## **CARTRIDGE HEATERS**

## CARTRIDGE HEATERS Modifications and Options (for CIR Series)

### **MODIFICATIONS & OPTIONS**

Cartridge heaters can be easily specified to meet the demands of special applications. Simply select from a variety of standard options and features to customize the heater to your specific needs. For customized engineering or alternative options, contact your OMEGALUX sales representative for fast turnaround on your specifications.

- Leadwire Types
- End Seals Options
- Lead Options
- Mounting Options

### **LEADWIRE TYPES**

		Operating Temperature	
Description	Volts	(°F)	(°C)
Mica Fiberglass Insulation	300V Std 600V	842	450
Fluoropolymer	300V 600V	392	200

### **SEAL OPTIONS**

Туре	Description/Application
Ероху	Epoxy seal available on above leads by voiding end of sheath and filling with epoxy to provide moisture barrier.
Fluoro- polymer	A swaged-in seal that provides additional moisture resistance.
RTV	For applications where a moisture barrier is required.
Hermetic	Ceramic-to-metal seal is good for element temperatures up to 1000°F. Specify heater length before seal. Metal portion of the seal overlaps the heater sheath by 3/16".

### LEADWIRE END SEALS

	Operating Temperature	
Description	(°F)	(°C)
Air Set Cement Standard	1000	538
Epoxy Seal	194	90
Fluoropolymer Seal	392	200
RTV Seal	284	140
	392	200
Hermetic Seal	1000	538

### **END SEAL OPTIONS**

### Hermetic Seal

Ceramic-to-metal seal is good for element temperatures up to 538°C (1000°F). Specify heater length before seal. Metal portion of the seal overlaps the heater sheath by %". For washdown conditions.



### LEAD OPTIONS

**Right Angle Flexible Leads** 



### STRAIN RELIEF

Strain Relief supports leads to reduce bending, crimping and breakage.



### LEAD OPTIONS (cont'd.)

#### Flexible Stainless Steel Conduit

Flexible Stainless Steel Conduit provides leadwire protection from abrasion and sharp edges, and facilitates easier handling in harsh environments. Available in both straight and right angle configurations.



### **Protective Spring**

Available in both straight and right angle configurations, the Protective Spring gives strong, yet flexible leadwire protection from bending, fatigue and flexing.



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### LEAD OPTIONS (cont'd.)

### Metal Braid

Stainless Steel metal braid protects leadwire from abrasion and sharp edges, yet maintains flexibility and ease of installation. Metal braid is available in both straight and right angle configurations.



### **Ceramic Beads**

Ceramic Bead insulation can be specified to protect leadwires from high ambient temperatures up to 650°C (1200°F). To order, specify ceramic beads length and additional lead length.



### **Threaded Post Terminals**

Post Terminals provide a strong, secure connection to buss bars or ring/fork connectors. Available only on  $\frac{1}{2}$  and  $\frac{3}{4}$ " diameter heaters.



### **MOUNTING OPTIONS**

### Threaded Fittings

Threaded fittings allow the heater to be easily installed into a threaded hole for immersion applications. Available with single or double threaded fittings. The fitting overlaps the cartridge heater sheath by ¼". Specify "brass" or "stainless steel" threaded fitting.



### **Threaded Fitting Sizes**

Nom. Heater Diameter (in)	NPT Size (in)	Hex Size (in)
1/4	<b>%-27</b>	7/16
3/8	1⁄4-18	9⁄16
1/2	³ <b>%-2</b> 4	11/16
5/8	½ <b>-1</b> 4	7/8
3/4	<sup>3</sup> ⁄4 <b>-1</b> 4	<b>1</b> ½6

### **Mounting Flange**

The mounting flange option allows for easy mounting and specific positioning of the heater within an application.



### Wire Pull

The Wire Pull assists in heater removal.



### ADDITIONAL FEATURES (PLEASE CONTACT SALES)

- 1. Special Voltage and/or Wattage
- 2. Distributed Wattage
- 3. Special Lengths
- 4. Longer Leads
- 5. CIR Heaters with Type A Leads
- 6. Extra Fiberglass Sleeving
- 7. Type 3C Protective Spring
- 8. Type 4C Lead Abrasion Protection Straight Conduit
- 9. Type 5C Moisture Protection Straight Conduit
- 10. Type 8C Hermetic Seal Available with:
  - 3/8" heater 1/2" heater
  - <sup>1</sup>/<sub>2</sub>" heater <sup>5</sup>/<sub>8</sub>" heater
  - <sup>3</sup>/<sub>4</sub>" heater

### 11. Type 9CS Single-Ended Threaded Fitting

- 1/4" Brass, Stainless Steel
- %" Brass, Stainless Steel
- 1/2" Brass, Stainless Steel 5%" Brass, Stainless Steel
- <sup>3</sup>/<sub>4</sub>" Brass, Stainless Steel
- 12. Type 9CD Double-Ended
  - Threaded Fitting
  - 1/4" Brass, Stainless Steel
  - <sup>3</sup>/<sub>8</sub>" Brass, Stainless Steel <sup>1</sup>/<sub>2</sub>" Brass, Stainless Steel
  - %" Brass, Stainless Steel
  - <sup>3</sup>/<sub>4</sub>" Brass, Stainless Steel
- 13. Type 10C Flanges
- 14. Type 11C Wire Pull
- 15. Type12C Ceramic Bead Insulation
- 16. Type13C Straight Stainless Steel
- Metal Braid 17. Type 14C Right Angle Leads
- 18. Type 15C Abrasion Protection Right Angle Conduit
- 19. Type 16C Moisture Protection Right Angle Conduit
- 20. Type 17C Right Angle with Stainless Steel Metal Braid
- 21. Type18C Right Angle with Protective Spring
- 22. Type 19C Strain Relief Clip
- 23. Type 20C Post Terminals
- 24. Plug Caps for 4C, 5C, 15C and 16C Straight Blade Grounded: #5266-C, P/N 221-511506-010, 15 amp 125V #5466-C, P/N 221-511506-008, 20 amp 250V Twist-Lock Grounded: #4720-C, P/N 221-511556-005,
  - #4720-0, P/N 221-511556-005 15 amp 125V
  - #4570-C, P/N 221-511556-006, 20 amp 250V
- 25. Epoxy End Seal
- 26. RTV End Seal