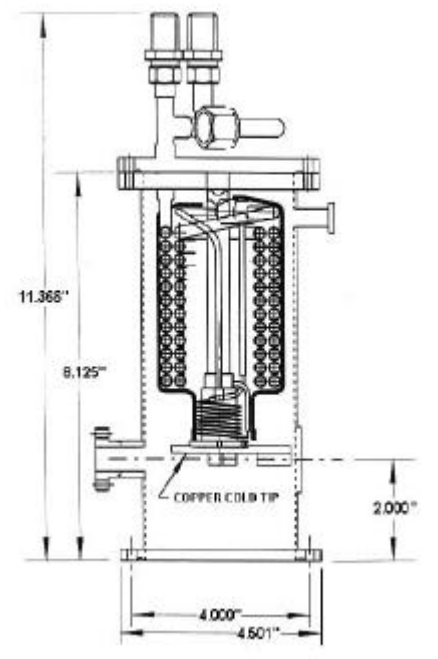


# L5740 Cryocooler



The L5740 Cryocooler is the latest generation cryostat for the operation of SPEC-DILAS<sup>®</sup> series (Tunable Diode Lasers). This cryostat combines the best features of the L5731 Closed Cycle Refrigerator and the L5736 Laser Source Dewar

## FEATURES

- ✓ *Long Term, Continuous Operation*
- ✓ *No Moving Mechanical Parts in Cryostat*
- ✓ *Expanded Wavelength Coverage*
- ✓ *Nominal 70 Kelvin Bottom Temperature*

## **MODEL DESCRIPTION**

The L5740 Cryocooler consists of a closed cycle cryostat, compressor and two gas transfer lines. The cryostat provides the cryogenic cooling required for the operation of the SPEC-DILAS<sup>®</sup> series (Tunable Diode Lasers). The L5740 is compatible with the L5830 TDL Controller or the previous L5820 Laser Control Module and the L5720 Cryogenic Temperature Stabilizer. The L5740 provides for precise temperature controlled operation between approximately 72K and 110K. A total of four tunable Diode Lasers may be mounted in the dewar, with two lasers positioned behind each of two side-looking windows.

The Cryostat is a throttle cycle cooler that has no moving mechanical parts. A compact air cooled compressor delivers a proprietary gas coolant to the cryostat. Heat exchangers allow for cooling of the cold finger down to 70 K. This lower bottom temperature will expand the wavelength coverage of the model SPEC-DILAS<sup>®</sup> series lasers by an additional 50cm<sup>1</sup>. Wavelength coverage is now possible between 3.3 microns and 17 microns. The L5740 will mate with all current *Laser Components Instrument Group* modules that accept either the L5736 dewar or the L5731 coldhead.

## **MODEL DESIGNATION**

### **L5740**

|         |                 |                      |           |
|---------|-----------------|----------------------|-----------|
| L5740-X | Specify window: | 1 = BaF <sub>2</sub> | 2 = KSR-5 |
|---------|-----------------|----------------------|-----------|

## **PRELIMINARY SPECIFICATION**

|                             |  |                   |   |
|-----------------------------|--|-------------------|---|
| Laser Operating Temperature | 72K – 110K                             | Refrigerant       | PT-13 (proprietary)                                     |
| Temperature Stability       | ± 0.0005K (30min)                      | Wavelength Range  | 3.3 μm – 17 μm  |
| Cryostat Weight             | 9.0 lbs (4.1 kg)                       | Compressor Weight | 48.0 lbs (21.7 kg)                                      |
| Dimensions                  | 12.0H x 4.50D in<br>(30.5H x 11.4D cm) | Dimensions        | 17.5W x 14.0H x 12.25D in<br>(44.5W x 35.6H x 31.1D cm) |
|                             |  | Electrical        | 520 Watts @ 115 VAC<br>560 Watts @ 230 VAC              |

Specifications subject to change without notice

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