Plasma & Reactive Gas Solutions

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SEMOZON® AX8415

ULTRA CLEAN, HIGH CONCENTRATION, HIGH FLOW OZONE GENERATOR

The SEMOZON® AX8415 is the most innovative and versatile ozone generator developed by MKS. Ultra clean, high concentration, high flow ozone is produced by this generator's novel architecture and patented cell design, converting oxygen to > 400 g/Nm^3 of high concentration ozone for leading-edge applications in the semiconductor, flat panel display and photovoltaic industries.

The technology designed into the SEMOZON AX8415 is the basis of this generator's versatility. Ozone is used by the electronics industry in the formation of CVD and ALD thin films, oxide growth, photoresist removal and multiple cleaning applications. The AX8415 has the capability to support all these applications by producing the highest concentrations of ultra clean ozone with or without the addition of nitrogen as a dopant gas. Removing the minute amount of nitrogen used in the formation of ozone eliminates the formation of NO_x compounds, if required for a given application.

The unique features and benefits of the SEMOZON AX8415 position it as a direct replacement for the industry leading SEMOZON AX8407 ozone generator, (the forerunner to the AX8415). The form factor and connections required to produce and control ozone generation on the AX8415 are exactly the same as the AX8407. The superior performance of AX8415 is immediately available for all applications qualified with the AX8407 ozone generator.

Features & Benefits

Ultra Clean, High Concentration, High Flow Ozone

- Ozone concentration 425 g/Nm^3 or 27.1 wt% at 5°C @ 2.5 slm
- O_2 flow rate from 2.5 slm to 50 slm enables process flexibility
- Patented cell design enables production of high concentration ozone
- Operational with or without the addition of nitrogen
- Closed-loop operation for tighter process control
- Direct replacement for MKS SEMOZON AX8407 ozone generator

Clean, Safe Alternative to Conventional Chemical Processing

- High redox potential
- Can be generated at the point of use
- Green chemical, easily converted back to oxygen

Designed for Reliability

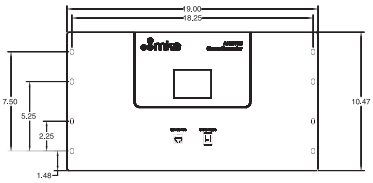
- 50% fewer components than MKS SEMOZON AX8407
- Reliability tested to >100,000 hours

Specifications and Ordering Information

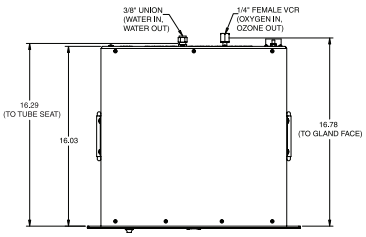
Model	AX8415
Maximum Ozone Output with 100 ppm N_2, 5°C Cooling Water @ 2.5 slm	425 g/Nm³ (27.1 wt%)
Maximum Ozone Output with 100 ppm N_2, 17°C Cooling Water @ 2.5 slm	375 g/Nm³ (24.2 wt%)
Maximum Ozone Output with no N_2, 5°C Cooling Water @ 2.5 slm	400 g/Nm³ (25.6 wt%)
O_2 Flow Range	2.5 - 50 slm
Operating Range	
Ambient Temperature	10 - 40°C (50 - 104°F)
Nominal Cell Pressure (Delivery)	15 - 45 psig (100 - 310 kPa)
Pressure	Maintain process pressure at 20 - 50 psig
Control Interface	Front panel control and remote operation
Feed Gas	
Oxygen	Grade 6 or better O_2
Nitrogen (Optional)	100 ppm Grade 5 or better N_2
Cooling Water	
Temperature	5 - 25°C (41 - 77°F)
Filtration	100 microns
Quality	Resistivity ≥ 50 kΩ/cm
Water Flow (Minimum)	9.4 lpm (2.5 gpm)
AC Power	
Voltage	208 VAC (±10%)
Phase	3Ø & GND, no neutral
Current	20 Amp
Frequency	50/60 Hz
Weight	46.3 kg (102 lbs)
Dimensions (W x D x H)	483 x 445 x 267 mm (19.0 x 17.5 x 10.5 in)
Compliance	CE, SEMI S2-0302, SEMI F47, UL 61010-1, CAN/CSA-61010-1

Please contact your local MKS office for price and availability information.

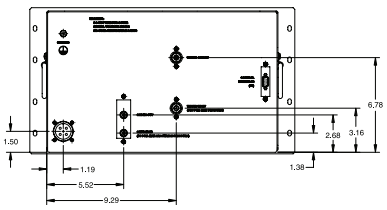
AX8415 Front View



AX8415 Top View

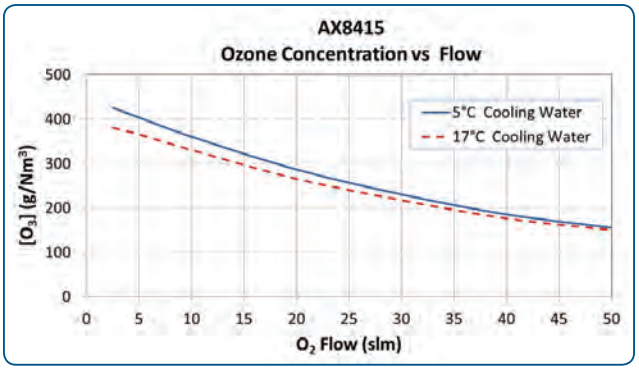


AX8415 Rear View



Dimensional Drawing —

Note: Unless otherwise specified, dimensions are nominal values in inches.



Performance Chart —

Typical ozone output with 100 ppm N_2

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