MECHANICAL SPECIFICATION

SECTION 23 84 13

ELECTRODE STEAM HUMIDIFIERS

1 GENERAL

1.1 DESCRIPTION
A. Provide connection-ready MiniSteam steam humidifiers for fully automated and intrinsically safe production of mineral-free and pure steam in accordance with the Contract Documents.

1.2 WORK INCLUDED
A. Install steam humidifier as shown on plans and as per manufacturer’s instructions.
B. Install operating controls as shown on plans and as per manufacturer’s instructions.

1.3 SUBMITTALS
A. Provide complete humidifier catalog data, including performance and all components provided.
B. Provide power and control wiring diagrams.

1.4 QUALITY ASSURANCE
A. Provide UL or CSA Listed electrode steam humidifier.

2 PRODUCTS

2.1 Self-Contained Humidifiers
A. Humidifiers shall produce clean, sterile steam from standard tap water by means of passing electric current between electrodes through water contained in a plastic cylinder. Humidifier shall have the following standard features:

1. Integrated quiet fan unit for even distribution of steam into the room;
2. Cleanable plastic cylinder – easy to clean without chemicals, and reusable;
3. Solid plate stainless steel electrodes – greatly reduced maintenance, can be replaced quickly without tools;
4. Heavy-duty blow-down pump to reduce maintenance by pumping out scale;
5. Steam hose adapter for quick installation and removal of the cylinder;
6. Easily accessible connection terminals;
7. Removable cover for easy accessible to components;
8. Corrosion-resistant stainless steel enclosure, with some parts also powder-coated.

B. Optional features that may be specified on the plans:

1. CylinderStar for longer life expectancy of the electrodes in highly conductive water;
2. Integrated drain water tempering to ensure a drain water temperature of max. 140°F;
3. Timer controlled stub flushing;
4. Cylinder rinsing system for decreased maintenance, optional pulse system;
5. Galvanized electrodes for optimized electrical life expectancy for high chlorine content.

C. Microprocessor Control: Highly-efficient control electronics with 16-bit processor for fastest possible steam production, optimum energy efficiency and low-maintenance operation. Comprehensive operational safety through continuous self-monitoring of the unit functions.

Basic Version:
1. Automatic system test incl. self-diagnosis to check all functions and components;
2. Constant or single-stage control;
3. 5 LEDs to indicate 18 operating and service messages;
4. 2 potential free remote signals, one of them freely programmable with 15 options;
5. Stand-by blow-down to prevent standing cylinder water according to VDI 6022;
6. Autonomous adjustment to the corresponding water quality;
7. Integrated communication protocol Modbus RTU (optional converter to BacNet MS/TP);
8. Optional serial interface RS-232 / RS-485 (EIA-232 / EIA-485);
9. Changeover to process humidification.

Comfort Version (includes all the Basic Version functions plus the following):
10. 2 integrated PI controls;
11. 4-line illuminated display;
12. 4 function keys.

D. Optional
1. Relay circuit board to output 4 control commands / messages from 15 options.

E. Equipment
1. Humidifiers shall be MiniSteam electrode steam humidifiers as manufactured by HygroMatik GmbH. (www.HygroMatik.com)

F. Acceptable Manufacturers
1. HygroMatik GmbH.

3 EXECUTION

3.1 Comply fully with the manufacturer’s installation instructions.
3.2 Comply fully with all local, electrical, and applicable codes.
3.3 Connect to untreated domestic water supply.