Liquid Nitrogen Research Dewars

Sample in Vacuum: Detector Series

CRYO Industries of America
www.cryoindustries.com

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Sample in Vacuum Detector Series

UNIQUE THERMAL LINK DESIGN

VARIABLE TEMPERATURE LIQUID NITROGEN RESEARCH DEWARS

The Detector cryostats are equipped with an adjustable thermal link built into the liquid nitrogen reservoir. This link is a controlled variable thermal resistance between the liquid cryogen and the cold pedestal. Thermal isolation becomes single gas phase resulting in exceptional variable temperature operation.

A unique design featuring:

- Full range variable temperature, <77 to 325K
- Pumpable LN2 reservoir for operation at temperatures down to less than 65K
- Test IR Focal Plane Arrays, ICs (DIPs), Detectors... standard and custom devices support for (14 - 64-pin DIP, 68 - 124 pin LCCs)
- Up to 244 signal lines
- Variable Temperature Stability +/- 0.05K
- Cold finger (pedestal) sample in vacuum
- Small - 'hand held' - cryostat design
- Very stable temperatures
- Eliminates common problems: no flow control difficulties, no capillary or flow line to freeze/plug, no reservoir pressure regulation required, no exchange gas required
- Easy quick pour fill - refill of liquid nitrogen while holding set temperature

  auto fill option for virtual unlimited 'run' time
- Optional configurations with multiple sample pedestals (cold fingers) in one cryostat

  - each pedestal individually temperature controlled
- Brings variable temperature to production work - pour fill and press the temperature control button; - it's that easy.

  No experience required.

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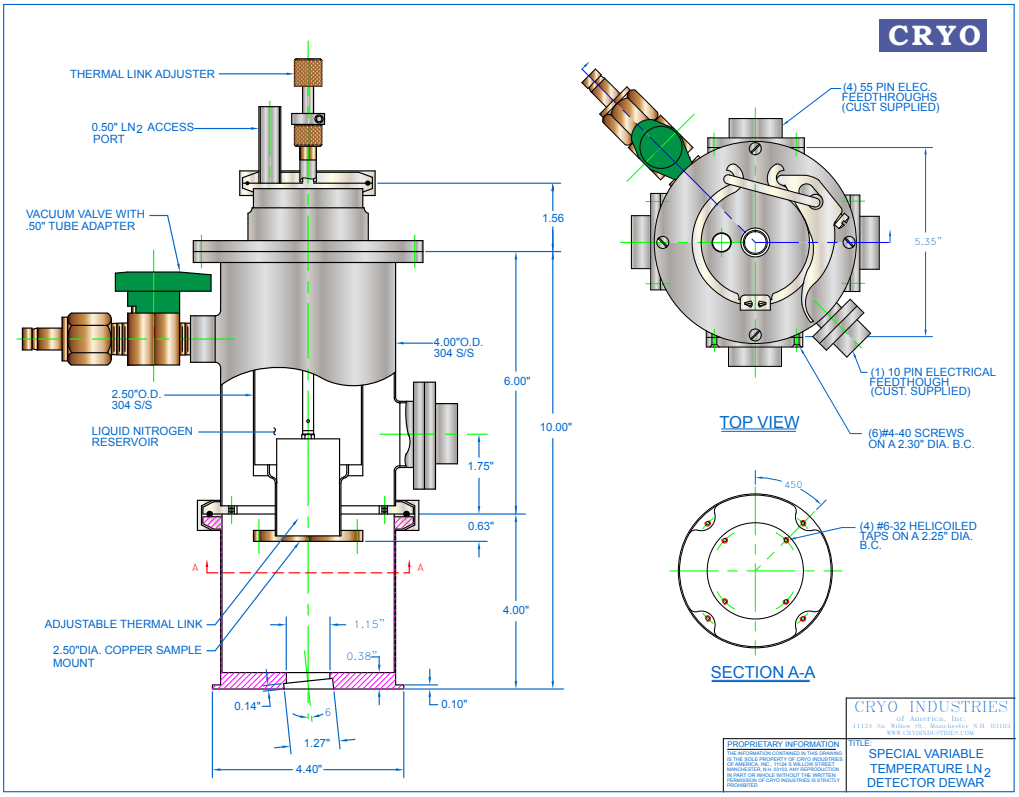
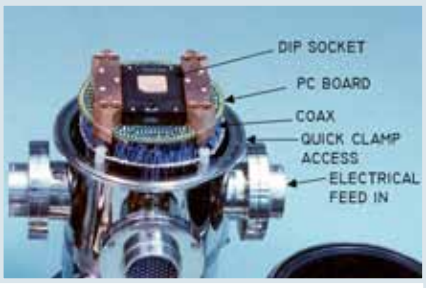
Liquid Nitrogen Test Dewar with Variable Temperature Insert: 'Bottom Looker' Design



System Features:

- Phosphor bronze quad ribbon wires or micro-coax signal lines for lowest signal cross-talk
- Easy to Use - thermal link variable temperature
- Platinum temperature sensor and heater for automatic variable temperature
- Refill while holding temperature setpoint
- Fast 20 minute cooldown
- Internal black-body surfaces
- Polished stainless steel construction
- Solid thermal anchoring for chip
- Socket pin counts available from 14 through 128
- Zero insertion/extraction force socket
- Low capacitance coaxial cabling with shield and wired to printed circuit board or low heat load Phosphor bronze
- Quick single clamp interior access
- (4) high density electrical feedthroughs (1) feedthrough for sensor(s) and heater
- ZnSe or Suprasil window



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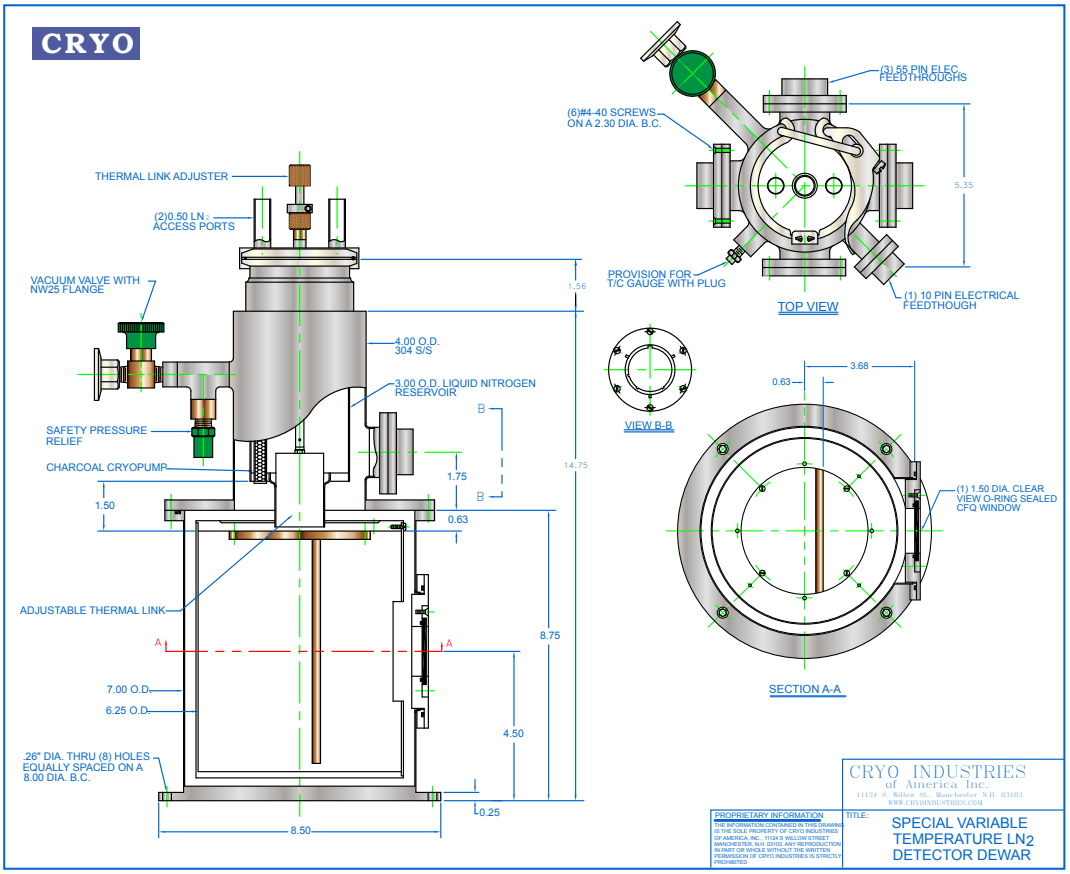
Variable Temperature Liquid Nitrogen Optical Detector Cryostat: Sample in Vacuum Theramal Link Style 'Side Looker Design'



System Features:

Model: MTD-S01
Drawing No.: DET-659-C2

- <70K to 325K operating temperature range
- Clear Fused Quartz "side looker" window
- All stainless steel construction
- 0.5 liters LN2 reservoir capacity
- Nitrogen fill/exhaust port
- Thermal link adjuster - Allows refill without disturbing setpoint
- Fast cooldown
- Heater installed on sample mount
- 10-pin hermetic electrical feedthrough
- (3) 55-pin hermetic electrical feedthroughs with mates
- (1) Blank feedthrough ports for future use
- (1) 10-pin electrical connector (for sensor and heater)
- Evacuation valve with safety pressure relief
- Internal charcoal cryopump
- Hi power 50 ohm (50 watt heater) installed on sample mount
- (1) Platinum temperature sensors installed on sample mount
- Complete system test
- One year warranty (parts and labor)

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Cryo Industries has over 25 years experience in designing and manufacturing Liquid Nitrogen Test Dewars. Innovative design has led to the development of an industry unmatched thermal link design for sample in vacuum LN2 dewars.

Cryo is able to custom design a system that will meet all of your experimental needs. Following are examples of custom Liquid Nitrogen Dewars designed and manufactured over the years. You supply us with your experimental specifications and we provide you with a system that is guaranteed to meet those needs!

Special LN2 SideLooking Detector Dewar with dual variable temperature laser mount assemblies

Custom Optical LN2 Detector/ Laser Dewar

Uni-Temperature LN2 Laser Dewar non-optical with cap on & no tail

ADD A MAGNETIC FIELD

Variable Temperature Optical Liquid Nitrogen MTD Dewar System with Horizontal Field Electromagnet

- **Hall effect, resistivity, materials, IC testing**
- **Thermal Link variable temperature**
- **Electromagnet with 4 inch (101mm) variable gap**
- **Horizontal (std.) or vertical field**
- **Compact size - convenient bench top mounting**
- **Exceptional magnetic field strength with superior field homogeneity**

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