



Read and save these instructions. This manual to be left with the equipment.

# Quick Start Guide

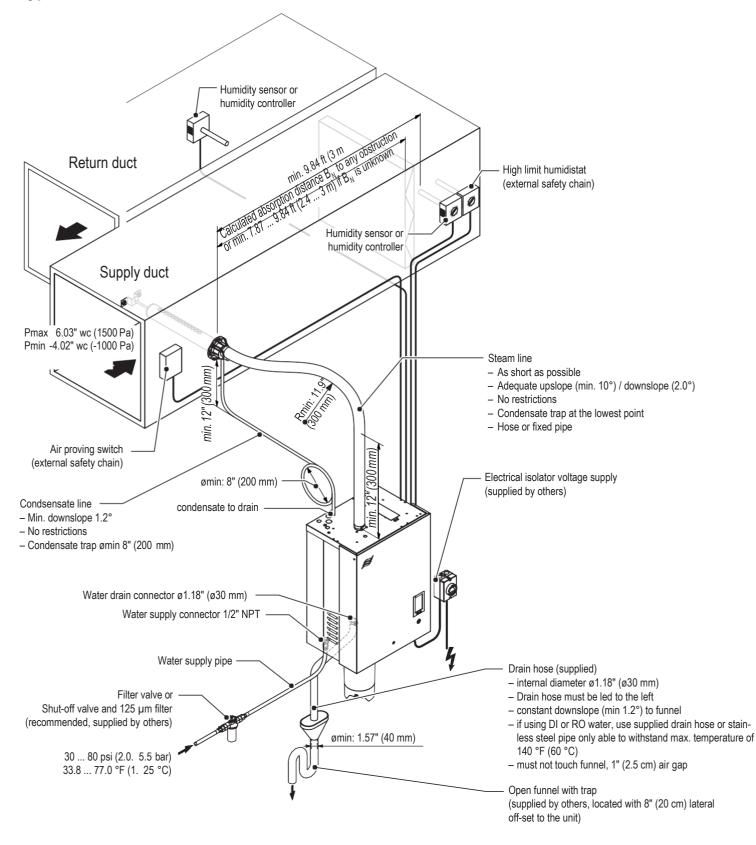
Steam humidifier Condair **RS II** 



Humidification, Dehumidification and Evaporative Cooling

### **Installation Overviews**

### Typical installation for duct humidification

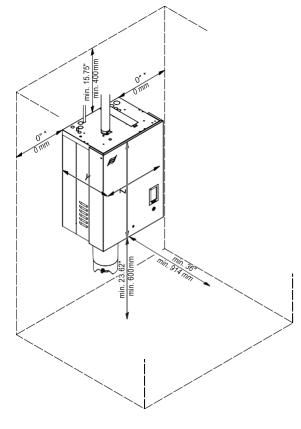


Typical installation for duct humidification

## **Unit Mounting**

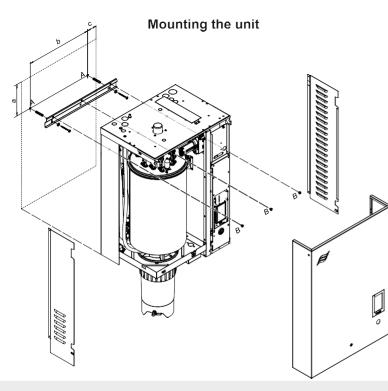
## Water Installation

Locating the unit



Minimal distances to be observed

Housing		Small ("S") RS 1020	Medium ("M") RS 3090	Large ("L") RS 90180
Housing dimensions in inch (mm)	Х	17.8" (453)	22.2" (563)	40.7" (1033)
	Y	14.6" (370)	16.0" (406)	16.0" (406)
	Z	26.4" (670)	30.7" (780)	30.7" (780)
Net weight in lbs (kg)		60 (27.2)	89 (40.3)	179 (81.0)
Operating weight in lbs (kg)		89 (40.2)	145 (65.8)	291 (132.0)



### **Steam Installation**

Installation examples

- Install the steam humidifier so that the minimum bend radius R=12" / 300mm for Condair hose, R=5 x internal diameter for hard pipes and upslope (min 10°) / downslope (min 2°) of the steam hose is maintained.

- Use 1/4 x 2" lag bolts and washers to mount the humidifier onto wooden studs (or equivalent).

The back panel of the Condair RS is retaining heat during operation (max. surface temperature of the metal housing approx. 140 -160  $^{\circ}$  F / 60 - 70  $^{\circ}$  C ). Make sure, therefore, that the construction (wall, pillar, etc.) to which the unit is to be mounted, does not consist of heat-sensitive material.

- Install the steam humidifier in such a manner that it is freely

accessible with sufficient space available for maintenance purposes. The minimum distances shown in the adjacent illustration must be maintained.

- The Condair RS is protected according to IP21. As a safeguard, the humidifier should be installed in a drip-proof location. Admissible ambient conditions must be complied with.

- Do not mount the steam humidifier to hot or very cold walls or near vibrating components.

1. Mark the attachment points "A" and "B" at the desired

position in the mounting surface with the help of a level.

2. Install  $1/4 \times 2$  in lag bolts and washers at attachment points

"A". Allow the heads of the bolts to extend 1/4 in (5 mm) from

4. Carefully raise the unit and hang it on the installed lag bolts.

5. Install additional  $1/4 \times 2$  in lag bolts and washers through

the rear panel of the humidifier into the mounting surface at

6. Align the unit with the help of a level, then tighten the lag

7. Install the front panels and fasten them securely.

the mounting surface so that the humidifier can be hung on

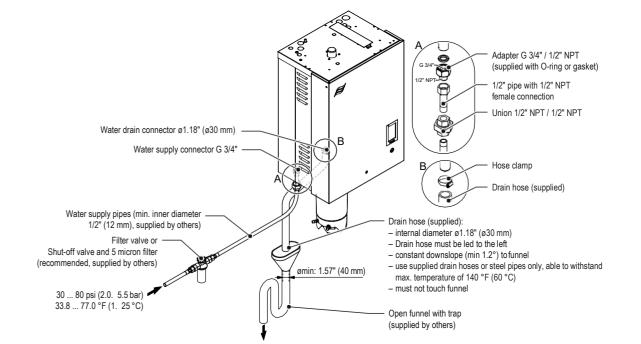
3. Unlock the screws on the front panels of the unit, and

the bolts.

bolts.

remove the front panels.

attachment points "B".



Overview water installation for single units Small and Medium

#### Water supply

The water supply is to be carried out according to the figure above and the applicable local regulations for water installation.

The indicated connection specifications must be observed.

- Admissible supply water temperature 33.8 to 77.0°F (1 to 25°C).

- Admissible mains pressure 30 to 80 (hammer-free system).

Notes on water quality:

For the water supply of the Condair RS, use exclusively untreated drinking water, water from RO system or de-ionized water.

- The use of additives such as corrosion inhibitors, disinfectants, etc. is not allowed, since these additives may endanger health and affect proper operation.

– Conductivity should be between 1 and 1500  $\mu\text{S}/\text{cm}.$  Note that conductivity less than 1 µS/cm is very aggressive water (this is equivalent to a resistivity of 1 M $\Omega$  or greater). It is recommended to blend such water with other less-treated water to ensure the supply is not overly aggressive.

- Hardness should be between 0 and 12 grains/gallon.

- Silica content should be between 0 and 12 ppm.

- pH should be between 6.5 and 7.5.
- Chloride content should be between 0 and 50 ppm.

- The connection material must be pressure-proof and certified for use with the particular supply (drinking water, RO, or DI water). - Important! Before connecting the water line, the line must be well flushed out.

! CAUTION!

The thread at the humidifier connection is made of plastic. To avoid overtightening the union nut of the water pipe must be tightened by hand only.

### **Electrical Connection**

#### Wiring diagram

Control compartment -----00000



The water drain is to be carried out according to the figure found in Section 5.6.1 of the RS Series Installation Manual, 2611992 and the applicable local regulations for water installations. The indicated connection specifications must be observed.

- Make sure that the drain pipe is correctly fixed and easily accessible for inspections and cleaning purposes.
- The draining temperature is maximum 140°F (60°C). Use temperature-resistant materials only!

- Lead drain line down to the funnel with a constant downslope (min. 1.2°).

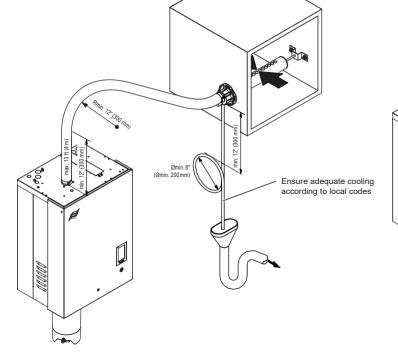
Note: On units with two steam tanks, each drain line must be led into a separate funnel with trap.

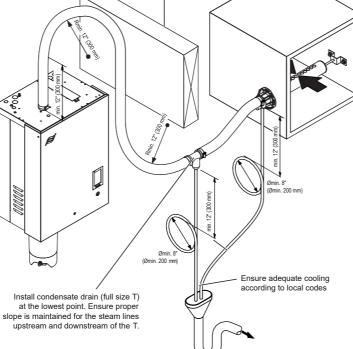
- Attach drain line in such a way, that it cannot slip out of the funnel or bottom out in the funnel.

- The open end of the drain line must not touch the funnel (min. air gap 0.79" (2 cm)).

- We recommend to install the funnel with an lateral off-set of 8" (20 cm) to the side of the unit, to prevent damage to humidifier due to rising steam.

Obstacle





#### Installation Notes

 Use original steam and condensate hose from your Condair representative or solid steam pipes from copper (MED-L) or stainless steel (min. AISI 304) exclusively. Steam and condensate lines of other material may cause undesired operational malfunctions. For installations with reverse osmosis or de-ionized water supply, do not use copper steam lines.

- Initially, lead the steam line upright upwards min. 12" (300 mm) above the humidifier. Then lead the steam line with a minimum upslope of 10° or a minimum downslope of of 2° to the steam distributor.

- The condensate hose from the steam distributor is led down to the humidifier with a minimum downslope of 1.2°, via a condensate trap (min. hose bend diameter Ø8" (Ø200 mm)) and there it is to be connected to the appropriate connector on top of the unit.

Important! Before putting the unit into operation, the condensate trap of the condensate hose must be filled with water.

- The steam line should be kept as short as possible, as per Table 1 from the Condair RS Series Installation Manual (2611992). Ensure the the minimum bend radii are observed: 12" (300 mm) for steam hoses or 5x internal diameter for solid pipes.

Important! Allowance must be made for a pressure loss from elbows, according to equivalent length tables.

- Important! When deciding on the length and layout of steam

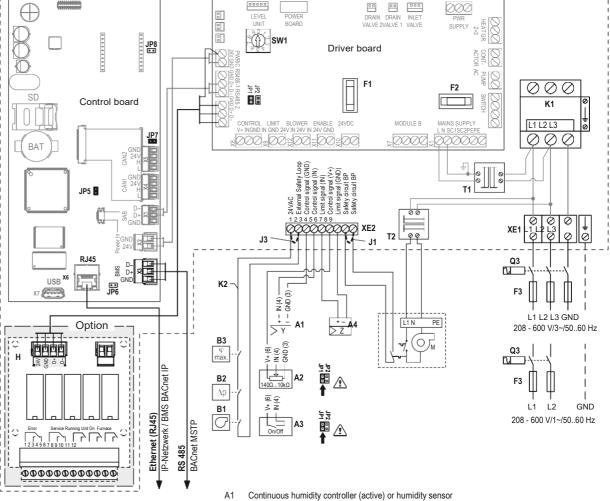
hoses, it should be noted that steam hoses may become shorter and/or longer depending on temperature and age.

 The steam hose must be secured to the steam distributor and humidifier steam outlet by means of hose clamps. Solid steam pipes should be connected to the steam distributor and steam humidifier with short lengths of steam hose secured with hose clamps. Caution! Do not overtighten the hose clamp on the steam connector of the steam humidifier.

- Steam lines made of solid pipes (copper or stainless steel) must be insulated over the entire length to minimize condensate formation. Condensate created due to thermal loss in steam lines will reduce the operational efficiency of the humidification system and reduce the moisture supply to the conditioned environment.

- Reducing the cross section or the complete closure of the steam line will cause an excessive increase in pressure in the steam cylinder when the unit is operating and could lead to the risk of scalding accidents. All installations must comply with the following instructions.

- Ensure steam line is open (no reduction in cross-section) along the entire length after installation.
- Steam lines must not sag or else condensate may accumulate in low point.
- Valves in the steam line are not permitted.



- A2 Ohmic humidity controller (passive), set jumper JP1 and remove jumper JP2
- A3 Dry Contact On/Off Humidity Controller, set jumper JP1
- A4 Limiter signal
- Ventilation interlock B1
- B2 Airflow monitor
- B3 Safety humidista
- F1 Internal fuse 24V supply (1 A, slow acting)
- F2 Internal fuse 24V supply (4 A, slow acting)
- F3 External fuse heating voltage supply (see table in Section 5.8.7)
- F5 Internal fuse control module (200 mA, quick acting)
- Remote operating and fault indication (option) н
- J1 Jumper wire, if no blower pack is connected
- J3 Jumper wire, if no monitoring devices are connected to SC1 and SC2
- Jumper connected = 10V on X8, JP2 no jumper! Jumper connected = 24V on X8, JP1 no jumper
- JP5 Jumper connected: Terminating resistor internal communication driver/control board active (do not remove)
- JP6 Jumper for activating the terminating resistor for Modbus RTU or BACnet MS/ TP communication via the RS485 interface "X3". Jumper must be connected, if
- Condair RS is the last unit in the Modbus network. JP7 Jumper connected: Terminating resistor CAN bus active JP8 Jumper removed: Modbus RTU or BACnet MS/TP communication via RS485 interface "X3"
- Jumper connected: Communication via optional Gateway board
- K1 Mains contactor (heating voltage)
- K2 External safety circuit (safety humidistat, airflow monitor, etc.)
- Motor Blowepack М
- Q3 External main switch heating voltage supply
- SW1 Rotary switch module identification (must be left on position "0")
- T1 Transformer control voltage supply Module A
- T2 Transformer blower pack supply
- XE1 Supply voltage terminal block
- XE2 Control terminal block

For wiring diagram of double tank humidifier, refer to Installation Manual (2611992).

All information contained in this Quick Start Installation Guide is for general purposes only please refer to the installation manual for Condair RS.

All electrical installations must be carried out in accordance with national and local electrical code requirements by a licensed electrician.

All water installations must be carried out in accordance with national and local plumbing code requirements by a licensed plumber

Condair Ltd. does not accept any liability for any damage caused by faulty installation or the use of components that are not approved by Condair Ltd.

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