ProE-Vap® 300 Delivery System

Effective delivery of solid materials

The ProE-Vap® 300 delivery system is designed for solid precursors used in Atomic Layer Deposition (ALD) and Chemical Vapor Deposition (CVD) processes. It provides a stable mass flux for a wide variety of solid materials used for current and future technology nodes. Solid precursors are difficult to deliver consistently into deposition chambers due to their low vapor pressure and limited thermal stability. The ProE-Vap system overcomes these problems and offers a solution that is unmatched in the industry.

The ProE-Vap delivery system allows for higher transport of solid precursors at lower temperatures more consistently than other vaporizers, thus reducing cost of ownership for ALD and CVD.

It minimizes chemical concentration drifts, allowing for higher wafer throughput with less tool downtime. The ProE-Vap has demonstrated high reliability and robust performance in high-volume manufacturing environments since 2008. It supports delivery of a variety of inorganic and transition metal precursors required in the fabrication of highly complex microelectronic device fabrication.

Available in multiple configurations for installation on different OEM tool sets.

APPLICATIONS

- Atomic layer deposition
  - High-κ capacitors and gate dielectrics
  - Metal barriers and electrodes
  - Fluorine-free tungsten (FFW)
- Chemical vapor deposition

FEATURES & BENEFITS

- Thirty percent larger than the ProE-Vap 200
  - Higher flux applications
  - Holds 20% chemistry for less sources changes down time
- Innovative designed ampoule for solid precursor delivery
- Delivers higher mass flux at lower temperature
- Supports pneumatic and manual valve options
- Outstanding overall performance with consistent flux over the vaporizer lifetime
- Proven for multiple solid precursors used in semiconductor applications and can be used for other emerging technologies, such as LED
- Enables efficient usage of precursor and minimizes decomposition from overheating
- Compatible with several OEM tools; supports developmental high volume wafer processing
- Reduces cost of ownership

SPECIFICATIONS

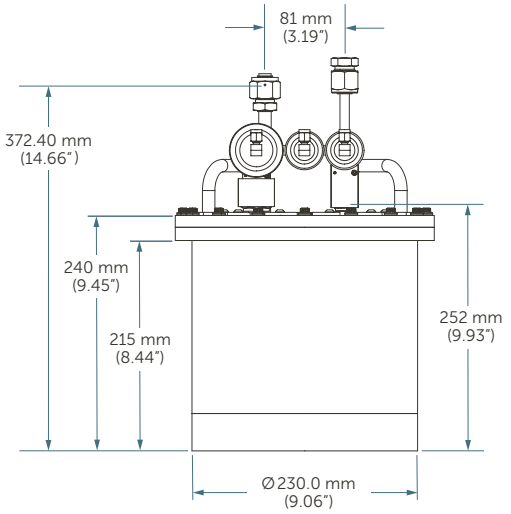
Performance Specifications

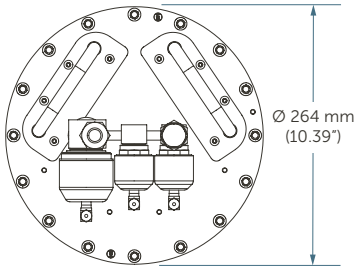
Maximum temperature	200°C (392°F)
Maximum pressure	Vessel rated for full vacuum to 14.7 psia

Facilities Specifications for Camp-017201 Configuration

Overall dimensions	400 mm H × Ø264 mm (15.77" × 10.39")	
Gas inlet	Location	1.6" off center axis
	Fitting type	½" female VCR®
	Height	372.40 mm (14.66")
Gas outlet	Location	1.6" off center axis
	Fitting type	½" male VCR
	Height	372.40 mm (14.66")
	Material	316 SS or HC22
	Surface finish	≤10 Ra
Recommended carrier gases	UHP He (Helium) UHP N_2 (Nitrogen)	UHP Ar (Argon)
	Head Gas	5 psi He

DIMENSIONS





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