



DEOZONATOR™ Sample Conditioning Device for Dew Point Measurement in Ozone

Features

- Decomposes ozone in gas samples even when concentrations exceed 10%
- Dew point temperatures as low as -70°C (-94°F)
- Accuracy to $\pm 1^\circ\text{C}$ ($\pm 1.8^\circ\text{F}$); traceable to NIST
- Proves dry gas purge during generator start ups
- Warns of generator water leaks and the presence of hydrocarbons
- No catalysts or hygroscopic materials to foul
- Analog & digital outputs to alarm / control devices

The Answer to Ozone

The General Eastern DeoZonator is a device which uses patent pending technology to measure the dew point temperature of a gas containing ozone in concentrations of up to 10%. When used with corona discharge ozone generators, this system provides proof of dry gas purge during start up, early warning of water leaks in the generator, and warning of hydrocarbons in the generator feed gas.

Proven, Field-Developed System

Highly corrosive ozone is decomposed without changing the water vapor content of the gas stream with a proprietary sample system developed by General Eastern over a three year period and proven at a water treatment plant in the USA. The sample system is a flow-through device located in-line just before the dew point sensor. Gas exiting the sample system at a flow rate of 2 scfh, as required by the dew point sensor, will contain no measurable ozone even when ozone concentrations in the sample system are in excess of 10%. This sample system does not contain a catalyst or any other hygroscopic material. The sample system incorporates an integral solenoid valve designed to allow gas flow only when the de-ozonator device is functioning properly, which protects the dew point sensor from exposure to destructively high concentrations of ozone.

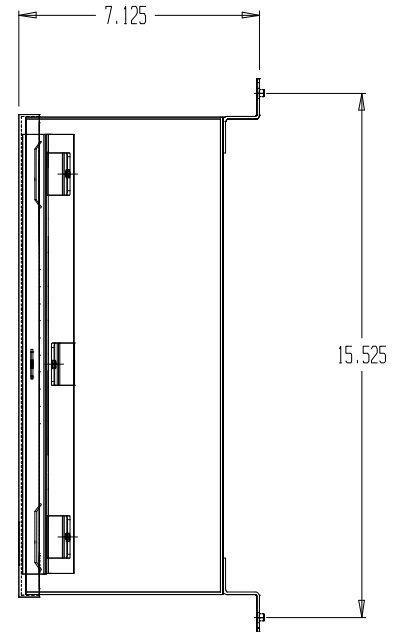
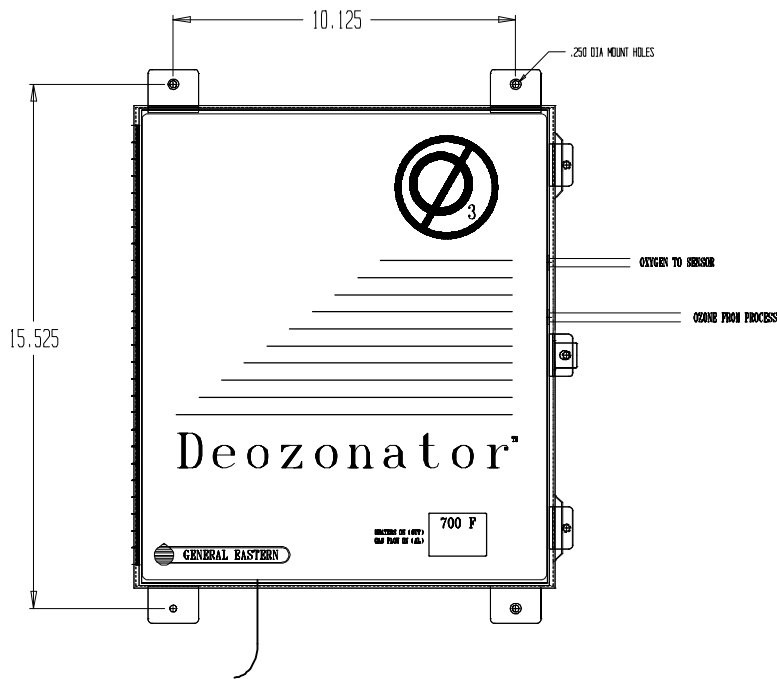
Accurate, Laboratory-Grade Measurements

At the heart of the measurement system is a General Eastern E4/1311DR chilled mirror dew point hygrometer. This instrument measures dew point temperatures down to -70°C (-94°F) at an accuracy of better than $\pm 1^\circ\text{C}$ ($\pm 1.8^\circ\text{F}$) at this level. The instrument is virtually drift free and provides laboratory grade measurements and traceability to NIST. Analog outputs, a digital output, and a relay output are available for interface to alarm or control devices. Once stabilized at operating dew point temperatures typical for ozone generators, the E4/1311DR system provides rapid response to increasing dew point temperatures.

Configured for Your Needs

The General Eastern dew point measurement system is available in two configurations. A complete system on an aluminum mounting plate, plumbed and wired, is the simplest configuration. The user supplies power, cooling water for the sensor, and brings the sample gas to the system via 1/4" tubing. This system includes a rotameter for flow control and a junction box for wiring. Alternately, all of the system components are available separately to facilitate panel mounting or other user-specific requirements.

Specifications



Deozonator Sample Conditioning Device Specifications

Operating Voltage: 115VAC (100VAC, or 220VAC optional, specify when ordering)

Power Consumption: 350 watts maximum

Performance: At 25°C (77°F), atmospheric pressure, and flow rate of 11/m (2 scfh), complete destruction of ozone in a sample gas containing up to 10% ozone

Wetted Parts: 316 SS, 316L SS, ethylene propylene, cleaned for oxygen service

Construction: NEMA 12 aluminum enclosure

Sample Connection: Compression fittings for 1/4" tubing, 316SS

Wiring: Terminal block connections

Specifications are subject to change without notice.



E4/1311DR-SP Hygrometer Specifications

Operating Voltage: E4 -- 115VAC (100VAC, or 220VAC optional, specify when ordering), 50 watts maximum

1311 DR -- 115VAC (100VAC, or 220VAC optional, specify when ordering), 300 watts maximum

Dew Point Accuracy: Complete system at 25°C (77°F), $\pm 0.2^\circ\text{C}$

Repeatability: $\pm 0.05^\circ$

Measurement Range: Air cooled at 25°C (77°F), 1 atm -68°C to +25°C
Liquid cooled with 15°C water at 25°C, 1 atm -75°C to +15°C

Max. Coolant Pressure: 30 psig

Coolant Flow Rate: 0.5 to 1 gallon per minute

Sample Gas Flow: 2 scfh

Pressure Rating: 0 to 300 psig

Mirror Material: Solid Platinum

Display: 3-1/2 digit LED

Outputs: 4-30 ma, 0-5VDC, RS-232C, user scalable

ABOUT GENERAL EASTERN

For over 25 years, General Eastern has been recognized as the industry leader in precision humidity measurement instrumentation. Our wide range of relative humidity, dew point, and temperature instrumentation, along with our calibration products, lets you choose the correct instrument for your application.

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