

Part 1 General**1.1 SUMMARY**

- .1 Section Includes:
 - .1 Materials and installation for steam injection mechanical, atomizing, plenum mounted drum, plenum or duct mounted pad, packaged electrode steam generating, packaged, gas fired, steam generator type humidifiers and accessories.

1.2 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Submittals in accordance with Section 01 00 10 - General Instructions.
- .2 Product Data:
 - .1 Submit manufacturer's printed product literature, specifications and datasheet for heating, ventilation and air conditioning distribution piping and ductwork.
- .3 Shop Drawings:
 - .1 Submit shop drawings to indicate project layout, dimensions and extent of humidification system.
 - .1 Indicate following: capacities, dimensions, electrical characteristics, control terminations.
- .4 Instructions: submit manufacturer's installation instructions.
- .5 Manufacturer's field reports specified.
- .6 Closeout submittals: submit maintenance and engineering data for incorporation into manual specified in Section 01 00 10 – General Instructions, include data as follows:
 - .1 Start-up reports.
 - .2 Statement of warranty.
 - .3 Manufacturer's installation and operations manuals.
 - .4 List of spare parts required.

1.3 DELIVERY, STORAGE AND HANDLING

- .1 Deliver, store and handle materials in accordance with Section 01 00 10 – General Instructions.
- .2 Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.
- .3 Storage and Handling Requirements:
 - .1 Store materials indoors and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.
 - .2 Store and protect humidifiers from nicks, scratches, and blemishes.
 - .3 Replace defective or damaged materials with new.
- .4 Packaging Waste Management: remove for reuse and recycling of pallets, crates, padding, packaging materials as specified in Section 01 00 10 – General Instructions.

1.4 MAINTENANCE

- .1 Extra Materials:
 - .1 Provide maintenance materials in accordance with Section 01 00 10 – General Instructions.
 - .2 Furnish list of individual manufacturer's recommended spare parts for equipment, addresses of suppliers, list of specialized tools necessary for adjusting, repairing or replacing, for inclusion into operating manual.
 - .3 Provide following: one complete set of renewable evaporator media.

Part 2 Products**2.1 PACKAGED ELECTRODE STEAM GENERATING TYPE**

- .1 CSA certified and ULC listed.
- .2 Components housed in factory fabricated cabinet with factory enameled finish and electrically interlocked door.
- .3 Factory sealed disposable steam cylinder complete with factory installed electrodes to suit water condition.
- .4 Controls:
 - .1 Solid state panel.
 - .2 Solenoid valve on water and drain lines.
 - .3 Wall and Duct humidistat, as required.
 - .4 Airflow proving switch.
 - .5 Adjustable flush cycle timer.
 - .6 Amp meter.
 - .7 Cylinder replacement indicator light.
- .5 Capacity: as indicated.

Part 3 Execution**3.1 MANUFACTURER'S INSTRUCTIONS**

- .1 Compliance: comply with manufacturer's written recommendations or specifications, including product technical bulletins, handling, storage and installation instructions, and datasheet.

3.2 INSTALLATION

- .1 Install in accordance with manufacturer's instructions.
- .2 Humidifier and evaporator media to be new and clean when project is accepted.
- .3 Install humidistat as indicated.
- .4 Water service overflow drain: as indicated to manufacturers' recommendation.
- .5 Install access doors or panels in adjacent ducting.

- .6 For RTU-1, re-use and connect to existing in-duct distributor.
- .7 For RTU-2, re-use and connect to existing wall mounted fan-powered distributor.

3.3 FIELD QUALITY CONTROL

- .1 Performance Verification (PV):
 - .1 General: in accordance with Section 01 91 13 - General Commissioning (Cx)
Requirements: General Requirements, supplemented as specified.
 - .2 Application tolerances: +/- 2%.
 - .3 Timing:
 - .1 After TAB of ducted air systems.
 - .2 At same time as PV of related air handling units.
 - .4 PV procedures:
 - .1 Packaged Electrode Steam Generating type.
- .2 Start-up:
 - .1 General: in accordance with Section 01 91 13 - General Commissioning (Cx)
Requirements: General Requirements, supplemented as specified.
 - .2 Verify:
 - .1 Steam lines are sloped to ensure steam condensate is drained away from the humidifier.
 - .2 Vapour lines and manifolds are sloped to ensure condensate is drained away from the duct system.
 - .3 Visually check distribution manifold to ensure:
 - .1 Even distribution of vapour.
 - .2 Freedom from water deposits.
- .3 Commissioning Reports:
 - .1 General: in accordance with Section 01 91 13 - General Commissioning (Cx)
Requirements: reports, supplemented as specified. Include:
 - .1 PV results on approved PV Report Forms.
 - .2 Product Information Report Forms.

3.4 DEMONSTRATION

- .1 Training: in accordance with Section 01 91 13 - General Commissioning (Cx)
Requirements: Training of O & M Personnel.

END OF SECTION