

## 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

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

#### SEAL OPTIONS

Type	Description/Application
Epoxy	Epoxy seal available on above leads by voiding end of sheath and filling with epoxy to provide moisture barrier.
Fluoropolymer	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".

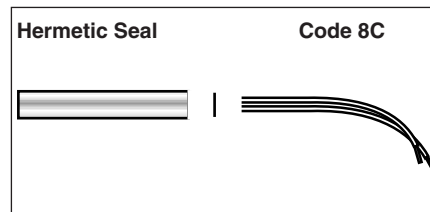
#### LEADWIRE END SEALS

Description	Operating Temperature	
	(°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

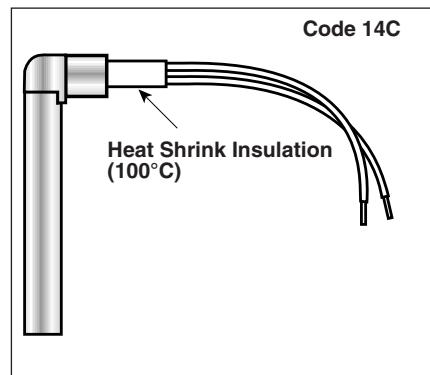
##### Hermetic Seal

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 3/16". For washdown conditions.



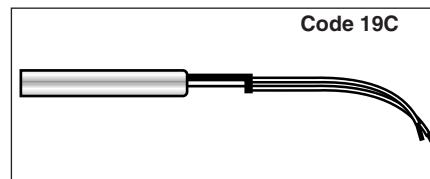
#### LEAD OPTIONS

##### Right Angle Flexible Leads



##### STRAIN RELIEF

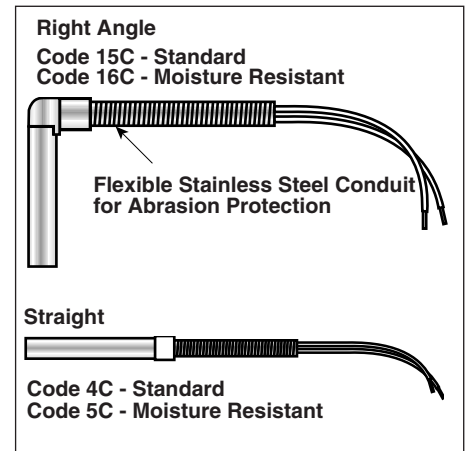
Strain Relief supports leads to reduce bending, crimping and breakage.



#### LEAD OPTIONS (cont'd.)

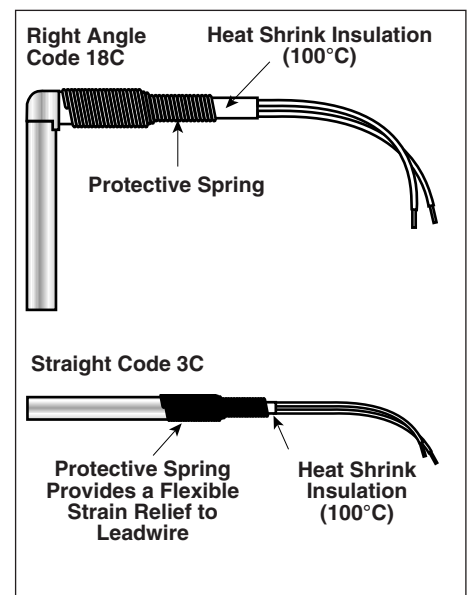
##### Flexible Stainless Steel Conduit

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.



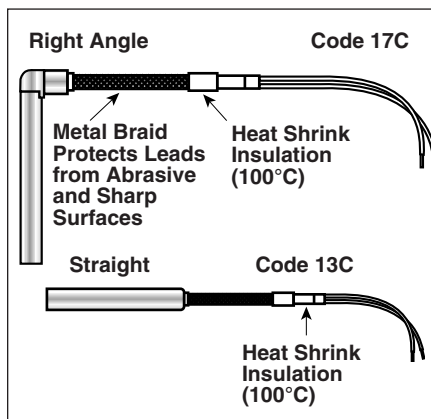
## CARTRIDGE HEATERS

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#### LEAD OPTIONS (cont'd.)

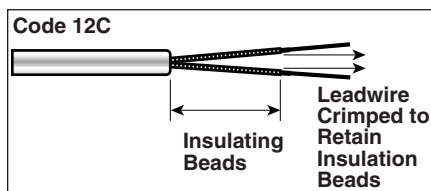
##### Metal Braid

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.



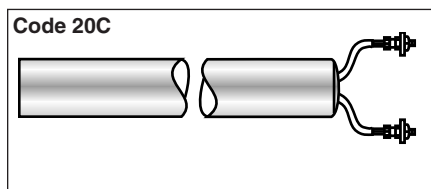
##### Ceramic Beads

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

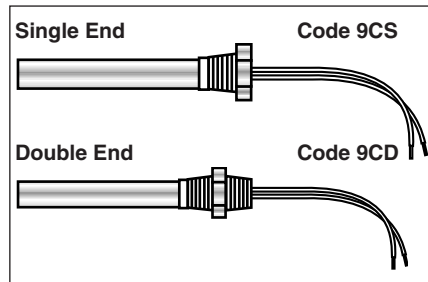
Post Terminals provide a strong, secure connection to buss bars or ring/fork connectors. Available only on 3/8" and 1/2" diameter heaters.



#### 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 1/4". Specify "brass" or "stainless steel" threaded fitting.

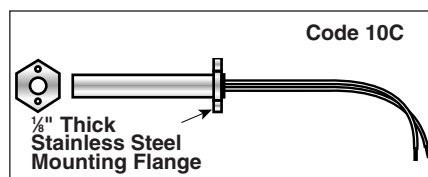


##### Threaded Fitting Sizes

Nom. Heater Diameter (in)	NPT Size (in)	Hex Size (in)
1/4	1/8-27	7/16
3/8	1/4-18	9/16
1/2	3/8-24	1 1/16
5/8	1/2-14	7/8
3/4	3/4-14	1 1/8

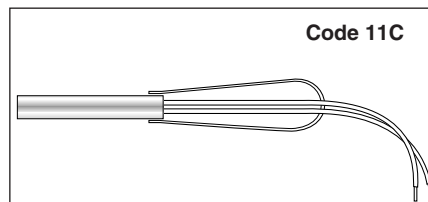
##### Mounting Flange

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

- Special Voltage and/or Wattage** add \$100 prorated over quantity of each item. No charge if total list value exceeds \$500.
- Distributed Wattage** add 20% plus special voltage charge.

- Special Lengths** use price of next longest length heater and add special voltage charge.
- Longer Leads** add \$2.75 for first 6" and \$1.25 for each additional 6" or fraction thereof. Minimum \$15.00 per line item. extended leads will be spliced unless otherwise specified. Unspliced leads (CIR only) made to order. Unspliced lead lengths up to 32". Check factory for longer lengths.
- CIR htrs with Type A Leads** add special voltage charge.
- Extra Fiberglass Sleeve** add \$3.50 for first 6" and \$2.10 for each 6" thereafter. Minimum \$15.00 per line.
- Type 3C Protective Spring** add \$7.50, minimum \$15.00 per line item.
- Type 4C Lead Abrasion Protection Straight conduit** add \$12.00 for first 12" and \$4.80 for each 12" thereafter.
- Type 5C Moisture Protection Straight Conduit** add \$15.00 for first 12" and \$5.00 for each 6" thereafter.
- Type 8C Hermetic Seal** is available with 3/8" heater-\$36  
1/2" heater-\$80  
5/8" heater-\$280  
3/4" heater-\$360
- Type 9CS Single-Ended Threaded Fitting**  
1/4" Brass-\$8.80, Stainless Steel-\$11.80  
3/8" Brass-\$9.00, Stainless Steel-\$12.00  
1/2" Brass-\$9.20, Stainless Steel-\$15.00  
5/8" Brass-\$9.35, Stainless Steel-\$18.75  
3/4" Brass-\$9.50, Stainless Steel-\$23.45
- Type 9CD Double-Ended Threaded Fitting**  
1/4" Brass-\$21.55, Stainless Steel-\$26.95  
3/8" Brass-\$22.00, Stainless Steel-\$27.65  
1/2" Brass-\$22.55, Stainless Steel-\$33.20  
5/8" Brass-\$26.00, Stainless Steel-\$39.85  
3/4" Brass-\$32.50, Stainless Steel-\$47.80
- Type 10C Flanges** add \$8.75. Minimum \$15.00 per line item.
- Type 11C Wire Pull** add \$12.60
- Type 12C Ceramic Bead Insulation** add \$1.15 per inch of beads for first 6", \$0.65 per inch over 6".
- Type 13C Straight Stainless Steel Metal Braid** add \$12.60 for first 12", add \$4.70 for each additional 12".
- Type 14C Right Angle Leads** add \$7.15. Minimum \$15.00 per line item.
- Type 15C Abrasion Protection Right Angle Conduit** add \$15.00 for first 12", \$3.15 for each 6" thereafter.
- Type 16C Moisture Protection Right Angle Conduit** add \$20.00 for first 12", \$5.00 for each 6" thereafter.
- Type 17C Right Angle with SS Metal Braid** add \$15.60
- Type 18C Right Angle with Protective Spring** add \$19.50
- Type 19C strain relief clip** (not available on 1/4") add \$7.00 Minimum \$15.00 per line item.
- Type 20C post terminals** (3/8" Dia. only) add \$11.00
- Plug caps for 4C, 5C, 15C & 16C straight blade grounded:**  
#5266-C, P/N 221-511506-010, 15 amp 125V add \$11.60  
#5466-C, P/N 221-511506-008, 20 amp 250V add \$14.45  
twist lock grounded  
#4720-C, P/N 221-511556-005, 15 amp 125V add \$13.25  
#4570-C, P/N 221-511556-006, 20 amp 250V add \$16.45
- Epoxy End Seal** add \$4.30 per unit
- RTV End Seal** add \$5.75 per unit.



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