



Humidifying Intake Air Tower SSD-5000 MKII

StanCo Scientific Humidifying Intake Air Tower with DewTrak II-MO™ Control

We have extensive experience with closed loop cooling systems in other instrumentation types. We took that knowledge and applied it to carburetor cooling issues to use with Octane engines. To further meet the ASTM requirements, a heavy-duty vaporizer was introduced to ensure that the air stream to the engines is within the required 25-50 grains per pound of dry air. To measure this humidity, an industry standard chilled mirror hygrometer is installed to provide constant and accurate readings and control of the humidity.

Cooling:

- A robust 5.5 gallon dual zone cooling system is used to control operating temperature of carburetors and heat exchangers. Its semi-sealed design minimizes microbial growth within the cooling system due to no introduction of air after initial setup. Monitoring of fluid levels in the bath coolant is simple through rear ports and sight tube.
- Powerful and easily maintained coolant pump.
- Cooling bath is controlled via PID controller, output to carbs and head are controlled separately with their own PID controlled solenoid valve.
- Temperature to the carbs can be controlled at the side output or directly at the carb with an optional remote PT100.
- Temperature monitoring and control of tower's output via PID temp controllers to create a uniform air-humidity mixture.
- No manual valves! Unit is operated via 1/8 DIN PID controllers.



5527 E. State Route 6, Unit 103-C
Morris, IL 60450
Phone: 815-416-1422

Vaporizer:

- Automated vaporizer with 6-liter reservoir.
- Reservoir has integrated auto-fill valve for ease of use. Simply attach to existing water line.
- Lifespan of vaporizer factory-rated at 5,000+ hours if maintained properly. Quality of tap water and neglecting to do maintenance every 3-6 months will reduce vaporizer's longevity.
- No LED design on vaporizer ensures zero-leak operation and limited algal growth. All vaporizers are TUFF coated for increased reliability and carry a 2-year warranty
- 500 milliliters per hour water consumption potential through vaporization of 5-micron sized droplets. Instrument produces Vapor mist not spray!
- Higher consumption vaporizers available for specific needs to conform to ASTM requirements.
- Swirled air vanes in outlet to promote homogenous air-humidity mixture to engine.

Humidity Control:

- The Edgetech Instruments DewTrak II-MO™ dew point / humidity transmitter is an optical chill mirror hygrometer designed to continuously measure the moisture content in gases. The instrument is powered by 24Vdc.
- The DewTrak II-MO™ uses the chilled mirror dew point temperature condensation principle to determine the water vapor concentration in gas mixtures, and a platinum resistance thermometer to accurately measure that temperature. Outputs include 4 to 20mA, 0 to 5 Vdc, or 0-10Vdc and an RS232 serial port as well as electrically isolated relay contacts.
- The Dew Track actively controls the vaporizer. This allows it to maintain the required humidity going to the engine as measured mid-intake pipe.
- NEW! Model DX primary method chilled mirror dew/frost point sensor with an integral PRT temperature sensor. Offers a wide operating range and improved temperature stability.
- 4 wire PRT measurement for Dew Point and AT (optional)
- ±0.2°C Accuracy for both Dew Point and Temperature
- Long term stability and repeatability
- RS232, bi-directional, Serial Output for ease of reprogramming with stock port on the side of the instrument
- Electronics housed in IP65 enclosure (Wall Mount)
- Aluminum housing for other configurations
- 2 analog outputs (4-20mA / 0-5Vdc to 0-10Vdc selectable)

System:

Controls for humidity and temperature – 24 volts DC

Cooling and vaporizing systems – 125 volts AC

Requires incoming filtered water in for ultrasonic bath

Requires drain for condensate.