FEATURES

- iProbe Temperature Sensors
- Temperature Accuracy of ±0.010°C (0°C-50°C), ±0.0005 (T-25) elsewhere
- Emissivity (Average) > 0.970 (3-5.5μm), >0.950 (8-14μm)
- 98% of Set ∆T or 0.01°C. Whichever is Greater Over 90% of Emitting Surface Area
- 0.001°C Temperature Stability

OVERVIEW

The SBIR Infinity EXLT Series Extended Area Absolute Low-Temperature Blackbody Source is designed for applications where temperatures below the 0°C limit of standard blackbodies must be generated. This blackbody system can achieve temperatures as low as -40°C in an uncontrolled lab environment. For applications such as low-background flood mode testing of detectors, the Model EXLT can eliminate the need for expensive and cumbersome temperature chambers or other special provisions to achieve these cold backgrounds.

A recirculating refrigerated bath cools the blackbody to approximately the desired temperature. A sophisticated electronic control system and an array of thermoelectric coolers control the blackbody surface precisely to the desired setpoint. The EXLT Series includes all of the components needed for operation: blackbody, refrigerated bath, temperature controller, cables, and hoses. Operation of the system is straightforward, and maintenance is minimal.

The EXLT Series is a low cost, easy-to-use solution for applications requiring a low temperature extended blackbody source.

AVAILABLE SIZES & TEMPERATURES

<table>
<thead>
<tr>
<th>Model</th>
<th>Emitting Surface Size</th>
<th>Temp. Range C -40°C to 100°C Abs. T</th>
<th>Temp. Range D -40°C to 175°C Abs. T</th>
</tr>
</thead>
<tbody>
<tr>
<td>EXLT-04</td>
<td>4” x 4”</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>EXLT-08</td>
<td>8” x 8”</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>
SYSTEM SPECIFICATIONS

Emissivity (Average) ........................................ 0.970 (3μm to 5.5μm), >0.950 (8μm to 14μm)
Uniformity ......................................................... 98% of set ΔT or 0.01°C, whichever is greater over 90% of emitting surface area
Absolute Accuracy ........................................... ±0.010°C for (0°C < T < 50°C) or ±0.0005 (T-25) elsewhere
Stability ............................................................... σT ≤0.001°C (0°C to 50°C), σT ≤0.002°C (-40°C to 0°C, 50°C to 100°C), σT ≤0.003°C (110°C to 175°C)
Display Resolution ............................................ 0.001°C or 0.0001°C
Setpoint Resolution ........................................... 0.001°C
Selectable Ready Indicator ................................. ± 0.001°C to ± 5.000°C
Approximate Heating Rate 1 ............................... +0.4°C/sec. at 25°C
Approximate Cooling Rate 1 ............................... -0.2°C/sec. at 25°C
Settling Time ..................................................... 45-120 seconds

GENERAL SPECIFICATIONS

Operating Temperature ...................................... 0°C to 50°C (Controller), -40°C to 50°C (Head)
Storage Temperature .......................................... -20°C to 70°C
Relative Humidity ............................................. 5% to 95%, non-condensing
Maximum Blackbody Power Consumption ............ 850W-1600W depending on size and temperature range
Chiller Power Consumption .................................. 1800-2000W
Approximate Blackbody Weight ......................... EXLT-04 - 25.0 lbs., EXLT-08 - 65 lbs.
Approximate Controller Weight ......................... 15.0 lbs.
Chiller Weight ................................................... 80.0 lbs.

DIMENSIONS

<table>
<thead>
<tr>
<th>Model</th>
<th>Aperture</th>
<th>Width</th>
<th>Optical Center Line</th>
<th>Height</th>
<th>Depth</th>
</tr>
</thead>
<tbody>
<tr>
<td>EXLT-04</td>
<td>4.04</td>
<td>7.00</td>
<td>4.50</td>
<td>10.56</td>
<td>7.00</td>
</tr>
<tr>
<td>EXLT-08</td>
<td>8.04</td>
<td>11.00</td>
<td>6.50</td>
<td>14.56</td>
<td>7.00</td>
</tr>
</tbody>
</table>

ORDER INFORMATION

Please contact the SBIR sales team at (805) 965-3669 to ensure proper part number and and to receive a quotation.

Notes: 1. Slew rates vary depending on blackbody size and environmental conditions

* Specifications are subject to change without prior notice

Solutions for Every EO Test Requirement

30 S. Calle Cesar Chavez, Suite D • Santa Barbara, Ca. 93103
ph (805) 965-3669 • fax (805) 963-3858 • http://www.sbir.com