

# Liquid Helium (Wet) Superconducting Magnet Systems

Model SM6:  
Split-Coil SM6 Dewar  
w/Magnet Re-Entrant  
Bore Tubes



Cryo offers Superconducting Magnet Systems that integrate innovative design with magnetic fields that range from 2 Tesla up to 19 Tesla (depending on design), you select the magnetic field. Magnet configurations available include Vertical Field Solenoid or Horizontal Field Split Coil magnets.

Systems are available in both Stainless Steel and Aluminum/Fiberglass construction.

All complete Superconducting Magnet Systems include:

- Superconducting magnet: you select the field
- Removable room temperature bore or variable temperature insert (VTI)
- Programmable reversing bipolar magnet power supply
- Integral energy absorber
- Temperature controller
- Temperature sensor(s)

Cryo Industries's 'performance by design' Superconducting Magnet Systems offers many field tested and proven designs throughout the scientific community. Cryo is able to offer continued technical support for the life of the system.



## Liquid Helium Reservoir Dewar with Variable Temperature Insert (VTI) and Superconducting Magnet Insert Assembly



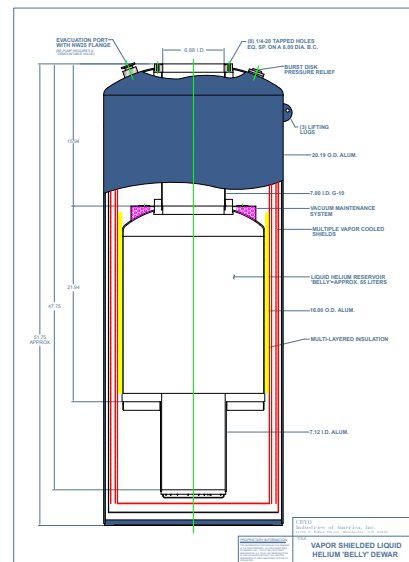
CRYO's liquid helium reservoir dewar with a magnet support assembly and variable temperature insert is a popular, economical choice for a Liquid Helium based Superconducting Magnet System.

CIA's LHe research dewars are characterized by a large direct opening to liquid helium. Superconducting magnets and other large inserts are introduced into liquid helium from the top.

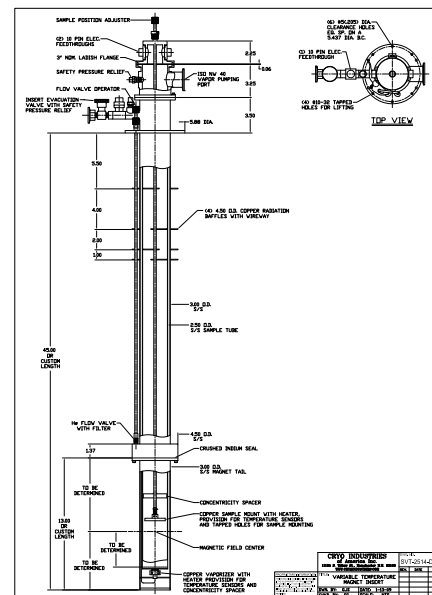
**Aluminum Fiberglass Liquid Helium Dewar:** Vapor shielded aluminum fiberglass is the most popular style for bucket dewars. Liquid nitrogen shielding is available as optional feature for improved dewar efficiency.

**Variable Temperature Insert:** The Variable Temperature Insert (VTI) fits into the bore of superconducting magnet and provides variable temperatures from <0.3 K to 325 K (depending upon insert selected). Inserts are supported and sealed by the dewar's top flange.

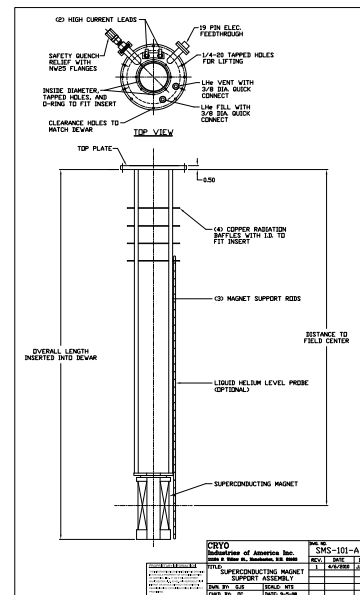
**Superconducting Magnet Support Assembly:** Includes the superconducting magnet, high current superconducting magnet leads and full integration and wiring of the superconducting magnet. The assembly bolts to the dewar top flange.



Aluminum Fiberglass LHe Dewar



Variable Temperature Insert (1.4 K - 325 K)

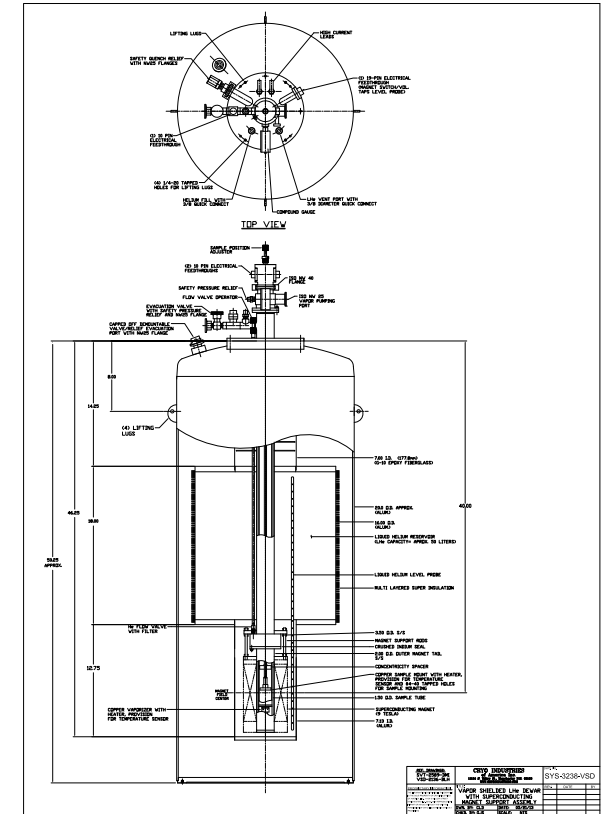


Superconducting Magnet Support

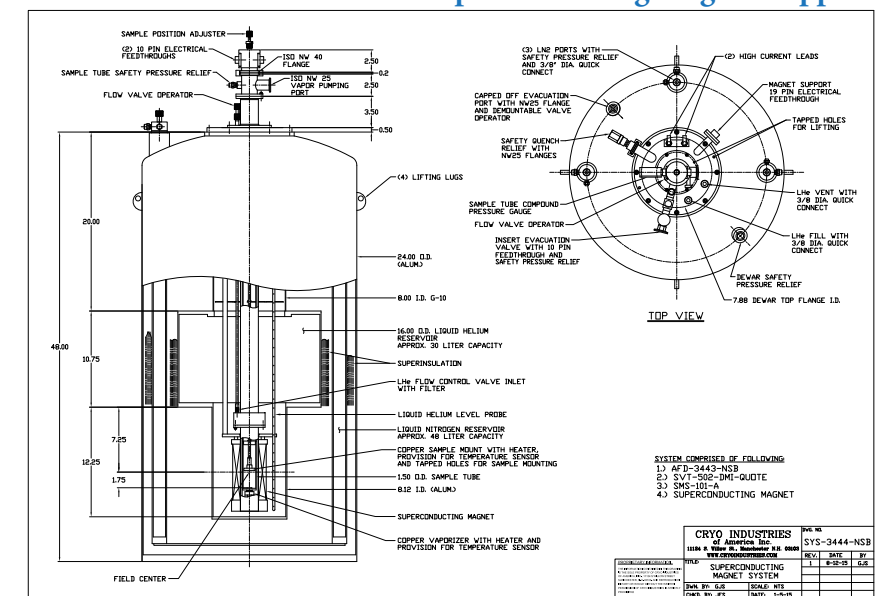
## Aluminum/G-10 Dewar with Superconducting Magnet Support Assembly and VTI

- Aluminum/Fiberglass reservoir (open neck) Liquid Helium Dewar
- Efficient- low cryogen consumption (liquid nitrogen or vapor shield designs available)
- Removable, separate superconducting magnet insert
- Removable, exchangeable variable temperature insert(s). 0.3 K - 325 K sample operating temperature range (depending upon VTI selected)
- Customizable- you select the variable temperature insert and magnetic field!

## Vapor Shielded LHe Dewar w/VTI and Superconducting Magnet Support



## LN<sub>2</sub> Shielded LHe Dewar w/VTI and Superconducting Magnet Support





# DStat: Storage Dewar Insert

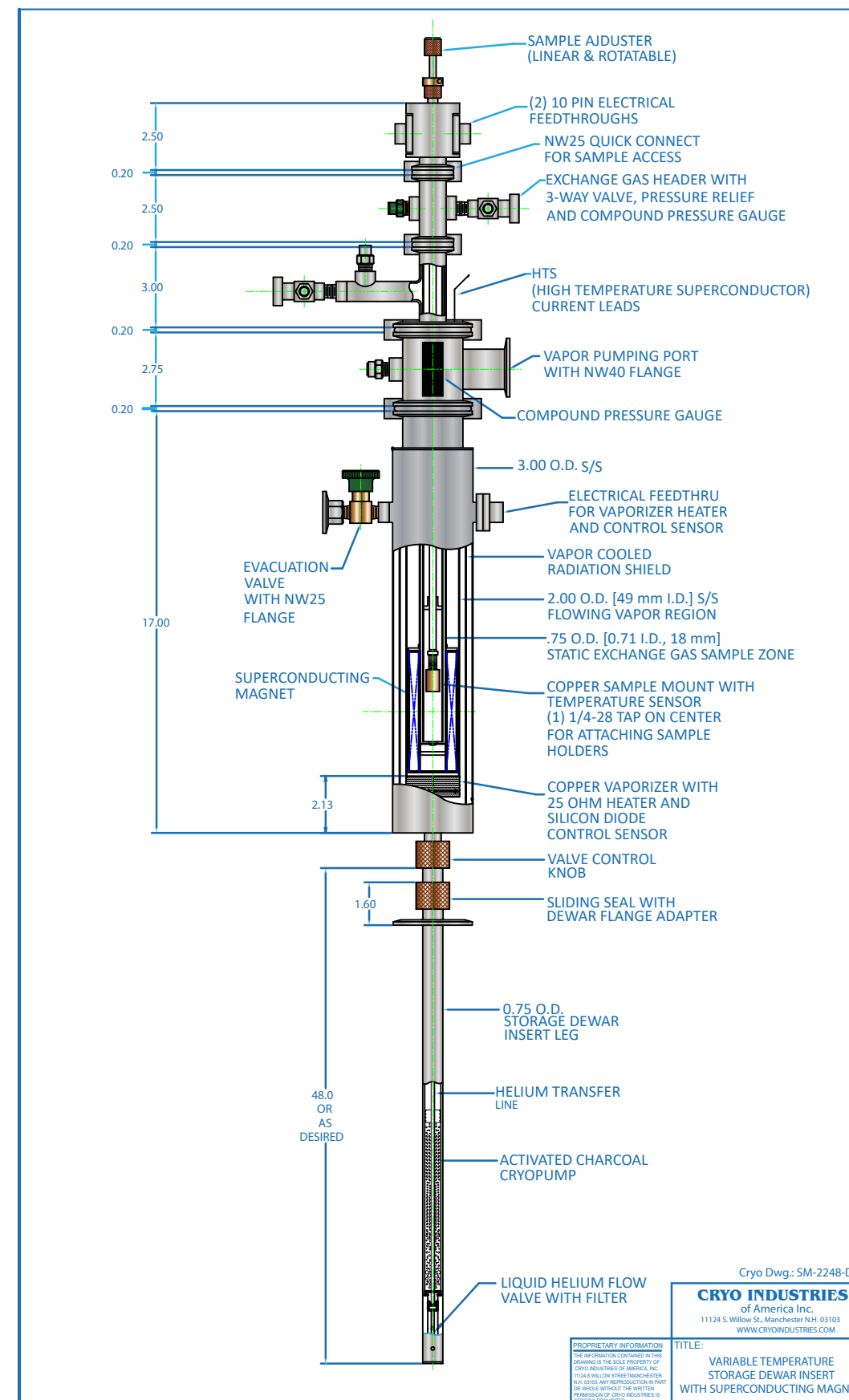
The 'Dstat' is a versatile storage dewar insert (leg is in the dewar and cryostat with the superconducting magnet sits outside on top of the storage dewar).

The sample top loads into the variable temperature static exchange gas sample tube. The superconducting magnet is in a separate (dynamic flow) tube, allowing variable temperature operation when the magnet is energized.

- 2 or 5 Tesla magnetic field available
- Operating temperature range:  
<2 K to 325 K
- Low LHe loss rate
- Fits any storage dewar
- Easy Top-Loading sample change
- Sample probe is customizable to meet your specifications
- Sample in static exchange gas - excellent temperature stability



2T DStat Superconducting Magnet Insert installed in standard LHe Storage Dewar



# MicroMag:

## Compact Tabletop Room Temperature Bore



MicroMag: 2T or 5T Compact RTB

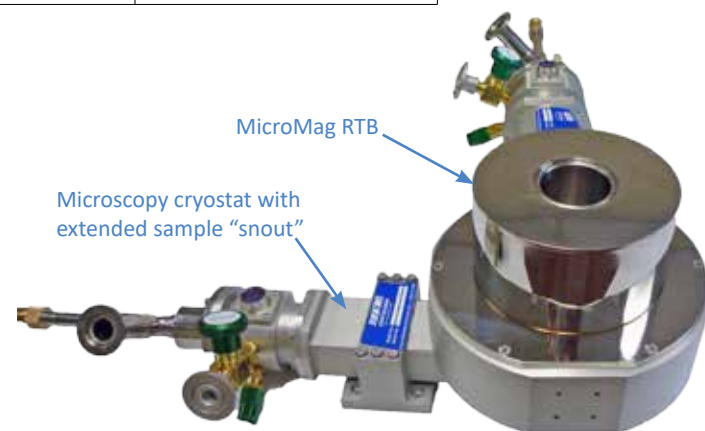
**MicroMag** provides a 2 or 5 Tesla magnetic field in a Room Temperature Bore (RTB). A compact table top design that mates to the microscopy cryostat and offers easy of operation and ultra low vibration.

The **MicroMag** can be separated from the microscopy cryostat providing independent operation and a high magnetic field in a 1.875" [47.6 mm] room temperature bore. For use with many other different experiments. An EZ install 'sample extender kit' is available to position the sample in the center of the magnetic field.

The magnetic bore can be orientated horizontally or vertically.

A versatile design allows magnet and microscopy cryostat to be used together or independently. The magnetic field can be added to the microscopy cryostat now or later.

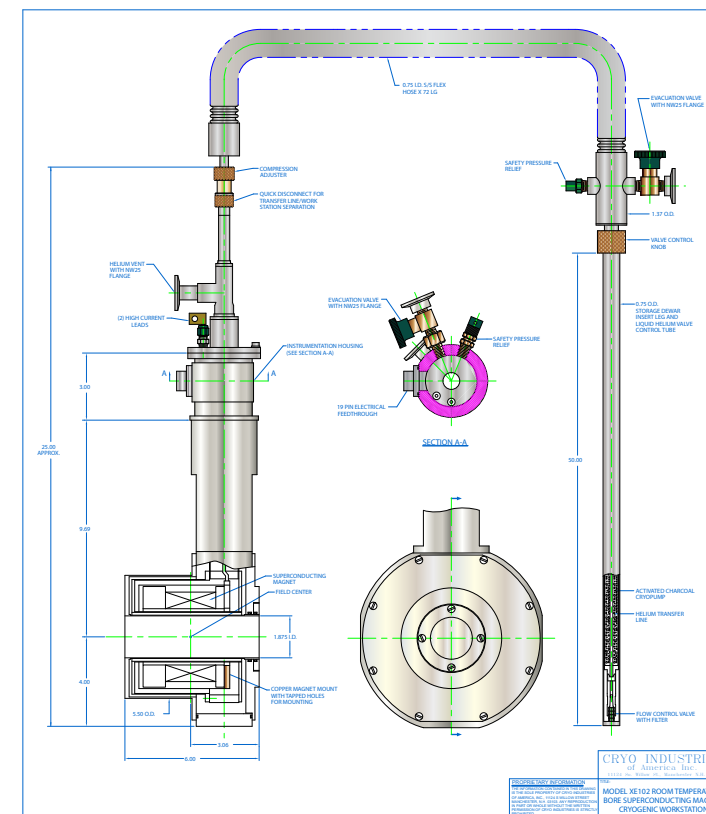
Helium Consumption	1.0 l/hr vertical 1.3 l/h horizontal 1.0 l/h horizontal with gas flow pump
Weight	10 kg



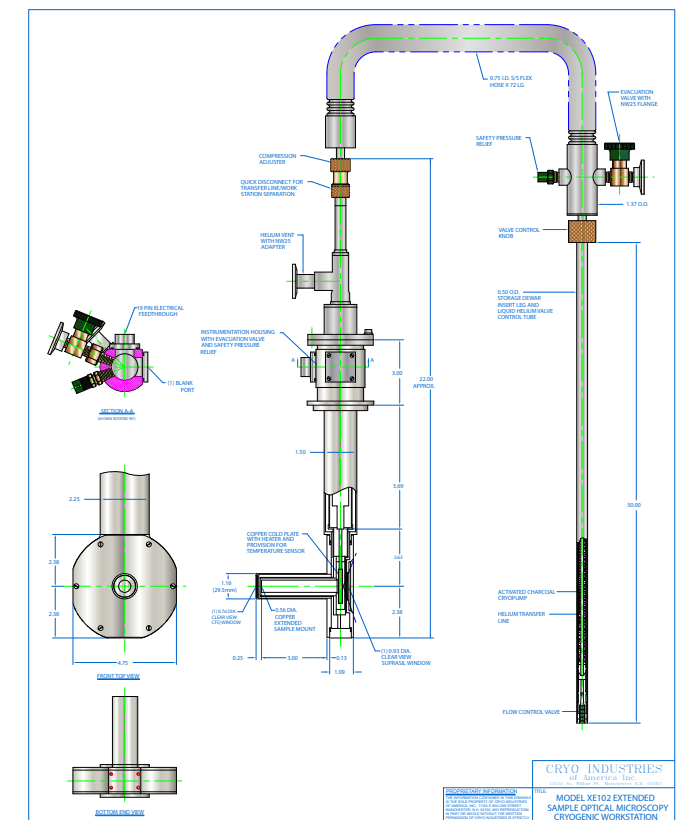
MicroMag coupled w/microscopy cryostat with sample extender

## Compact Tabletop Room Temperature Bore (2T or 5T)

- Large magnetic field-select 5 Tesla or 2 Tesla
- Tabletop RTB mates to Microscopy Cryostat
- Demounts from the sample microscopy cryostat and is capable of independent operation for other experimental applications
- Magnetic Bore can be operated horizontally or vertically
- Ultra-low vibration design
- Large RTB (1.87")
- Magnet cryostat does not need to be physically coupled to sample cryostat
- The magnetic field and magnet bore can be orientated horizontally or vertically, relative to the floor
- Full microscopy sample cryostat operating temperature range: 3.2 K to 325 K



2 or 5T Superconducting Magnet System with Room Temp Bore



Microscopy Cryostat with Extended Sample Mount

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