



INTEGRITY LASER FACET COATING SOLUTION

TECHNICAL SPECIFICATION SHEET

The Integrity Laser Facet Coating system provides controlled reflectivity and surface passivation for laser diode bar coatings. This ion assisted evaporation solution deposits multilayer optical interference coatings for optical filtering and antireflection, and gives the user control over the stability, density and optical properties of deposited films. The Integrity is highly consistent and accurate, and well suited for demanding laser diode production requirements.

BENEFITS INCLUDE:

- Six-pocket e-beam source allows for multiple films
- Ion source available for adhesion & ion beam assisted deposition
- LambdaPro® OMS for real-time control
- High performance vacuum system minimizes Si oxide
- In situ flip fixture drives high productivity
- Process chamber optimized to meet film and productivity requirements

TYPICAL CONFIGURATION

- Flat plate with flip-over paddles for laser bar or dual side coating
- Optimized process chamber:
 - Cylindrical 304L stainless steel chamber, nominally 26" ID x 38" high
 - Water cooling features
 - Allows convenient access for crucible/material change & maintenance
 - Base pressure for properly conditioned chamber is 5×10^{-7} torr
- Electron beam source 6-10 kW:
 - Multiple crucibles
 - Metals and dielectrics melted
 - Beam sweeps for uniform evaporation
- LambdaPro® optical monitoring system fully integrated for precision control



Integrity Laser Facet Coating Solution



In Situ Flip Fixture Allows for Coating on Both Sides without Breaking Vacuum

TYPICAL APPLICATION

Multi-layer AR and HR coatings of InP and GaAs laser facets. Meets minimum optical reflectance values over a range of wavelengths.

- Typical multi-layer film stacks:
 - $\text{Al}_2\text{O}_3/\text{Si}$
 - $\text{TiO}_2/\text{SiO}_2$

OPTIONAL ION SOURCE

Use of an ion source prior to deposition is an effective pre-clean that enhances film adhesion. Ion assisted deposition (IAD) during e-beam evaporation improves film index of refraction and environmental stability by increasing deposition surface energy, therefore creating more dense and moisture-stable films.

OPTIONS AVAILABLE

		STANDARD	HIGH VOLUME
Size		26 inches	39 inches
Batch Size	4 x 4 paddles	8	16
	3.25 x 3.25 paddles	10	20
LambdaPro® Optical Monitoring System		Optional	Optional
Heated Substrates		Up to 250°C	Up to 250°C
Ion Source		End-Hall or gridded	End-Hall or gridded
Background O ₂ Control		Optional	Optional

E-BEAM SOURCE OPTIONS

High Capacity:

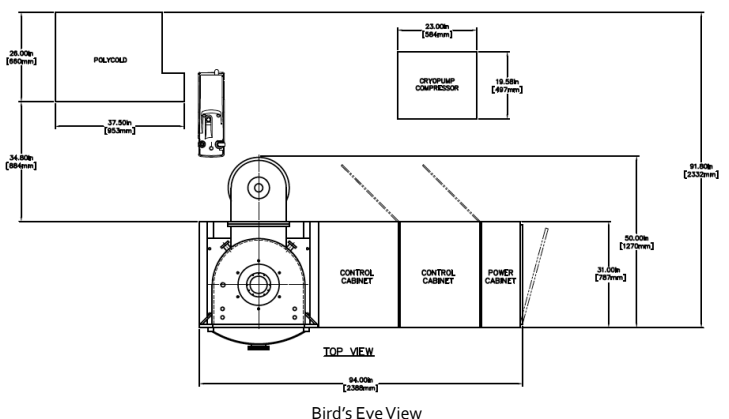
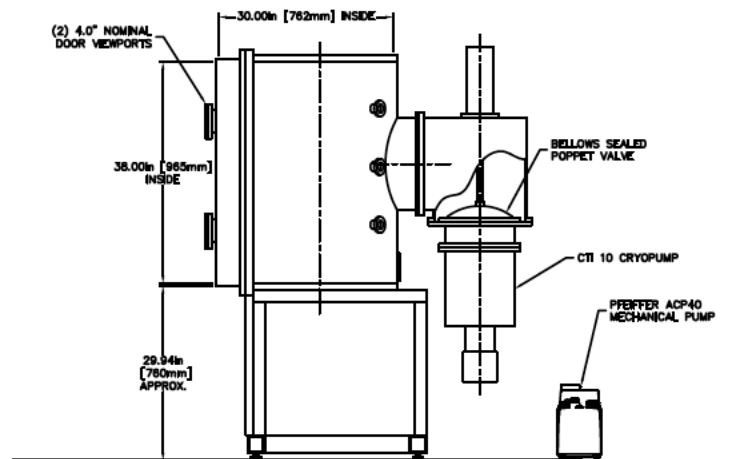
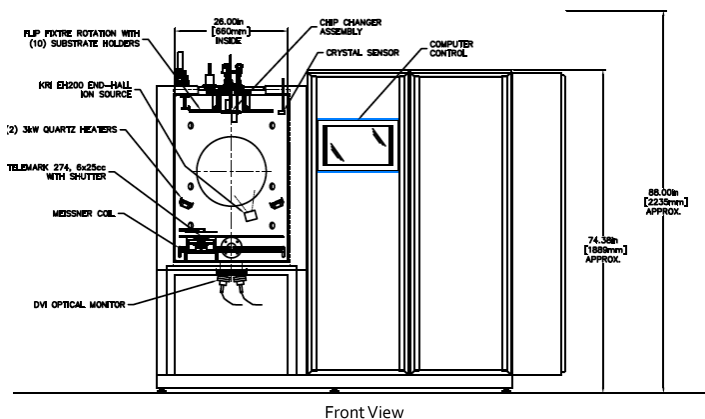
- Six pockets, 25 cc capacity each

Second E-beam Source:

- Add second e-beam source with second power supply & source shutter

Thermal Evaporation Source Option:

- 4 kW low voltage thermal evaporation source
 - One, two or three boats
 - Source shutter
 - Fully integrated to system controller



Learn more about the Integrity Laser Facet Coating Solution. [Contact us](#) today.