

THIN FILM DEPOSITION



## EOS Large Astronomical Mirror Coating System



*The EOS Large Astronomical Mirror System delivers the results you expect with the trusted support of a market leader.*

Dynavac is the trusted leader in manufacturing systems for applying highly reflective coatings onto large astronomical telescope optics. Our expertise in thin film deposition technology and large system construction makes us the partner of choice for ensuring this critical process is executed with flawless precision.

Using proven chamber designs and deposition methods, our telescope mirror deposition systems provide a highly precise process for coating substrates with aluminum, protected aluminum, or protected silver coatings.

Dynavac offers:

- Turnkey design, construction, and commissioning across the globe
- Sputtering and evaporation technologies
- Standard and custom engineered handling solutions for a variety of mirror geometries
- Coating uniformity of better than +/-5% over the surface of the mirror
- Conceptual design and process development services

**The flawless performance you expect**

*From the most respected name in precision optical coating systems: Dynavac*



### Applications & Performance

- Applications**
- Evaporated or sputtered aluminum
  - Sputtered aluminum with overcoat
  - Sputtered silver with overcoat
- Performance**
- Precision control of thickness and optical properties
  - Automated deposition process
  - Thickness uniformity to ~5% over large areas



### System Configuration

- Vacuum Chamber**
- Chambers to accommodate substrates from 2m to 8.4m
  - Stainless steel and mild steel construction available
  - Field construction services available
- Substrate Fixturing**
- Variety of substrate orientation options
  - Standard handle mount & waffle tree fixturing for large substrates
  - Single rotation fixture
  - Planetary mechanism available for multi-optic coating
- Pumping System**
- High vacuum - cryopumps, turbopumps
  - Rough- single or multistage wet or dry pump packages
  - Water vapor pumping systems
- Process Options**
- Filament evaporation
  - Magnetron sputtering
  - Electron beam evaporation
  - Ion assisted deposition
  - Plasma Processing
- System Control**
- Fully automated system and process control
  - Enhanced data logging/trending capabilities
  - PC/PLC control architecture
  - LabView or RS operator interface
  - Remote login capabilities
  - Integrated quartz crystal monitoring
  - Residual gas analyzer available
  - Plasma emission monitor available
- System Commissioning**
- Systems fully assembled and tested prior to shipment
  - Full service transport and commissioning services
  - Readily available post-installation system and software support

