mineral dilution cycles to control foaming.





Touch screen controller for intuitive operational control and advanced reporting

## Control at your fingertips

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

All operating parameters can be seen at a glance with on-screen features offering the user further information on operation and detailed troubleshooting suggestions.

A USB connection allows all performance data to be recorded and exported into Excel for advanced diagnostics. Upgrades to software can also easily be made via the USB port.

BMS connectivity is included as standard with BACnet and Modbus protocols.



Operational status, fault and maintenance data is recorded via USB and analysed in Excel.



Comprehensive range of accessories and options

## Condair RS options

### Hygiene pack

A solenoid valve on the scale collector tank will ensure the system completely drains without any standing water. In addition, an activation signal can be sent to a building-side valve to purge the supply line for a totally hygienic status during periods of inoperation.



### Fan unit

For direct room humidification of up to 40kg/h. The fan unit can be located directly on top of the humidifier or remotely.

### Drain water temper

To reduce the temperature of the drain water to below 60°C, waste water is mixed with fresh water.

### Process version

Advanced semi-conductor Triac control for improved humidity accuracy.

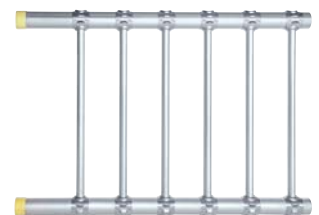


### RO water filter

Removes 95% of minerals from the supply water to reduce maintenance and improve humidity control.

### Mounting rack

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

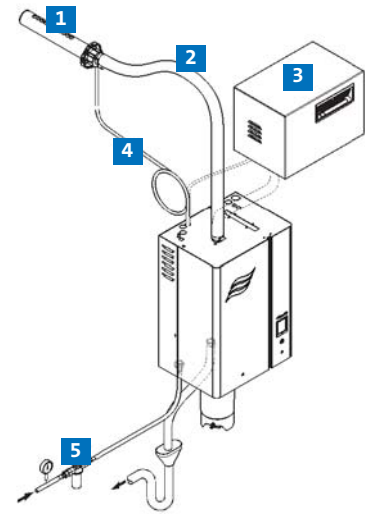


### Short evaporation steam manifold

The Optisorp steam manifold offers very short evaporation distances in AHUs.

## Typical system overview

- Stainless steel steam cylinder
- Patented scale management
- External scale collection tank
- Remote ON/OFF, operation and fault indication
- Touch screen operation
- Self-diagnostic system
- Real-time clock
- Modbus and BACnet connectivity



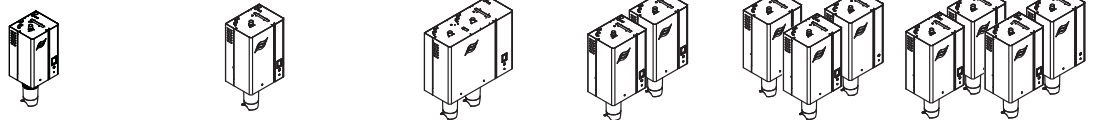
## Accessories

- 1 Steam distribution system for ducted installation
- 2 Steam distribution hose
- 3 Ventilation unit for direct room humidification
- 4 Condensate hose
- 5 Filter valve

## Options

- OptiSorp multiple steam distribution system
- Humidity sensor for duct/room installation
- Duct/room hygrostat
- Pressure compensation set (up to 10,000 Pa)
- RO water filter
- Mounting rack
- Hygiene pack
- LonWorks connectivity

## Technical data



Housing sizes		Small			Medium					Large			2x Medium Master-Slave			3x Medium MasterSlave		4x Medium Master-Slave	
Product reference		RS 5	RS 8	RS 10	RS 16	RS 20	RS 24	RS 30	RS 40	RS 50	RS 60	RS 80	RS 50	RS 60	RS 80	RS 100	RS 120	RS 140	RS 160
Dimensions WxHxD	mm	420 x 987 x 370			530 x 1,097 x 406					1,000 x 1,097 x 406			2x 530 x 1,097 x 406			3x 530 x 1,097 x 406		4x 530 x 1,097 x 406	
Operating weight	kg	40.2			65.8					132.0			131.6			197.4		263.2	
Heating voltage	Maximum steam output																		
400V 3Ph 50-60Hz	kg/h	5.1	8.1	9.9	16.1	19.8	24.2	29.8	40.0	49.6	59.6	80.0	19.8 + 29.8	2x 29.8	2x 40.0	2x29.8 + 40.0	3x40.0	2x29.8 +2X40.0	4x40.0
230V 1Ph 50-60Hz	kg/h	5.0	8.0	9.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Control voltage	230V 1Ph 50-60Hz																		
Conformity	CE, VDE, SVE																		