HUMIDITY SOLUTIONS
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Resistive Steam Humidifier Specification

- The Humidifiers shall be supplied by Humidity Solutions Ltd and must be resistive heating element steam humidifiers with self-contained, electronically controlled steam generation, with unique scale management system.
- The Humidifiers shall be supplied compliant with WRAS, for direct connection to wholesome water supply. Installer must incorporate a non return valve and Type B air gap on the drain to prevent back-siphoning.
- The Humidifier will comply fully with CE regulations.
- The Humidifier parts (including heating elements), shall be warranted, for a period of two years.
- The Humidifiers shall contain stainless steel boiling vessels, housed in a cabinet, suitable for wall mounting.The case of the Humidifier shall be powder coated. There shall be separate compartments for electrics and the boiling vessel.
- The electronics shall be mounted on the right hand side of the unit in a separate compartment to the steam generating chamber. Access to the electronics and steam generating compartments shall only be achieved by opening of a secure cover to facilitate easy access.
- The steam shall be generated in a guaranteed-for-life, non-disposable, stainless steel boiling vessel, to facilitate easy cleaning.
- The heating elements shall be self-cleaning and to be mounted on a detachable top plate All elements in the boiling vessel and Humidifier shall be rated at the same output and must operate in parallel to maintain a balanced electrical load at all times. Heating elements shall be sized for optimum thermal performance.
- The water level in the boiling vessel shall be maintained at a constant level via an electronic level control system immersed in the water within the boiling vessel, with no floats or other moving parts for superior reliability.
- An overheat cut-out switch mounted on the boiling vessel top shall act as a failsafe overheat protection.
- The boiling vessel shall incorporate an anti-foam system to control foam formation.
- Humidifiers shall operate within the range of duct pressures of –1250Pa to +1250Pa. Higher duct pressures up to 10,000Pa shall be accommodated with additional pressure balancing system.
- The Humidifiers shall be completely automatic in operation when connected to a suitable water supply and control signal. The steam output shall be controlled through balanced load switching for spike-free performance and even element wear.
- Each Humidifier shall have one inlet valve and shall incorporate a strainer and flow restriction to suit connection to supplies from 1 – 4.8 bar and shall operate on a selectable pulsed fill cycle to maintain constant water level.
- The Humidifiers shall drain through automatic pump with manual override to facilitate draining in the event of power failure. Drain intervals shall be preset but reconfigurable. (Ultra Process Humidifier only: alternative water dilution drain cycle also software configurable.) Unit shall have user-selectable no-demand drain facility.
- The Humidifier shall have user-selectable standby heating.
- The Humidifier range shall be suitable for connection to any water source. The Humidifier shall accept raw mains water, partially softened water or reverse osmosis water to 1 MΩ. (Ultra shall be used for water qualities 1.0 - 18MΩ.) Steam production shall be consistent irrespective of water quality.
- The Humidifiers shall be able to accept signal of 0-10Vdc, 2-10Vdc or 4-20mA without additional adaptors or circuit boards being fitted.

- The Humidifiers shall have the capacity to be linked with controller or sensors for fully automatic control and set-point adjustment at the humidifier or on the controller. With secondary high level humidity sensing, control shall be fully proportional.
- The Humidifier shall have microprocessor control to monitor operational status maintenance period and fault condition.
- The Humidifier shall have the capacity to work in a master/slave arrangement for any combination of system, with parallel humidifier operation for uniform use.
- The Humidifier shall be fitted as standard with a PCB to indicate fault status remotely via Volt-free contacts.
- The operational status shall be indicated by a backlit display on the front of the unit. Any fault message shall be indicated not only by a constant red light on the front of the unit but also confirmed by the LCD display.
- The Humidifier shall modulate its output over the entire working range 0-100%, proportional to the control signal. The operating range of the Humidifier shall be either the maximum output of the unit or adjustable via software to between 10 and 100% of that maximum. (Fine-tune software for very close control shall be available on Ultra Process Humidifier).
- Modulating output shall be indicated by the LCD display.
- Each humidifier shall require a single three phase power supply, other than single phase units, with no separate power supply required for control circuits.
- The 3-phase supply to each Humidifier shall be connected via an integrated contactor that will disable the 3 phase supply in a fault or safety circuit break condition. A built-in transformer will give the single phase and low voltage supplies required within the Humidifier.
- The 3-phase supply for the Humidifier shall be 400Vac (other 3-phase voltages shall be available upon request for Ultra Process Humidifiers).
- The steam shall be introduced into the ductwork via dedicated steam distribution pipes fitted with inserted injection nozzles for shorter evaporation. Steam pipes shall have rotational adjustment for optimum orientation within the duct.
- Where direct room humidification is required a room distribution unit shall be used.
- The room distribution unit shall have an operating noise level of 49dBA
- On initial start up the Humidifier shall self-test for 30 minutes to flush the systems before full operation.
- The Humidifier shall monitor the Humidifier run time and indicate the time remaining to service interval.
- The Humidifier shall be supplied complete with a WRAS approved non-return valve and inlet valve.
- The system is to be supplied by: Humidity Solutions Ltd, Humidity House, 3 The Axis Centre, Cleeve Road, Leatherhead, Surrey, KT22 7RD