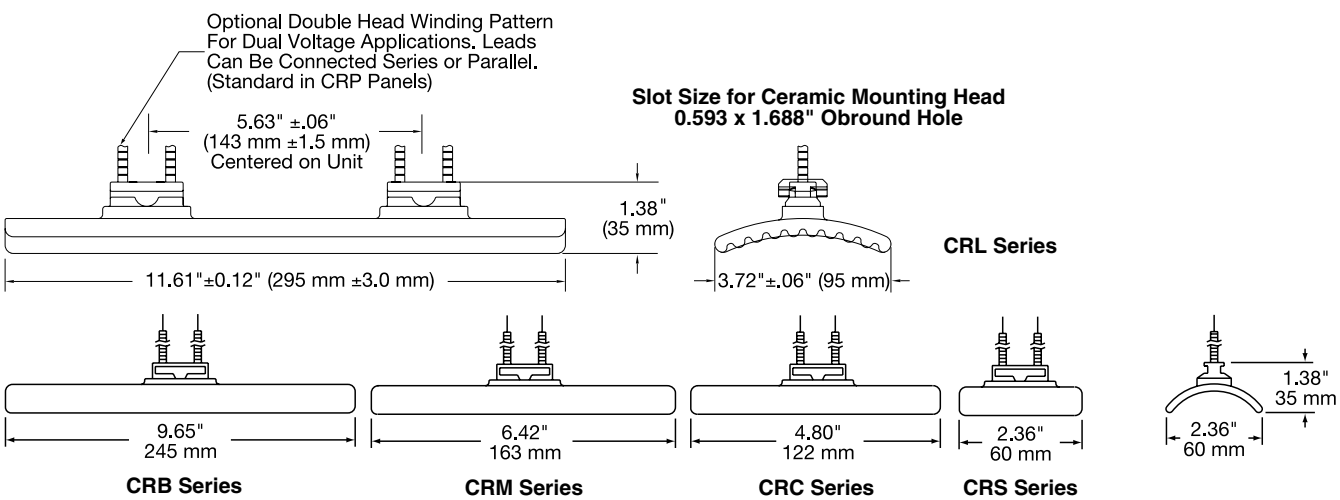
Curved Face Ceramic Radiant Heaters

Ceramic E-Mitters

- 5 Standard Solid Curved Face Sizes to Accomodate a Wide Range of New or Existing Applications
- Universal Mount Designed to be Dropped into Existing Systems Regardless of Manufacturer
- Standard Colors are Metamorphing Rose (Cold) to Grey (Hot), and Traditional White. Optional Colors are Metamorphing Yellow (Cold) to Orange (Hot), and Black
- Standard Stocked Voltage: 120 or 220/240V as Noted; Other Voltages are Available
- Available with Built-In Type K Thermocouple—Type J Thermocouple and Low Noise Options are Also Available
- Long Operating Life—Over 10,000-Plus Hours of Continuous Operation Under Normal Conditions
- Performance is Unaffected By Vibration or Adverse Atmospheric Conditions
- 2.5 to 6 µm Infrared Radiation Wavelength



Custom Engineered/Manufactured Heaters

Understanding that an electric heater can be very application specific, for sizes and ratings not listed, OMEGA® can manufacture a Ceramic E-Mitter to meet your requirements.

Please Specify the Following:

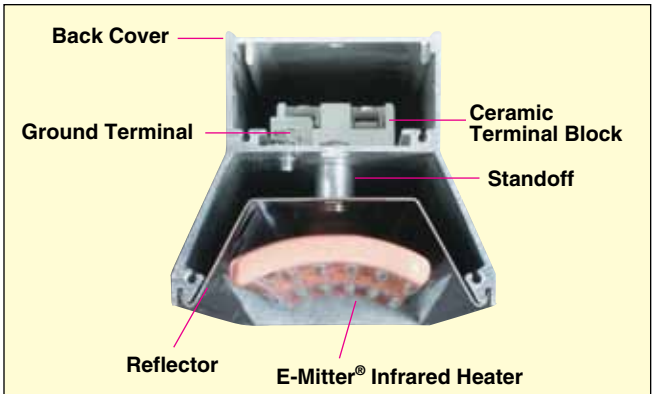
- **Colors:** Standard are metamorphing rose and straight white, optional are metamorphing yellow and straight black
- **Wattage:** Up to 43 watts/in² (6.7 watts/cm²)
- **Voltage:** 120, 208, 240, 277, 480 Vac and others (dependent on design)
- **Thermocouple:** Standard Type K (Type J optional) or Low Noise Type K (Type J optional)

Accessories and Custom Configurations

- Designed for use with E-Mitters CRB and CRC
- Lightweight Extruded Aluminum Housing with 5/16-18 Mounting Bolts
- E-Mitters are Easily Replaced by Removing the Top Cover
- Internal Mounting Hole Pattern Simplifies Mixing and Matching E-Mitter Sizes and Ratings
- Space Between Reflector and Housing Wall Offers a Good Thermal Barrier to Protect the Wiring Area
- This CRA Structural Housing can be Used with any Manufacturer's Standard 60 × 245 mm (2.36 x 9.64") or 60 × 122 mm (2.36 x 4.8") Heaters
- Wiring Entrance 22 mm (⅞") Diameter at both ends, for 13 mm (½") Trade Size Electrical Fittings

Easiest Replacement of Heaters in the Industry

E-Mitters are easily replaced by removing the top cover. Wiring entrance side covers are not affected. The heater lead wires are insulated with ceramic beads and connected to ceramic terminal blocks. Heaters can be wired to function individually or grouped into heating zones.



Steps to Design a Custom CRA E-Mitter Linear Assembly from Standard Components

1) Select the Housing
2) Select the E-Mitters Series
3) Select the Reflectors
4) Select the Terminal Blocks

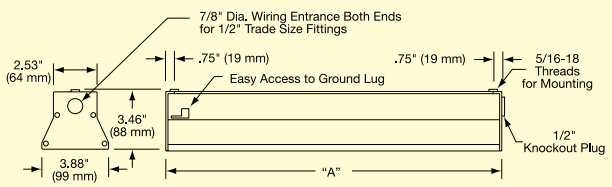
DANGER: *Hazard of Fire. These heaters are not for use in atmospheres where flammable vapors, gases or liquids are present as defined in the National Electrical Code. Where solvents, water, etc. are being evaporated from the process it is necessary to provide substantial quantities of ventilating air to carry away all resulting vapors.*

CAUTION

WARNING: *Hazard of Electric Shock. Installation must be grounded to earth to avoid shock hazard. Disconnect power to installation before servicing or installing heater.*

WARNING: *Do not use Copper Wire to make connections inside this heater. High temperatures will oxidize copper. Use of nickel plated or nickel clad insulated copper wire is recommended. Wire insulation rating must be suitable for the ambient temperature of the wiring installation.*

Standard CRK Linear Housings



Standard housings are available from as assembled stock in 0.3 m (10"), 0.51 m (20"), 0.8 m (30"), 1.02 m (40") and 1.3 m (50") lengths. Other housing lengths can be made to your requirements.

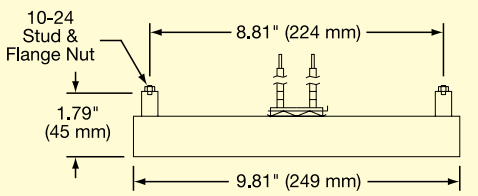
Standard Housing Lengths Table

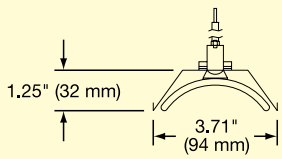
Housing Model Number	Nominal Housing Length		"A" Dim. inch	Examples of Possible E-Mitter Configurations	Maximum Power KW
	inch	mm			
CRK00024	5	127	5.19	1 CRC	0.5
CRK00001	10	254	10.13	1 CRB	1
CRK00023	15	381	15.06	3 CRCs (1 CRB and 1 CRC)	1.5
CRK00002	20	508	20.00	2 CRBs (1 CRB and 2 CRCs)	2
CRK00022	25	635	24.94	5 CRCs a combination of (CRBs and CRCs)	2.5
CRK00003	30	762	29.88	3 CRBs a combination of (CRBs and CRCs)	3
CRK00019	35	889	34.81	7 CRCs a combination of (CRBs and CRCs)	3.5
CRK00004	40	1016	39.75	4 CRBs a combination of (CRBs and CRCs)	4
CRK00021	50	1270	49.3	5 CRBs a combination of (CRBs and CRCs)	5
CRK00027	60	1524	59.50	6 CRBs a combination of (CRBs and CRCs)	6
CRK00029	70	1778	69.38	7 CRBs a combination of (CRBs and CRCs)	7

CRK housings come complete with housing body, end plates, 5/16-18 mounting bolts, cover and ground lug.
Note: *These housings do not include the reflectors needed for mounting the heaters or the terminal block (Model number EHD-108-101) required for wiring each heater.*

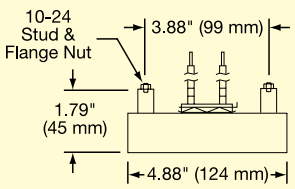
Reflectors for Ceramic E-Mitters
For CRB and CRC E-Mitters

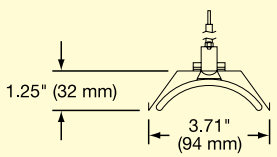
- Designed to Withstand Bending and Heat Distortion
- Made from Highly Polished Chrome Steel or Optional Aluminized Steel for Extreme Temperatures and Harsh Environments
- Will Withstand High Operating Temperatures
- Available in Three Standard Sizes; Includes Standoffs and Hardware
- Easy Installation into CRA Linear Structural Housing Assemblies (Except CRK00032)



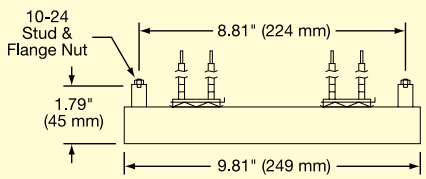


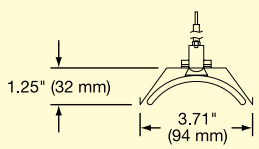
For One CRB E-Mitter
Model Number: CRK00007 (Chrome Steel)
Model Number: CRK00049 (Aluminized Steel)





For One CRC E-Mitter
Model Number: CRK00006 (Chrome Steel)
Model Number: CRK00035 (Aluminized Steel)





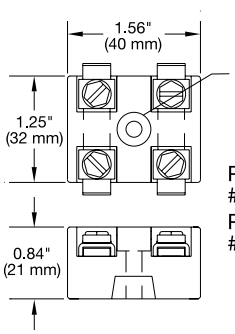
For Two CRC E-Mitters
Model Number: CRK00020 (Chrome Steel)
Model Number: CRK00043 (Aluminized Steel)

Standard Ceramic Terminal Block for Internal Wiring
For Internal Connections Within Heater Assemblies, CRA Linear Structural Housings and ARA Arrays

- Maximum Voltage: 600 Vac
- Maximum Current: 20 Amps
- Maximum Temperature: 450°C (842°F)
- AWG: 20 to 12 ga. wire
- Hardware: Stainless Steel
- Body Material: Steatite

EHD-108-101

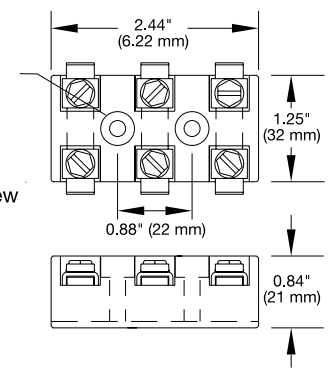
EHD-108-121



0.40" (10 mm) Counterbore
0.19" (4.8 mm) Dia. Through Hole
for Mounting Screw(s)

Mounting Hardware Supplied per Mounting Hole

Part Number SCW-102-109
#8 x 7/8 Pan Head Sheet Metal Screw
Part Number WAS-119-106
#8 External Tooth Lockwasher

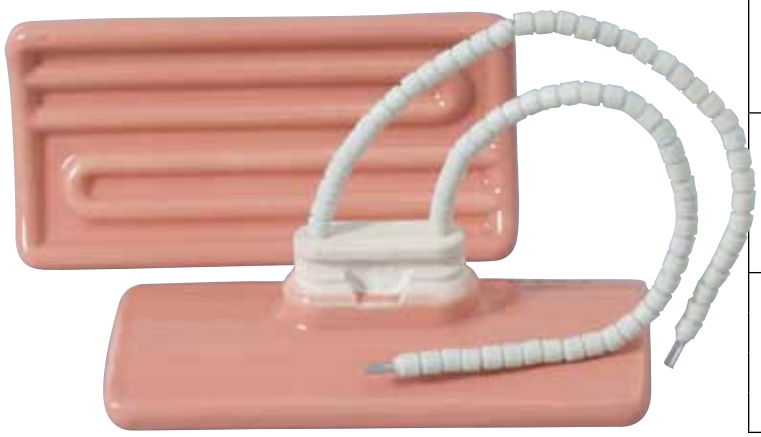


Curved Face Ceramic E-Mitters
60 x 122 mm (2.36 x 4.80")

CRC Series

Optional Features

- Additional Power or Thermocouple Lead Lengths
- Two-Piece Wave Mounting Clip
- Reflectors and Other Accessories
- Arrays and Power/Temperature Control Panels



CRC Series in rose (cold) to grey (hot) shown smaller than actual size.

Watts/Square Inch vs. Temperature Data

Watts	Surface Watts/ in²*	Heater Body °F Rise	Heater Body Temp @ 72°F**	Primary Emitted Wavelength*** (µm)
100	8.64	596	668	4.63
125	10.80	684	756	4.29
150	12.95	756	828	4.05
163	14.08	789	861	3.95
200	17.27	870	942	3.72
250	21.59	960	1032	3.50
300	25.91	1043	1115	3.31
325	28.07	1084	1156	3.23
350	30.23	1126	1198	3.15
375	32.39	1169	1241	3.07
400	34.55	1211	1283	2.99
500	43.18	1348	1420	2.78

E-Mitters listed have 89 mm (3.5") ceramic bead insulated leads, #8-10 spade terminals, and a one-piece spring clip for mounting.

To Order *Visit omega.com/crc_series for Pricing and Details*

Model Number						Watt Density*		Heater Body Temperature** (Typical Operating)	
Without Thermocouple	Standard Type K Thermocouple	With Type J Thermocouple	Wattage	Voltage	Color	(Watts/ in²)	(Watts/ cm²)	°F	°C
CRC10005	CRC10007	—	125	220/240	Rose to Grey	10.80	1.67	756	402
CRC00005	CRC00007	—	125	220/240	White	10.80	1.67	756	402
CRC10013	CRC10015	—	200	220/240	Rose to Grey	17.27	2.68	942	506
CRC00013	CRC00015	—	200	220/240	White	17.27	2.68	942	506
CRC10018	CRC10020	—	325	120	Rose to Grey	28.07	4.35	1156	624
CRC00018	CRC00020	—	325	120	White	28.07	4.35	1156	624
CRC10021	CRC10023	—	325	220/240	Rose to Grey	28.07	4.35	1156	624
CRC00021	CRC00023	—	325	220/240	White	28.07	4.35	1156	624
CRC10064	CRC10140	CRC10014	325	480	Rose to Grey	28.07	4.35	1156	624
CRC00064	CRC00140	—	325	480	White	28.07	4.35	1156	624
CRC10024	CRC10026	—	500	120	Rose to Grey	43.18	6.69	1420	771
CRC00024	CRC00026	—	500	120	White	43.18	6.69	1420	771
CRC10027	CRC10029	—	500	220/240	Rose to Grey	43.18	6.69	1420	771
CRC00027	CRC00029	—	500	220/240	White	43.18	6.69	1420	771
CRC10066	CRC10141	—	500	480	Rose to Grey	43.18	6.69	1420	771

** Watt density calculated using heater face surface area.*
*** E-Mitter [operating in 22°C (72°F) ambient] body temperature measured with internal thermocouple.*
**** Peak infrared radiation wavelength as calculated from Wien's Law, for operating temperature shown. Expressed in microns (µm).*
***Ordering Example: CRC10007,** radiant heater with K thermocouple, 125 watts, 220/240 Vac rose to grey.*