

## OREC™ 0500 — 0900 Series Ozone Test Chambers: Description



OREC™ 0500 — 0900 Series Ozone Test Chambers provide continuous ozone measurement, control, and computerized recording in one self contained unit ... factory—tested and ready to operate!

The measurement system incorporates the field—proven and time—tested [OREC™ Model DM—100 Ozone Monitor](#), which employs the ultraviolet (UV) absorption principle for ozone measurement. This automatic ozone measurement and control system is specific to ozone and requires no operating chemicals.

The OREC™ UV automatic measurement and control system continually and rapidly corrects for ozone concentration changes regardless of influencing variables, such as air temperature, relative humidity, line voltage, volatile and aerosol levels of the laboratory atmosphere, etc., which adversely influence stable ozone concentrations in manually controlled units.

Advantages of this automatic control system also include:

- rapid resumption of ozone concentrations between test cycles;
- tests proceed unattended;
- fast response to set point changes.

OREC™ Ozone Chambers are the industry standard for reliable laboratory testing.

The operation of the unit is quite straight forward:

- Set the digital “touch—screen” display to the desired ozone test concentration, enter the user defined test parameters, and the automatic control system regulates and maintains the “set point” ozone concentration, and corrects for external temperature and humidity variations.
- “Set—It—And—Forget—It” continuous unattended operation!

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

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<sub>3</sub> 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 actuated door interlock system prevents accidental interruption of the test cycle which improves integrity and enhances overall safety.

The OREC™ 0500 — 0900 Series Ozone Test Chambers are especially well suited for the determination of accelerated deterioration of a wide range of materials as described in [ASTM D518](#), [ASTM D1149](#), [ASTM D1171](#), [ASTM D3395](#), [ASTM D4575](#) as well as a host of other national and international methods.

### OREC™ 0500 and 0900 Series: Benefits

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 — 0900 Series Ozone Test Chambers are ideally suited for:

- Accelerated Aging Studies,
- Quality Control Testing,
- R&D Laboratory Testing, and
- Quality Assurance Testing.

## OREC™ 0500 and 0900 Series: Features

OREC™ 0500 — 0900 Series Ozone Test Chambers have an exterior finish of blue industrial lacquer with black trim and chrome hardware. The chamber interior is stainless steel. A large glass observation window and shielded oven lamp provide for nonglare sample viewing.

The stainless steel chamber interior is welded, all seams are sealed, and the chamber door has a high grade silicone ozone resistant rubber gasket to assure leakproof operation. The gasket is designed to be easily replaced in the field.

All circuits are protected by panel mounted fuses, wiring is color coded, electrical components and subassemblies are connected to terminal strips or disconnects for simple removal, maintenance, or replacement.

OREC™ 0500 — 0900 Series Test Chambers are automatically controlled and include real-time display of data. They are quiet and combine attractive styling with utilitarian functionality. The units are complete and ready for "plug-n-test" operation upon installation. Each unit is provided with a comprehensive 12 month guarantee against defects in material and workmanship.

Years of ozone test chamber manufacturing experience and leadership, exacting engineering standards and rigid quality assurance procedures combine to make the OREC™ 0500 — 0900 Series Ozone Test Chambers the most advanced, reliable and maintenance free available.

OREC™ Ozone Chamber features also include:

- Touch-Screen interface;
- PLC control system;
- Solenoid actuated door safety interlock;
- UV absorption ozone measurement;
- No chemicals are required;
- Continuous unattended operation;
- Rapid resumption of ozone concentrations between test cycles;
- 6 standard models, customized chambers are available;
- Conforms to ASTM, ISO, MIL & other specifications;
- Automatic measurement and control;
- Digital display;
- Automatic compensation and correction for external temperature & relative humidity;
- Economical operation and low maintenance.

## OREC™ 0500 and 0900 Series: 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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