

AX8415

Ultra High Concentration, High Flow Ozone Generator



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

Ozone is used 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.

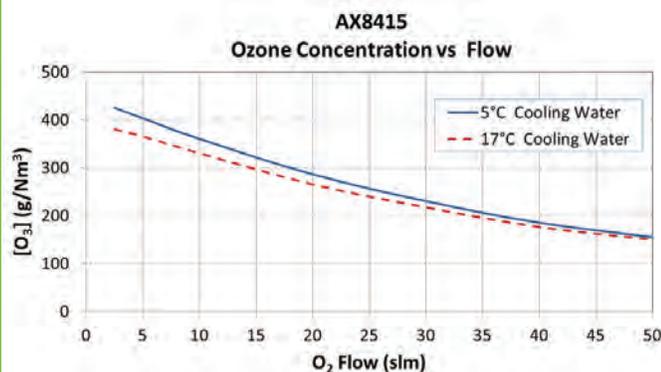
Product Features

- Ozone concentration 425 g/Nm^3 or 27.1 wt% at 5°C @ 2.5 slm
- Patented cell design enables production of high concentration ozone
- Closed-loop operation for tighter process control
- High redox potential
- Can be generated at the point-of-use



Key Benefits

- O_2 flow rate from 2.5 slm to 50 slm enables process flexibility
- Operational with or without the addition of nitrogen
- Green chemical, easily converted back to oxygen
- Reliability tested to $>100,000$ hours



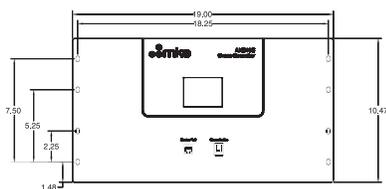
Performance Chart — Typical ozone output with 100 ppm N_2

Specifications

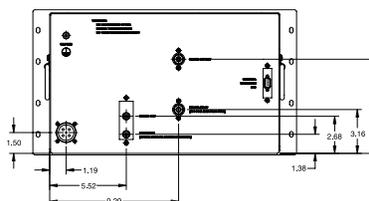
Maximum Ozone Output		
with 100 ppm N ₂ , 5°C Cooling Water @ 2.5 slm		• 425 g/Nm ³ (27.1 wt%)
with 100 ppm N ₂ , 17°C Cooling Water @ 2.5 slm		• 375 g/Nm ³ (24.2 wt%)
with no N ₂ , 5°C Cooling Water @ 2.5 slm		• 400 g/Nm ³ (25.6 wt%)
O₂ Flow Range		2.5 - 50 slm
Operating Range		
Ambient Temperature		• 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.

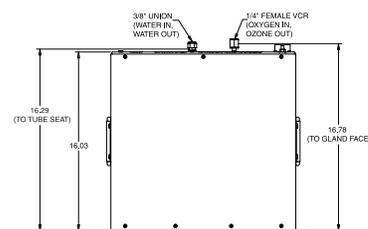
AX8415 Front View



AX8415 Rear View



AX8415 Top View



Dimensional Drawing –

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