EQUIPMENT SPECIFICATIONS

INO offers environmental testing services to clients for a wide variety of purposes including quality control, ground, air and ocean transport simulations, accelerated aging simulations, resonance frequency searches, specifications and standards compliance testing, and product qualification testing for standards like MIL-STD-810, IEC 60068, ISTA, GSFC-STD-7000.

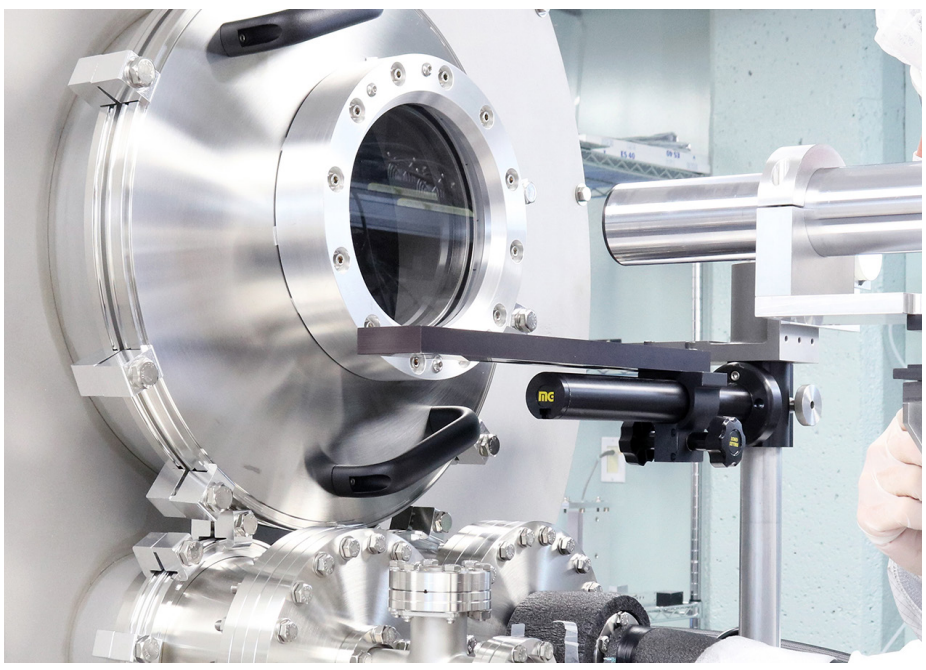
TYPES OF TESTING OFFERED

THERMAL AND HUMIDITY CYCLES

- Programmable test chambers: 0.034 m^3 to 0.425 m^3 (1.2 cu. ft. to 15 cu. ft.)
- Temperature range: -73 °C to 190 °C (-99.4 °F to 374 °F)
- Temperature change rate: up to 10 °C/minute (18°F/minute)
- Controlled humidity range: 20% to 95% for temperatures of 7 °C to 85 °C (45 °F to 185 °F)

VIBRATIONS TESTS AND SHOCKS

- Electrodynamic shaker: 9,800 N (2,200 lbf) from 1 to 3,000 Hz)
- Sine and random vibrations or shocks that can be combined with thermal cycles
- Shock machine: up to 1,500 g
- Data acquisition systems



THERMAL VACUUM TESTS

Small Thermal Vacuum Chamber (TVAC)

- Base pressure: 5×10^{-6} Torr
- Temperature: –30 °C to 70 °C (–22 °F to 158 °F)
- Dimensions: ≈ 8” × 8” × 8” (W x H x D)
- Up to 4 RTDs for temperature measurement
- Temperature and pressure recording
- Tested in an ISO 7 clean room

Large Thermal Vacuum Chamber (TVAC)

- Base pressure: 5×10^{-6} Torr
- Temperature: -40 °C to 85 °C (-40 °F to 185 °F)
- Dimensions: ≈ 28” × 24” × 27” (W x H x D)
- Temperature and pressure recording using 8 basic RTD probes
- Tested in an ISO 7 clean room
- Vacuum mechanisms available (information available upon request)
- Communication/power ports
- Optical port:
  - 7 inches fused silica window
  - 4 inches ZnSe window
  - Information on other window option available upon request.