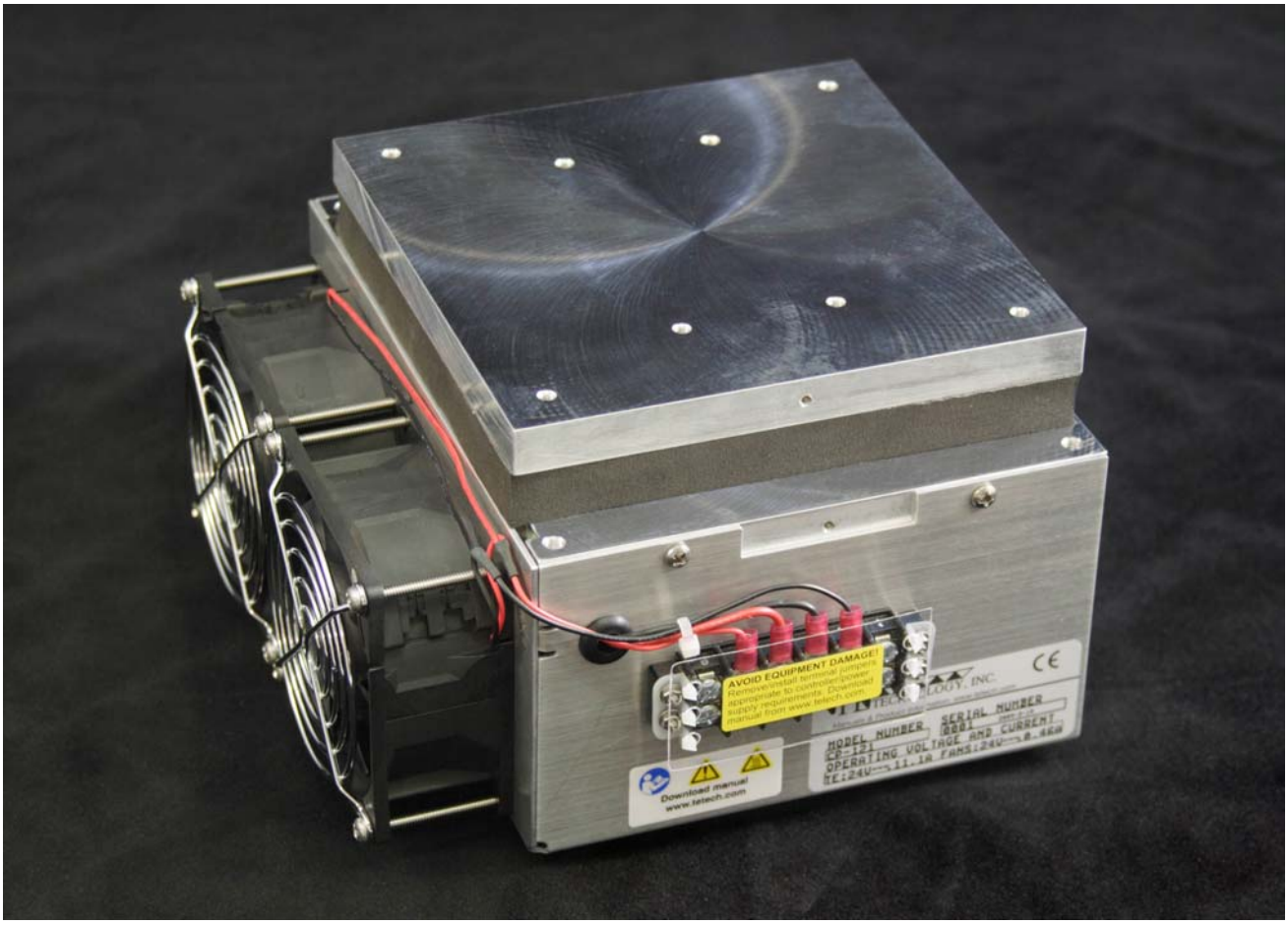
# CP-121 Peltier-Thermoelectric Cold Plate Cooler




- **Heat-sink air flows along the length of fins (in one end, out the opposite end).**
- **Low fan noise (two fans, 39 dBA each) is beneficial in laboratory instrumentation.**
- **No additional modifications needed for bench-top use.**
- **Ideal for medium to large heat loads, such as laser diodes, medical and laboratory instruments, and thermal stabilization of electronic components.**
- **Provides effective direct-contact cooling which is ideal for precision temperature control.**
- **Threaded holes are located in cold plate for easy attachment of a temperature sensor, interface plate, LC-SSX1 liquid exchanger, or other object.**
- **High-temperature versions and other customizations are available for OEM users upon request.**
- **CE marked, RoHS compliant**

TE TECHNOLOGY, INC.

1590 Keane Drive
Traverse City, MI 49696-8257
www.tetech.com

TEL: 231-929-3966
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# CP-121 Specifications

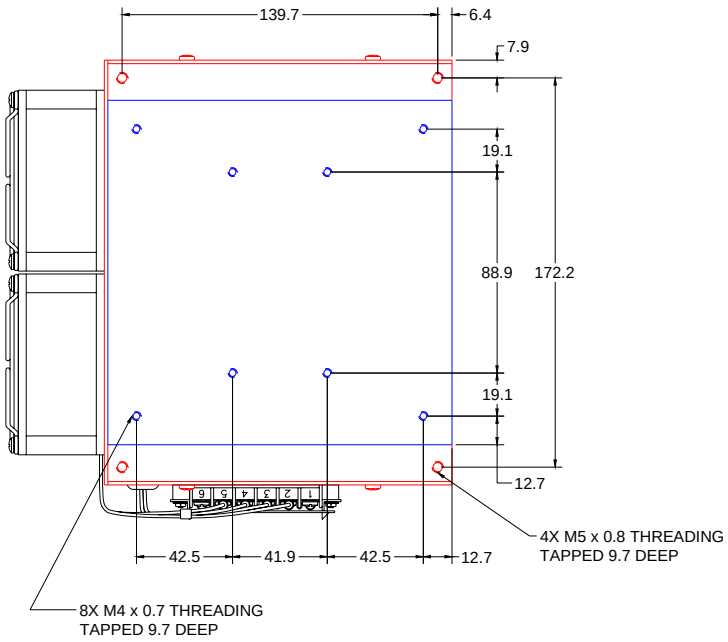
| | | | |
|---|---|---|---|
| TE Power (typical)[1]: | 24 VDC at 9.2 A | NEMA Rating: | NA |
| TE Power (maximum)[2]: | 24 VDC at 11.1 A | | |
| Hot-side Fan Power (total): | 24 VDC at 0.46 A | Weight (kg): | 4.2 |

Please review the product manual: *Thermoelectric Cooling Assembly (TCA) Instruction Manual*, FAQ's and related technical information, and ordering information posted on our web site before purchasing or using this product.

Performance is based on unrestricted air flow to fan and from air-flow outlet. Do not operate if the ambient, heat sink, or cold plate temperatures exceed 70 °C. Do not operate fan at air temperatures below -10 °C.

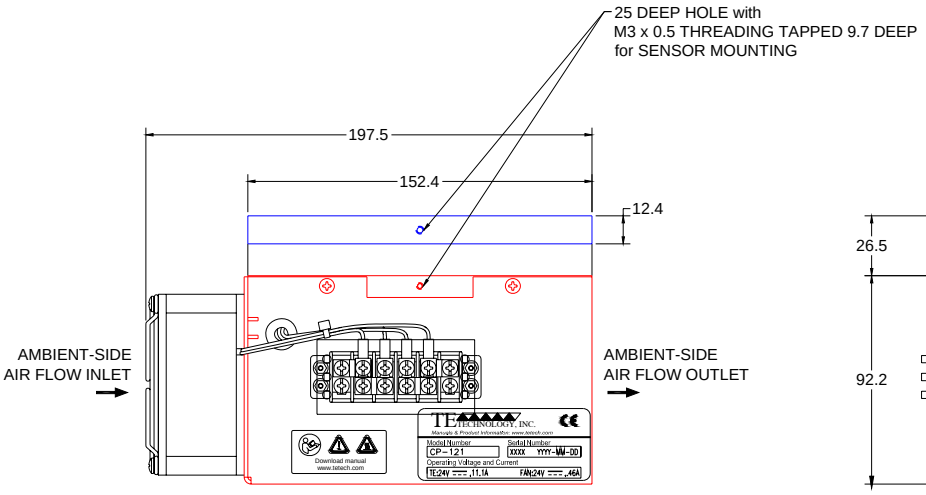
[1]Current is rated at +25 °C ambient, +25 °C cold plate, maximum heat removal. At -23 °C cold plate, the typical current is 8.9 A.

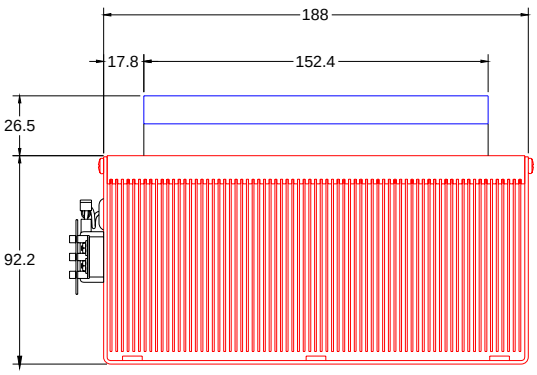
[2]Current, at steady-state operation under-worst case conditions, is rated at -10 °C ambient, +70 °C cold plate, maximum heat removal.




NOTES:

1. All dimensions in millimeters.
2. Cold side shown in blue; hot side shown in red.
3. A 3D PDF is also available from the website. Contact TE Technology for 3D solid models in STEP or SAT format.




RoHS Compliant
Directive 2002/95/EC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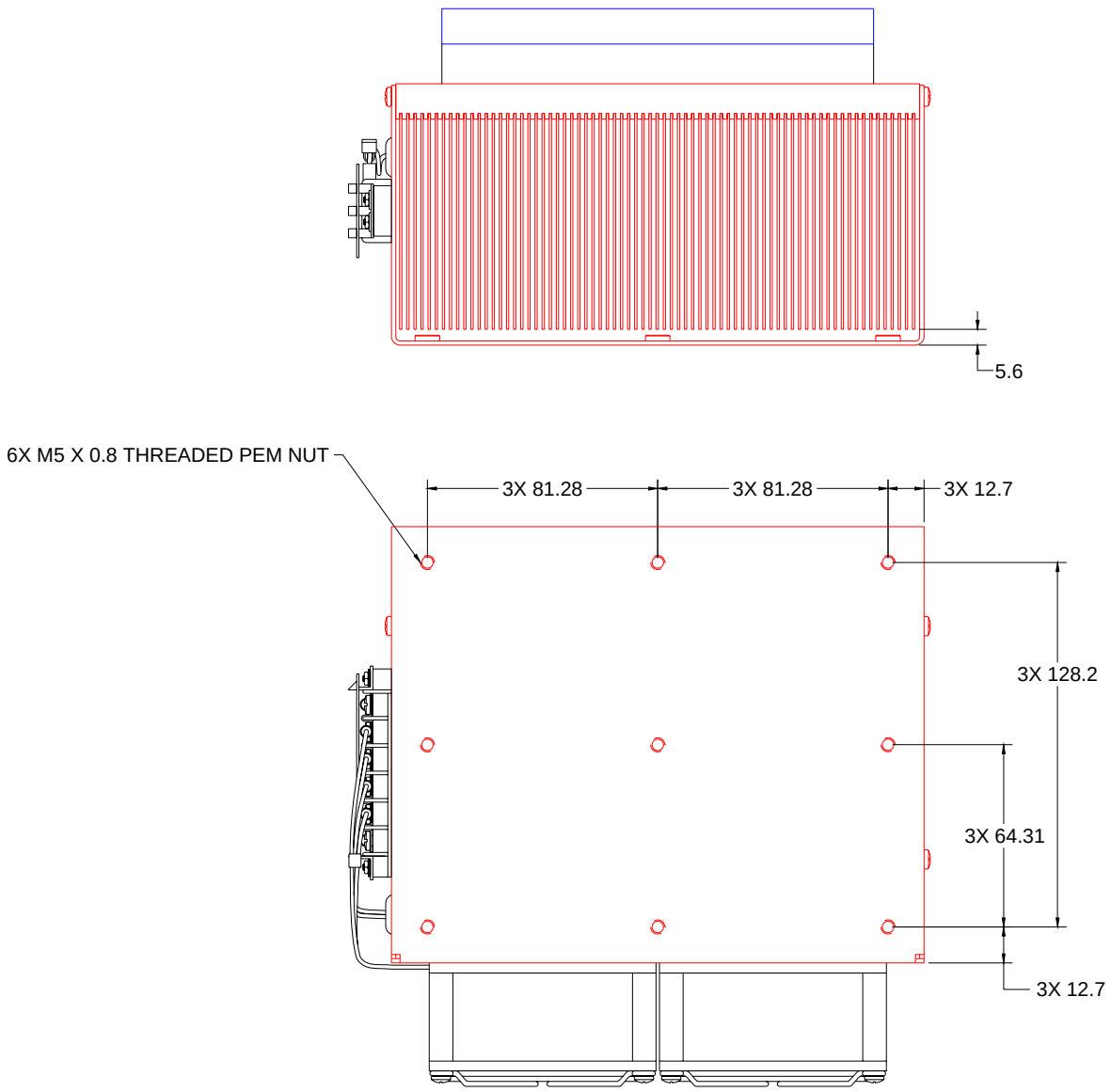
# Bottom View of CP-121

Cooler can be mounted using the six M5 x 0.8 PEM nuts located as shown in the base of the shroud.

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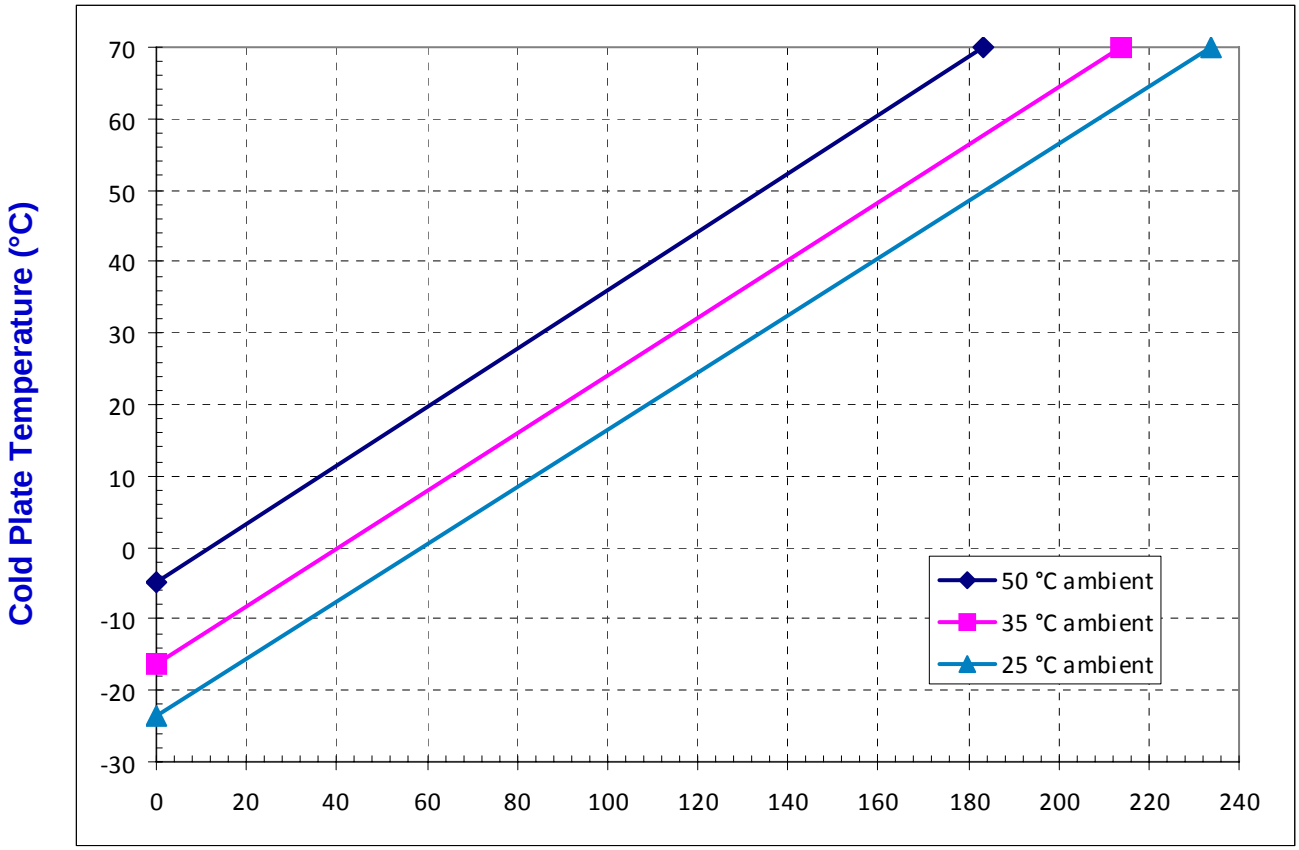
## CP-121 Cooling Performance Graph

**(removing heat from cold plate)**




## How to use the Performance Graph:

### 1. Select Performance Line.

The diagonal lines shown represent cooling performance at the indicated ambient air temperature (inlet to ambient-side fan). If the cooler is to operate at a different ambient, then you must sketch in a new performance line. This can be drawn parallel to one of the existing lines, using the distance between the existing lines as a scale to properly locate the new line.

### 2. Select Enclosure Temperature.

Draw a horizontal line on the graph corresponding to the desired cold plate temperature of the enclosure until it intersects with the performance line corresponding to the ambient temperature at which the cooler is to operate.

NOTE: heating performance is not shown. Contact TE Technology, Inc. if you require this information.

### 3. Determine Cooling Capacity.

The maximum amount of heat that the cooler can remove from the cold plate is determined by the intersection point (determined in the previous step). *If the heat load exceeds the cooling capacity, then the cooler will not be able to maintain the desired cold plate temperature. If the heat load is less, then the cooler can operate with less input power.*

Example: You need to maintain the cold plate at 15 °C while in a 25 °C ambient. The cooler can remove a maximum of approximately 98 W of heat from the cold plate. If the heat load (objects attached to plate that are generating waste heat plus the heat gain through insulation, solar, vapor condensation, etc.) on the cold plate exceeds this, you would need more coolers and/or a larger cooler.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