



MODEL MINI ODS

# Compact High-Purity Ozone Delivery System

- Ideal for semiconductor applications -



## Features

- Compact design
- Produces O<sub>3</sub> Concentrations over 21% w/w
- 19" rack mountable or table top
- Low cost of ownership / no consumables
- Fully integrated solution including:
  - High Purity Ozone Generator
  - High Concentration Ozone Analyzer
  - Closed Loop Servo Controller
  - Oxygen MFC
  - Nitrogen MFC
  - Back Pressure Regulator
  - Electro-pneumatic divert valve

The Mini ODS is a compact, integrated ozone delivery system designed to produce ozone concentrations of 21% w/w, 320g/Nm<sup>3</sup> for a wide range of wafer processing applications. It is a very compact yet complete ozone delivery system, including: a high purity ozone generator, high concentration ozone monitor, microprocessor based controller, and all the required regulators and pneumatics.

The Mini ODS is expandable to support additional ozone generators running independent processes that require different levels of ozone concentrations and flow rates. The system is easy to use and maintain. There are no consumables or requirements for preventive maintenance. The Mini ODS can also interface to a

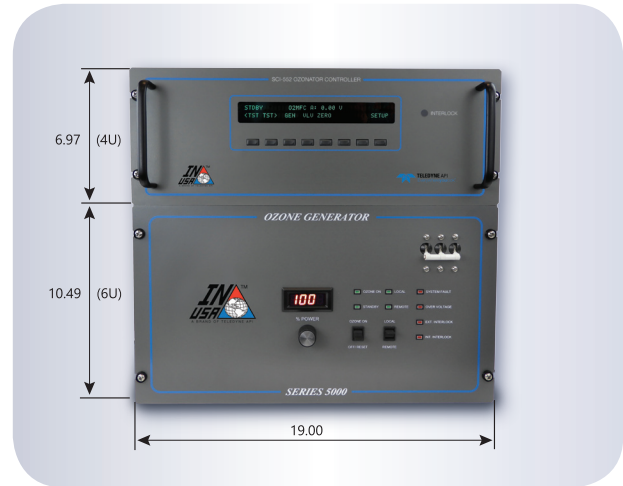
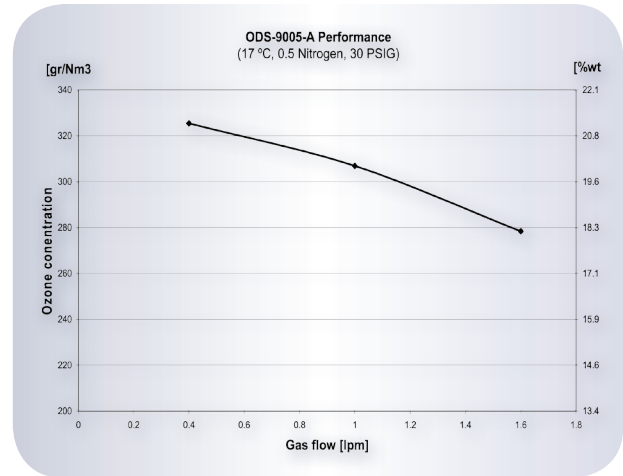
dissolved ozone analyzer typically required in wet processes. For added safety, it can be interlocked with Teledyne API's multi-channel ozone leak detectors and ozone destruct sub-systems.

## Applications

- Chemical Vapor Deposition (CVD)
- Atomic layer Deposition (ALD)
- Oxide growth
- Surface conditioning
- Particle cleaning
- Photoresist removal
- Ashing

## Specifications

• System	Model Mini ODS Turnkey Ozone Delivery System
• Ozone Concentration	Over 320 g/Nm <sup>3</sup> or 21.0 % w/w
• Ozone Flow Rate	Optimized for 1 slpm (Other flow rates available)
• Ozone Outlet Pressure	15 to 40 PSIG (typically set at 30 PSIG)
• Ambient Temperature	5-35°C
• Feed Gas Oxygen Nitrogen	Grade 6 or better Grade 5 or better (for doping only)
• Cooling Water Temperature Flow Rate	17 to 20°C Configuration dependent
• Setpoint Controller	Automatic Servo Loop Control User Programmable Setpoints - Generator Power - Gas Flow Rate - O <sub>3</sub> Concentration (controls up to two O <sub>3</sub> Generators simultaneously and independently)
• Analyzers	UV O <sub>3</sub> Gas Concentration (UV O <sub>3</sub> Dissolved Concentration optional)
• Gas Flow Controllers	MFC for O <sub>2</sub> and N <sub>2</sub> included
• Regulator	Back Pressure Regulator included
• Display	2 line x 40 character, VFD
• Analog I/O	1x Analog Output, 0-5VDC 1x Analog Input, 0-5VDC
• Digital I/O	RS-232C, bi-directional 2x Digital Inputs 2x Digital Outputs
• Power	208 to 240 VAC, 1Ø or 3Ø
• Dimensions	19" x 13.7" x 18" (w x h x d) (48 cm x 35 cm x 46 cm)
• Compliance	CE
• Warranty	1 year



## System Options

- Ozone Destruct
- Dissolved Ozone Analyzer
- Ozone Safety Analyzer
- Expandable to control additional Ozone Generators

— OZONE INSTRUMENTATION FOR EVERY APPLICATION —					
Model	Generator Output	Off Gas Detection	Safety / Leak Detection	Dissolved Ozone	Spot Checking
465L		•	•		
465M		•	•		
465H	•				
454	•	•			
452	•				
430			•		•
W1 + 465L				•	
470				•	

Specifications subject to change without notice. All specifications are based on constant conditions. Printed documents are uncontrolled. SAL000104A (DCN 7917) 08.02.18