

**CRYO**

# MTD-201 Test Dewar



**Side Looking Liquid Nitrogen  
(MTD-201S)**

**Bottom 'Looker' Liquid Nitrogen  
(MTD-201B)**

**Cryogen Free  
(MTD-201CF)**

**Magnetic Field Option  
(MTD-201SM)**

**LHe Transfer Line Option  
(MTD-201-TL)**

**LHe flow cryostat  
(MTD-RC102 & MTD-RC110)**

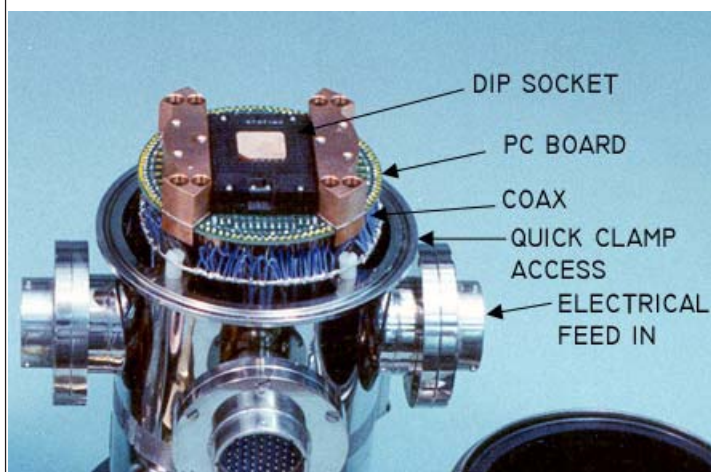
- Test IR Focal Plane Arrays, ICs (DIPs), Detectors... standard and custom devices support for (14 - 64-pin DIP, 68 - 124 pin LCCs)
- Up to 244 signal lines
- Variable Temperature Stability +/- 0.05K
- Unlimited 'Run' time at setpoint (certain models)
- Fast cooldown

## MTD-201 Test Dewar

### Liquid Nitrogen Modular Test Dewar (MTD) with Variable Temperature Insert



- Side (MTD-201S) or bottom 'looker' (MTD-201B)
- 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

#### UNIQUE THERMAL LINK DESIGN

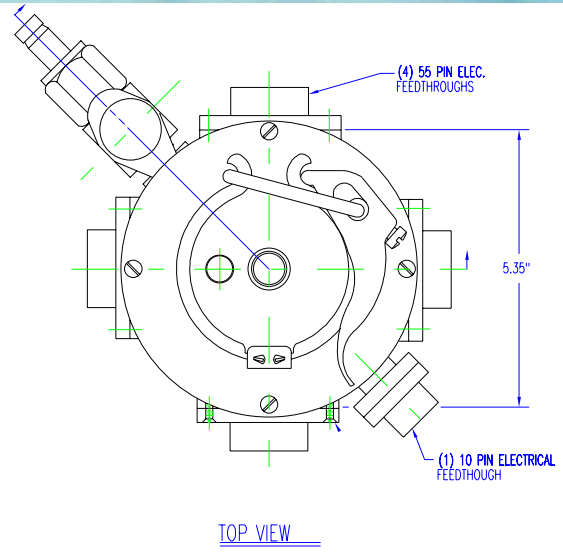
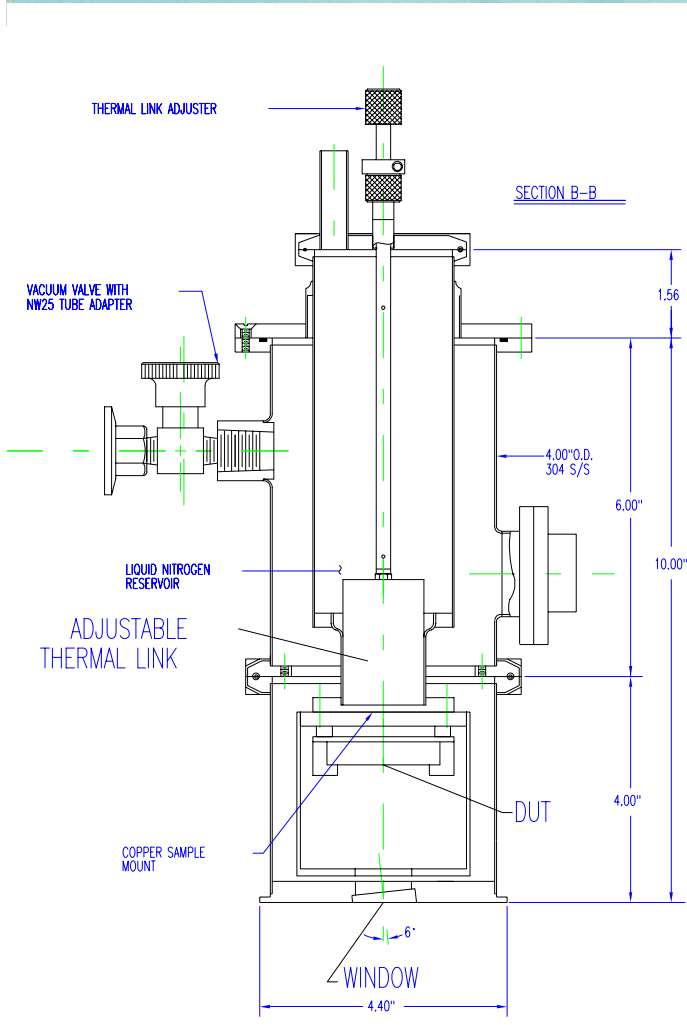
#### VARIABLE TEMPERATURE LIQUID NITROGEN RESEARCH DEWARS

The MTD 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:

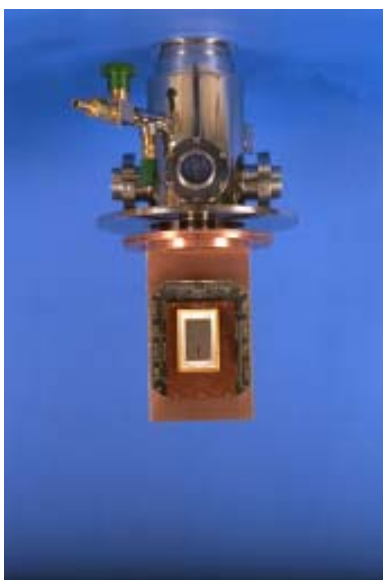
- Full range variable temperature, <math><77</math> to 325K
- Pumpable LN2 reservoir for operation at temperatures down to less than 65K  
or use our optional transfer line with liquid helium and control temperature down to 25K
- Cold finger (pedestal) sample in vacuum
- Small - 'hand held' - cryostat 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.

# MTD-201B



'DUT' = DEVICE UNDER TEST

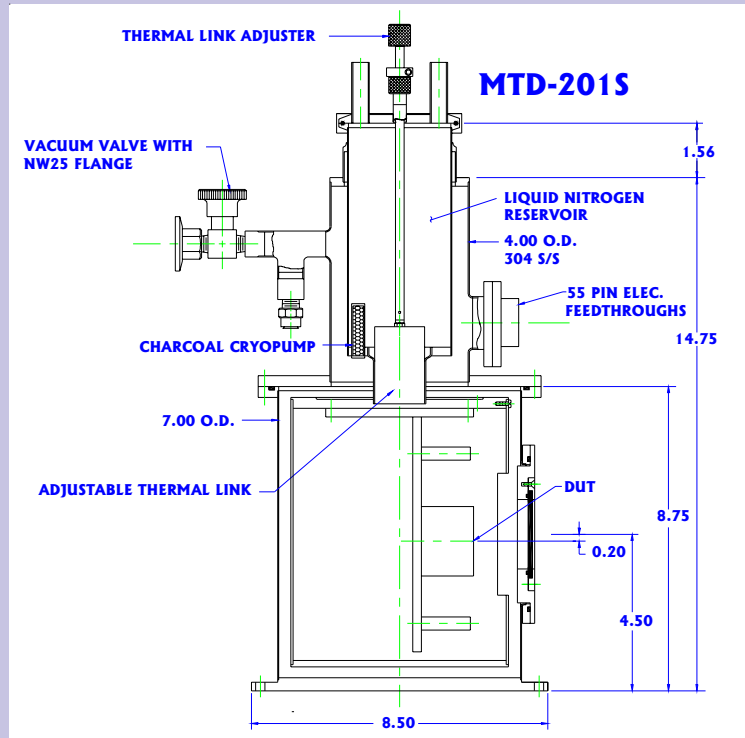
CRYO Industries of America		DWG. NO.	DET-316-CR1
TITLE:	VARIABLE TEMPERATURE LIQUID NITROGEN TEST CHAMBER (MDI-201B)	REV.	DATE BY
DWN. BY:	RJR	1	01/01 OC
CHKD. BY:	GJS		
	SCALE: 875=1		
	DATE: SEPT. 18, 1989		



## Model MTD-201S

### Variable Temperature Liquid Nitrogen Test Cryostat:

- Horizontal (side looker) ZnSe or suprasil window
- Thermal impedance insert
- Platinum temperature sensor and heater installed for automatic variable temperature
- 55-pin high density electrical feedthroughs
- Evacuation valve with NS25 (ISO-KF 25)
- Charcoal cryopump
- Simple cam rotation chip removal
- One year warranty (parts and labor)



### 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

**MTD - 201CF  
CRYOGEN  
FREE**

Standard or low  
vibration models!



CRYO Industries closed cycle cryogenic WORKSTATIONS provide cooling without using liquid cryogenes. Samples (chips) are mounted in vacuum into a chip holder (carrier).

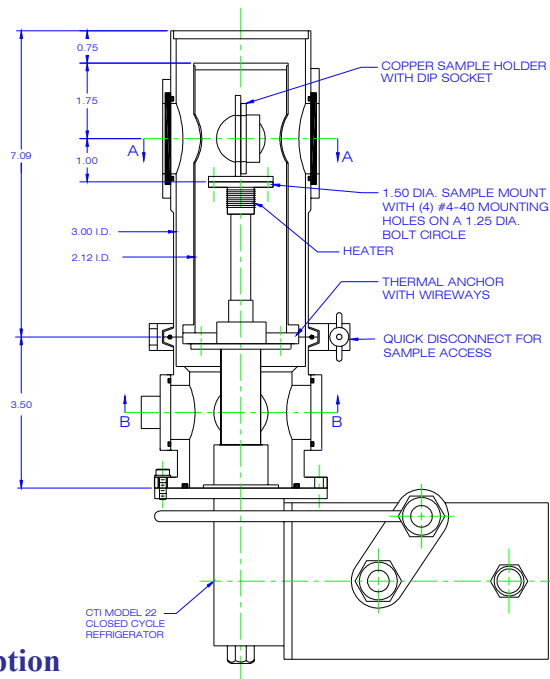
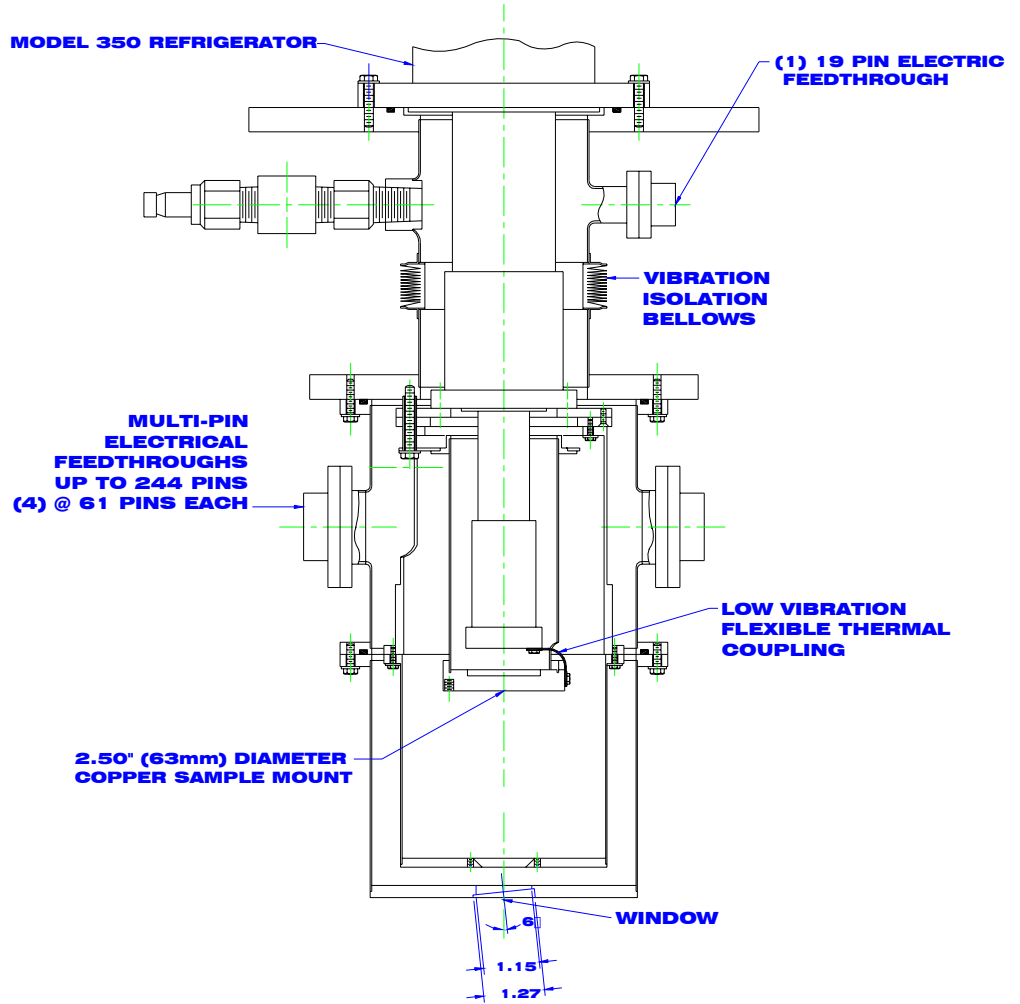
Designed for 'cold finger' sample mounting.

Easy sample access through quick connect vacuum shroud.

Large variety of standard optical shrouds and 'T' style mounts are available.

Typical temperature operating range is from 10 to 325 K.

Low vibration version for IR arrays or other vibration sensitive experiments is available.



**Adding the 600K Option  
will extend the temperature  
operating range to 600K!**

CRYO Industries of America, Inc. 11124 S. Willow Street Manchester, NH 03103		REF: 1844M2-MTD
TITLE	CLOSED CYCLE MTD-201CF OPTICAL REFRIGERATOR SYSTEM	REV. DATE BY
DWN. BY: GJS	SCALE: NTS	1 05.02 OC
CHRD. BY: OC	DATE: SEP 02, 1995	

# RC102 FLOW CRYOSTATS

The RC102 and RC110 are flow cryostats, which operate with liquid helium or nitrogen.

A vacuum insulated transfer line connects between the cryogen storage dewar and the sample mount.



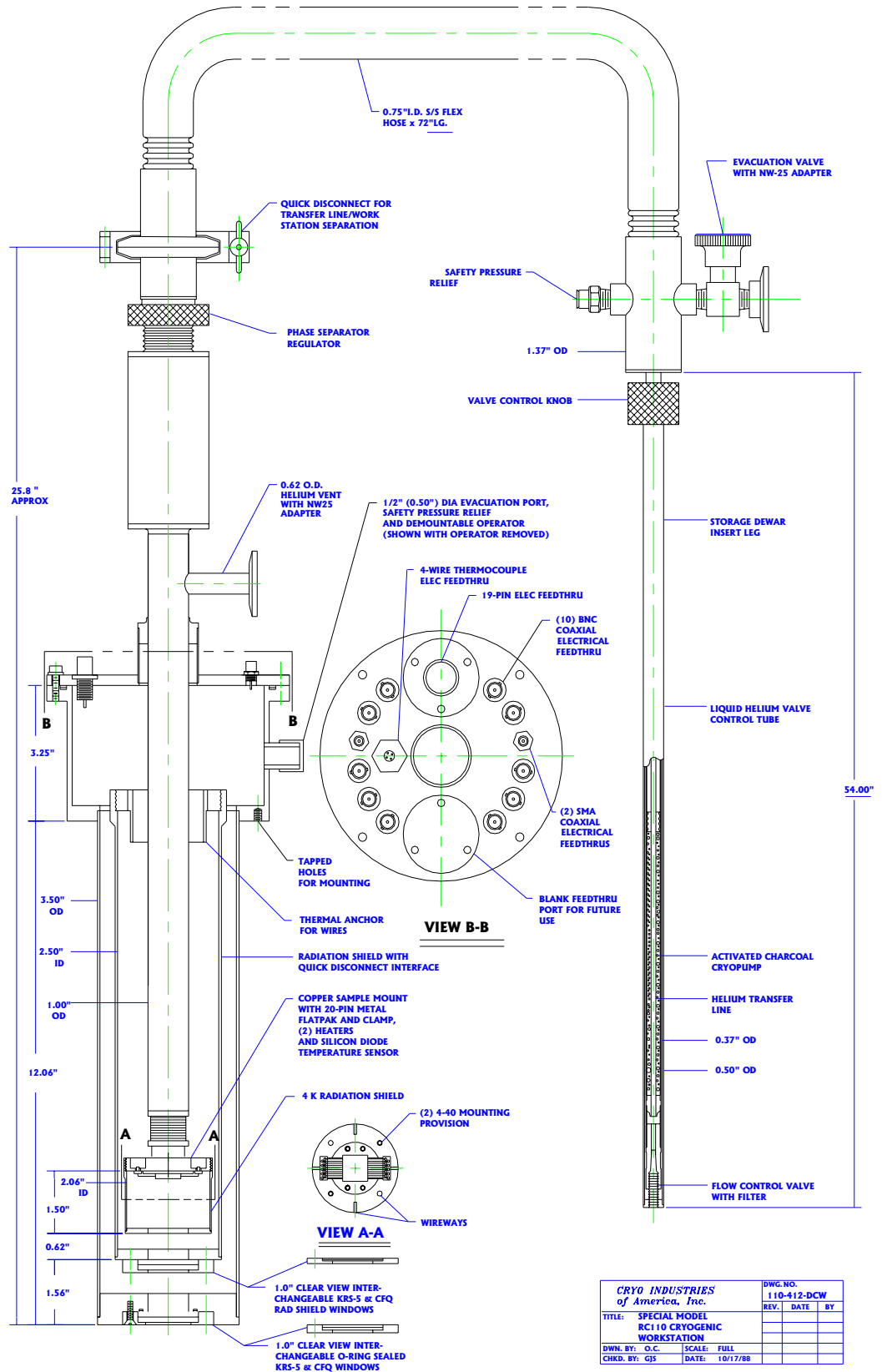
Operating temperature range is less than 2K to 325K.

Sample (chips) are mounted in vacuum into a chip holder (carrier).

A quick connect allows for easy sample access

Easy to use - turn on the flow control valve and the sample mount cools down in about 10 minutes.

Typical LHe consumption at 1.0 liter/hour at 5K, lower at higher temperatures, Low vibration cryogen flow system.



CRYO INDUSTRIES of America, Inc.		DWG. NO. 110-412-DCW	
TITLE: SPECIAL MODEL RC110 CRYOGENIC WORKSTATION		REV.	DATE BY
DWN. BY: O.C.	SCALE: FULL		
CHKD. BY: GJS	DATE: 10/17/88		