OREC™ 0500 and 0900 Series Ozone Test Chambers: Touch—Screen Upgrade

A factory upgrade for your existing OREC™ 0500 and 0900 Series Ozone Test Chamber is now available! The upgrade provides an opportunity to restore your existing OREC™ ozone chamber to "factory new" specifications, and improve the overall performance and reliability.

The upgrade process involves an initial inspection of the entire test chamber. Any excessively worn or inoperable components are either repaired or replaced.

The OREC™ Ozone Monitor UV Automatic Measurement and Control System is serviced and calibrated, in those Ozone Test Chambers which employ them.

Older OREC™ Models, which used chemical titration, are upgraded to the UV system.

The OREC™ A and C HiCon (high ozone concentration) models which employed the UV system are upgraded to the higher performance corona—discharge ozone generation system.

All upgraded Ozone Chambers receive the PLC (programmable logic controller), touch-screen system, completely new wiring harness and related electronics.

OREC™ 0500 and 0900 Series: Touch—Screen Control System

… touch—screen controls!

The temperature and ozone settings are entered via the newly developed touch—screen. This digital display is an intuitive, easy—to—use interface which integrates alpha—numeric and graphical representations into a complete "control system".

The PLC (programmable logic controller) system automatically compensates, in a rapid and accurate fashion, for external factors such as temperature and humidity, employing solid state digital electronics. This is a vast improvement in reliability, repeatability, and reproducibility in comparison with older analog or mechanized controls.

Additionally, the PLC improves:

- technician training requirements;
- time needed for observation during "unattended" operations,
- response to set point changes,
- resumption of O_3 levels between test cycles.

The user defined test parameters are also entered using the PLC touch—screen system, which is designed to avoid inadvertent input. A newly developed electromagnetic door interlock system prevents accidental interruption of the test cycle which improves integrity and enhances overall safety.

OREC™ 0500 and 0900 Series: UV Measurement and Control System

This ultraviolet measurement and control system has many advantages over manual or chemical systems. The most significant of which are the elimination of:

- manual analytical titrations;
- air or solution flow adjustments;
- storing, measuring and mixing of chemicals;
- solution replenishment;
- time consuming efforts of skilled laboratory technicians.

The OREC™ ultraviolet automatic measurement and control system also has advantages which include:

- PLC ozone concentration control and digital touch—screen interface;
- Samples can be withdrawn from the chamber with rapid resumption of test concentrations;
- Change from one concentration level to another can be accomplished within a few minutes;
- Ozone tests can proceed unattended with complete automatic control and recording of ozone chamber concentrations over time.

OREC™ 0500 and 0900 Series: Corona Discharge System

Ozone is formed when oxygen molecules are split as they pass through a gap formed by a high voltage electrode. High voltage, at high frequency, is applied to the electrodes and the plasma formed in the gap is known as a silent arc discharge, and it is here that some of the oxygen molecules split and recombine to form ozone.

The silent arc discharge is also known as “corona discharge”. As the oxygen molecules pass through the electrode gap, the plasma is attended by a bluish halo or “corona”.

The corona discharge is the most practical, reliable, precise and cost effective alternative upon which to base the design of higher concentration ozone generators, while ultraviolet ozone generators are practical for lower generation requirements.

The OREC™ corona discharge system is an integral, totally self-contained, ozone generator manufactured from the highest quality materials and state-of-the-art technology.

It includes variable ozone control, flow control, reactor pressure and ozone output. Each corona discharge ozone generator receives a factory calibration certificate indicating the ozone output and conditions during testing under standard laboratory conditions.

OREC™ 0500 and 0900 Series: Other Optional Features

- Custom designed chambers for special applications;
- Model W test chamber stand;
- DynaStretch™ dynamic stretching apparatus (ASTM D3395 Method A);
- Static stretching apparatus (ASTM D3395 Methods A, B, and C);
- Fixture and cutter for D1149;
- Triangular mold (ASTM D1171);
- Refrigeration for sub—normal temperature testing;
- DAQ—Zone, data acquisition & analysis software package;
- Second UV lamp.

Additional information on the OREC™ optional features is available, please visit the OREC™ Accessories pages.

NIST Primary Traceability & ISO/IEC 17025 Accredited Laboratory

National Institute of Standards and Technology
Primary Traceability
NIST Report of Analysis 839.03-03-155
NIST Report of Analysis 839.03-05-168

ISO/IEC 17025
Accredited Laboratory
Calibration Certificate 1424.01
Mechanical Testing Certificate 1424.02

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