

**PURE Humidifier Company**  
**Sample Specification**  
**“ES” Series**

**Humidifier**

The humidifier shall be an electrically heated immersion heater type as manufactured by PURE Humidifier Company of Chaska, Minnesota.

The humidifier shall be tested and approved by ETL/ETL-C Testing Laboratories, Inc. (ETL #472940).

The humidifier shall have an evaporating reservoir with a gasket sealed cover which is capable of operating at pressures of at least 19”-48 cm (W.C.) without steam or water leaks. The reservoir shall be made of type 304 stainless steel with welded joints.

The humidifier shall be designed to facilitate easy removal of the heater assembly for periodic scale removal and inspection. The cover and heater assembly shall be secured to the unit by the use of quick release clamps. The heater assembly shall be removable from the side of the humidifier without disturbing the cover or injection tube system’s steam supply piping.

Humidifier shall be field convertible from an electric immersion heater style "ES" humidifier to a steam heat exchanger style "SX" humidifier with a simple change of the side entry assembly.

An adjustable surface water flusher shall be included to drain away a portion of the water upon each refill cycle. This is to allow mineral deposits produced by earlier evaporation cycles to be removed. Flusher height should be adjustable for minimal water waste and efficient flushing.

The immersion heater(s) shall be incoloy clad and designed for 80 watts per sq. inch. Expansion and contraction of the heater(s) sheath allows mineral build-up to flake off.

A brass body, solenoid operated water fill valve shall be factory mounted on the top near the front of the humidifier reservoir. A bottom fill system shall be utilized to prevent any collapse of the steam head during the fill process. The fill valve shall be located to allow a minimum water gap of 1 ½” (3.81 cm). An inline strainer shall be factory mounted upstream of the fill valve to remove any water born particulate matter before the humidifier fill valve. The water strainer shall have a removable screen to permit periodic inspection and cleaning.

The humidifier shall have a manual reset over-temperature switch factory installed on the humidifier reservoir. The temperature switch shall provide humidifier over-temperature protection.

An INTAC<sup>®</sup> programmable microprocessor control module shall be factory mounted on the cover of the control panel and shall electronically control the automatic refilling, low water cut-off, high water cut-off, manual surface water flushing and safety switch interlock functions. When in the flush mode the water fill valve shall stay open for 5 minutes, then close.

The control module shall control all water level control functions through a Tri-Probe sensor with stainless steel shield mounted on the top front of the humidifier reservoir. The Tri-Probe sensor shall electrically sense the water level within the reservoir.

A motor operated drain valve with a brass body, and a cumulative timer will be incorporated into the INTAC® microprocessor controller. When the timer is activated the heater(s) will be de-energized and the drain valve will open. The drain period will be field adjustable in 1-hour increments between 1 and 500 hours with the drain duration adjustable in 1-minute increments between 1 and 120 minutes. During the drain period, the humidifying chamber will drain completely and the fill valve will be energized to provide thorough rinsing action. After the drain period is completed, the drain valve will close and the humidifier will refill and provide humidity on demand.

A seasonal drain system shall automatically drain the humidifier after a selected "NON-USE" period. The controller shall automatically reset the humidifier on a call for humidity.

The humidifier shall be provided with an ETL listed JIC NEMA 12 control cabinet, shipped loose (reference factory mounting option). The control cabinet shall be made of 14-gauge steel with ANSI 61 gray polyester powder coating, continuous hinge and oil-resistant gasket. The panel shall include a factory wired sub-panel with magnetic contactor(s), Tri-Probe water level control module, fused control circuit transformer, numbered terminal block and heater fuse(s).