

## FINNED STRIP Heaters

### Ceramic Insulated Finned Strip Heaters

TEMPCO Finned Strip Heaters are extremely efficient and dependable as a heat source for hundreds of industrial and commercial applications. They are used for both forced (mounted in a duct) and natural convection air heating (mounted at the bottom of cabinet type ovens).

The Finned Strip Heater's basic design consists of a helically wound resistance coil placed in a specially designed ceramic insulator. The resistance coil is mechanically connected to the screw terminal for positive connection. Stainless steel rectangular tubing is used to house the heater assembly. All remaining voids are filled with high purity magnesium oxide to increase thermal conductivity and dielectric strength.

#### Typical Applications

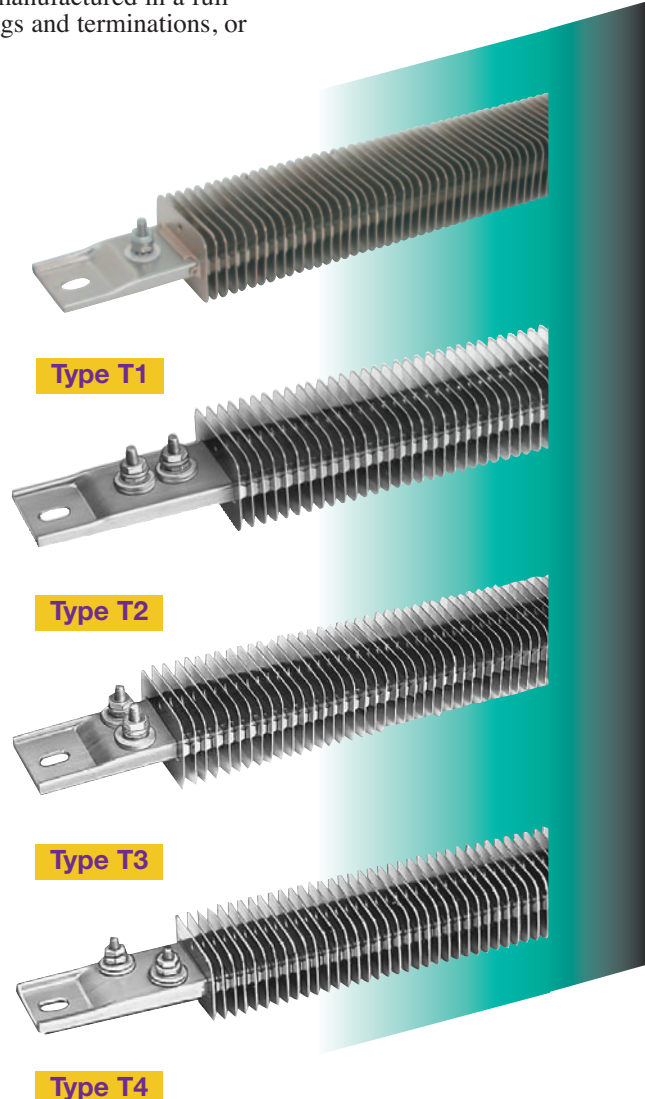
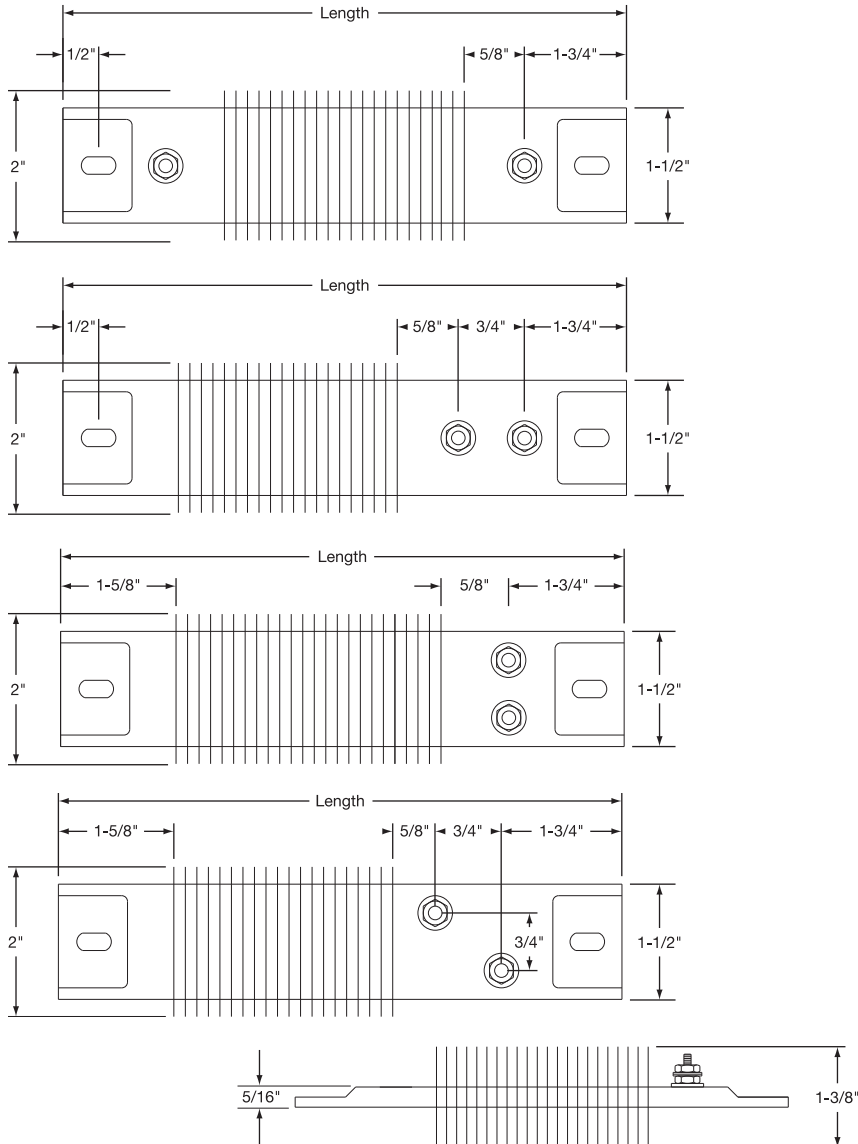
- ➔ Duct Heating
- ➔ Space Heaters
- ➔ Drying Ovens
- ➔ Food Warmers
- ➔ Dehumidifier
- ➔ Shrinking Tunnels
- ➔ Air Heating
- ➔ Heat Curing

Nickel-plated steel fins (Stainless Steel optional) are mounted to the rectangular tubing. The fins have been specially designed to provide maximum surface contact for good heat dissipation into the finned cross sections, thus resulting in rapid heat transfer to the air.

TEMPCO Finned Strip Heaters are manufactured in a full line of standard sizes, electrical ratings and terminations, or can be made to your specifications.

#### Design Features

- \* Rugged, Durable Construction
- \* Stainless Steel Sheath
- \* Nickel-Plated Steel Fins (Stainless Steel Optional)
- \* Various Terminations
- \* Trouble-Free Installation
- \* Various Sizes in Stock



Fin Height

Large selection **IN STOCK** for immediate delivery

## Specifications & Tolerances

**Standard Specifications and Tolerances** of Finned Strip Heaters If tighter tolerances are required, consult Tempco.

### PERFORMANCE RATINGS

**Maximum Sheath Temperature:** 1200°F (650°C)

**Maximum Watt Density:**

Still Air	Max. W/in <sup>2</sup>	Max. W/cm <sup>2</sup>
Up to 300°F (149°C) . . . . .	20	3.1
300° to 600°F (149° to 316°C) . . . . .	16	2.5
600° to 800°F (316° to 427°C) . . . . .	10	1.6
Moving Air	Max. W/in <sup>2</sup>	Max. W/cm <sup>2</sup>
At 600 ft./min., up to 200°F . . . . .	40	6.2
(3 m/sec., up to 93°C)		
At 600 ft./min., up to 400°F . . . . .	30	4.7
(3 m/sec., up to 204°C)		
At 600 ft./min., up to 600°F . . . . .	20	3.1
(3 m/sec., up to 316°C)		

### Agency Approvals



**Finned Channel Strip Heaters** have been certified as Recognized Components by Underwriters Laboratories (File Number E65652) under CCN KSOT2/8 to meet UL standard 499 and Canadian Standard C22.2 No. 72.

This file specifies the end use limitations and conditions of acceptability for the use of this type of heater. For additional information consult Tempco.

*If you require UL/CSA Agency Approval, please specify when ordering.*

### ELECTRICAL SPECIFICATIONS

**Maximum Voltage:** 480VAC (when applicable)

**Maximum Amperage:** 25 amps

**Resistance Tolerance:** +10%, -5%

**Wattage Tolerance:** +5%, -10%

### MATERIAL SPECIFICATIONS & PHYSICAL SIZES

**Sheath:** 304 Stainless Steel

**Fins:** Nickel Plated Steel (Stainless Steel Optional)

**Screw Terminals:** Stainless Steel 10-32 UNF Threads

**Width Including Fins:** 2"

**Height Including Fins:** 1-3/8"

**Length Tolerance:** Up to 24" ± 1/16", over 24" ± 1/8"

**Mounting Slot Size:** Standard 5/16" × 1/2"

**Slot Size For Secondary Insulating Bushing:**  
1/2" × 5/8" for 300 Volts and above

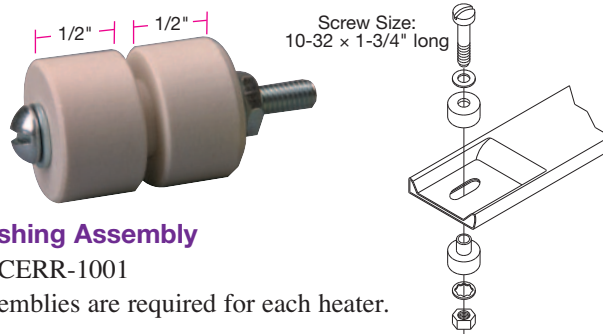
### Secondary Insulating Bushings

Used to mount finned strip heaters in air heating applications. Also can be used when it is necessary to electrically isolate the heater from ground.

When Insulating Bushings are required, a 1/2" × 5/8" slot is substituted for the standard slot size (5/16" × 1/2").



When using secondary insulating bushings, the heater must be guarded to avoid any accidental contact. The guard must be electrically isolated from the heater and must be properly grounded.



### Insulating Bushing Assembly

**Part Number:** CERR-1001

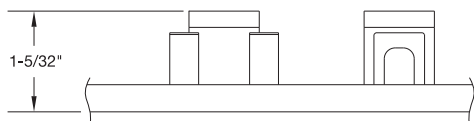
**NOTE:** Two assemblies are required for each heater.

### Ceramic Covers for Insulating Screw Terminals

#### Igloo™ Ceramic Covers

Igloo Ceramic terminal covers consist of two individual ceramic parts. With a tight-fitting cap and a solid base, an Igloo cover will fully insulate any standard 10-32 terminal lug used for electrical wiring hookups.

Igloo covers can be assembled on all Channel Strip and Finned Strip heaters with Type T1 and Type T4 screw terminals. Mica Strip heaters with screw terminals that have a minimum center to center distance of 7/8" can also be assembled with Igloo covers.



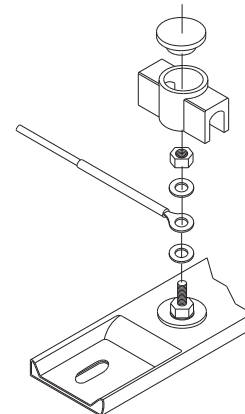
**Type C6**  
Double Port In-Line  
**Part Number:** CER-101-104



**Type C7**  
Double Port 90°  
**Part Number:** CER-101-106



**Type C8**  
Single Port  
**Part Number:** CER-101-107



**Ceramic Cap**  
**Thread:** 10-32  
**Part Number:** CER-102-101

# Strip Heaters



## Standard Sizings and Ratings

### Standard (Non-Stock) and Stock Sizes and Ratings



Stock Items Are Shown In **RED**

Length in	mm	Wattage	Watt Density		Part Number	
			W/in <sup>2</sup>	W/cm <sup>2</sup>	120V	240V
10½	266.7	350	18	3	<b>CSF00519</b>	<b>CSF00520</b>
10½	266.7	500	34	5	<b>CSF00121</b>	<b>CSF00122</b>
10½	266.7	725	45	7	<b>CSF00123</b>	<b>CSF00124</b>
12	304.8	900	40	6	<b>CSF00131</b>	<b>CSF00132</b>
14	355.6	750	28	4	<b>CSF00232</b>	<b>CSF00249</b>
14	355.6	1100	37	6	<b>CSF00135</b>	<b>CSF00136</b>
15¼	387.4	1250	37	6	<b>CSF00139</b>	<b>CSF00140</b>
17⅞	454.0	750	18	3	<b>CSF00506</b>	<b>CSF00524</b>

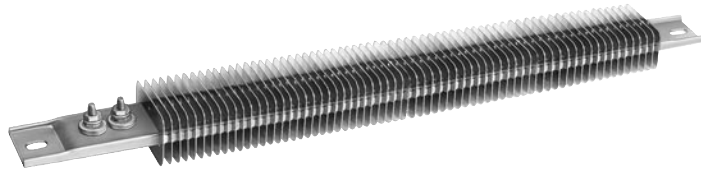
### Finned Strip Heaters with T1 Terminals

Stock Items Are Shown In **RED**

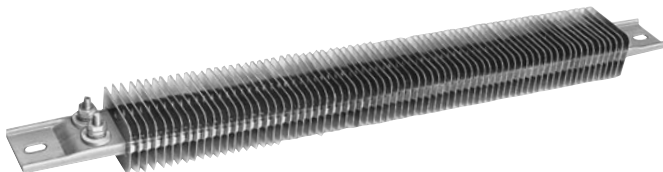
Length in	mm	Wattage	Watt Density		Part Number	
			W/in <sup>2</sup>	W/cm <sup>2</sup>	120V	240V
17⅞	454.0	1000	25	4	<b>CSF00540</b>	<b>CSF00525</b>
17⅞	454.0	1550	38	6	<b>CSF00144</b>	<b>CSF00145</b>
19½	495.3	1000	21	3	—	<b>CSF00526</b>
19½	495.3	1700	36	6	—	<b>CSF00150</b>
21	533.4	1900	36	6	<b>CSF00154</b>	<b>CSF00155</b>
23¾	603.3	1000	16	3	—	<b>CSF00527</b>
23¾	603.3	1450	24	4	<b>CSF00529</b>	—
23¾	603.3	2200	36	6	—	<b>CSF00159</b>
25½	647.7	1500	23	3	<b>CSF00530</b>	<b>CSF00531</b>
25½	647.7	2400	35	5	—	<b>CSF00165</b>
26¾	679.5	2500	34	5	—	<b>CSF00167</b>
30½	774.7	1800	21	3	—	<b>CSF00532</b>
30½	774.7	2800	29	5	—	<b>CSF00176</b>
33½	850.9	2100	21	3	—	<b>CSF00533</b>
33½	850.9	3150	32	5	—	<b>CSF00178</b>
35⅞	911.2	3450	33	5	—	<b>CSF00181</b>
42½	1079.5	4150	31	5	—	<b>CSF00217</b>
48	1219.2	2250	15	2	—	<b>CSF00534</b>

### Finned Strip Heaters with T2 Terminals

Stock Items Are Shown In **RED**



Length in	mm	Wattage	Watt Density		Part Number	
			W/in <sup>2</sup>	W/cm <sup>2</sup>	120V	240V
10½	266.7	725	36	6	CSF00127	CSF00128
12	304.8	900	36	6	CSF00133	CSF00134
14	355.6	1100	32	5	CSF00137	<b>CSF00138</b>
15¼	387.4	1250	34	5	CSF00141	CSF00142
17⅞	454.0	1550	33	5	CSF00146	CSF00147
19½	495.3	1700	30	5	CSF00151	CSF00152
25½	647.7	2400	33	5	—	CSF00166
30½	774.7	2800	31	5	—	CSF00177



Stock Items Are Shown In **RED**

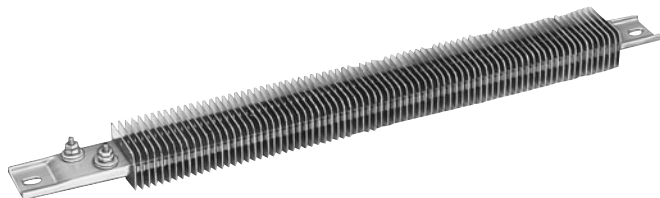
Length in	mm	Wattage	Watt Density		Part Number	
			W/in <sup>2</sup>	W/cm <sup>2</sup>	120V	240V
10½	266.7	350	16	3	<b>CSF00500</b>	<b>CSF00501</b>
10½	266.7	500	21	3	<b>CSF00001</b>	<b>CSF00002</b>
10½	266.7	725	31	5	<b>CSF00003</b>	<b>CSF00004</b>
12	304.8	500	17	3	<b>CSF00005</b>	—
12	304.8	650	23	3	—	<b>CSF00007</b>
12	304.8	900	31	5	<b>CSF00008</b>	<b>CSF00009</b>
14	355.6	750	21	3	<b>CSF00010</b>	<b>CSF00011</b>
14	355.6	1100	31	5	<b>CSF00012</b>	<b>CSF00013</b>
15¼	387.4	1250	31	5	<b>CSF00014</b>	<b>CSF00015</b>
17⅞	454.0	750	16	3	<b>CSF00505</b>	<b>CSF00543</b>
17⅞	454.0	1000	21	3	<b>CSF00539</b>	<b>CSF00507</b>
17⅞	454.0	1550	31	5	<b>CSF00016</b>	<b>CSF00017</b>

### Finned Strip Heaters with T3 Terminals

Stock Items Are Shown In **RED**

Length in	mm	Wattage	Watt Density		Part Number	
			W/in <sup>2</sup>	W/cm <sup>2</sup>	120V	240V
19½	495.3	1000	19	3	—	<b>CSF00508</b>
19½	495.3	1700	31	5	CSF00018	<b>CSF00019</b>
21	533.4	1900	31	5	<b>CSF00024</b>	<b>CSF00025</b>
23¾	603.3	1000	15	2	—	<b>CSF00509</b>
23¾	603.3	1450	21	3	<b>CSF00511</b>	—
23¾	603.3	2200	32	5	—	CSF00026
25½	647.7	1500	21	3	<b>CSF00513</b>	<b>CSF00514</b>
25½	647.7	2400	32	5	—	<b>CSF00027</b>
26¾	679.5	2500	30	5	—	<b>CSF00028</b>
30½	774.7	1800	19	3	—	<b>CSF00515</b>
30½	774.7	2800	30	5	—	CSF00031
33½	850.9	2100	20	3	—	<b>CSF00517</b>
33½	850.9	3150	30	5	—	<b>CSF00033</b>
35⅞	911.2	3450	31	5	—	<b>CSF00034</b>
42½	1079.5	4150	31	5	—	<b>CSF00036</b>
48	1219.2	2250	14	2	—	<b>CSF00037</b>

## Standard (Non-Stock) and Stock Sizes and Ratings



Stock Items Are Shown In **RED**

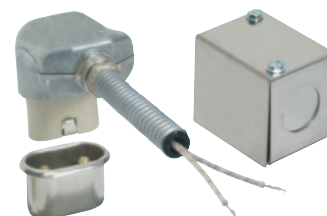
Length in mm	Wattage	Watt Density		Part Number	
		W/in <sup>2</sup>	W/cm <sup>2</sup>	120V	240V
8½ 215.9	250	18	3	<b>CSF00252</b>	CSF00039
10½ 266.7	350	17	3		<b>CSF00130</b>
10½ 266.7	500	24	4	<b>CSF00129</b>	
10½ 266.7	600	33	5	CSF00042	
10½ 266.7	725	40	6	<b>CSF00044</b>	<b>CSF00045</b>
10½ 266.7	850	47	7	<b>CSF00209</b>	
12 304.8	500	19	3	CSF00047	
12 304.8	900	34	5	CSF00053	<b>CSF00054</b>
14 355.6	750	23	3	<b>CSF00056</b>	CSF00057
14 355.6	1100	36	6	<b>CSF00060</b>	<b>CSF00061</b>
15¼ 387.4	1000	27	4	CSF00065	
15¼ 387.4	1250	33	5	<b>CSF00143</b>	<b>CSF00067</b>
17⅞ 454.0	1000	23	3	CSF00071	
17⅞ 454.0	1300	28	4	CSF00073	
17⅞ 454.0	1550	30	5	CSF00148	CSF00075
19½ 495.3	1250	24	4		CSF00077

## Finned Strip Heaters with T4 Terminals

Stock Items Are Shown In **RED**

Length in mm	Wattage	Watt Density		Part Number	
		W/in <sup>2</sup>	W/cm <sup>2</sup>	120V	240V
19½ 495.3	1700	32	5	—	<b>CSF00080</b>
21 533.4	1900	33	5	CSF00158	<b>CSF00085</b>
23¼ 603.3	1000	15	2	—	<b>CSF00528</b>
23¼ 603.3	1450	22	3	—	CSF00088
23¼ 603.3	2200	33	5	—	<b>CSF00090</b>
25½ 647.7	2400	33	5	—	<b>CSF00094</b>
26¼ 679.5	2500	32	5	—	<b>CSF00100</b>
30¾ 774.7	1800	20	3	—	CSF00102
30¾ 774.7	2800	28	4	—	CSF00104
33½ 850.9	3150	31	5	—	<b>CSF00180</b>
35½ 911.2	2000	18	3	—	<b>CSF00350</b>
35½ 911.2	3450	31	5	—	<b>CSF00110</b>
42½ 1079.5	4150	31	5	—	<b>CSF00117</b>

**NOTE:** Type C – Terminal Box and Type P – High Temperature Quick Disconnect Plug are available. See page 8-6 for details.



## EHF — Finned Channel Strip Enclosure Heaters

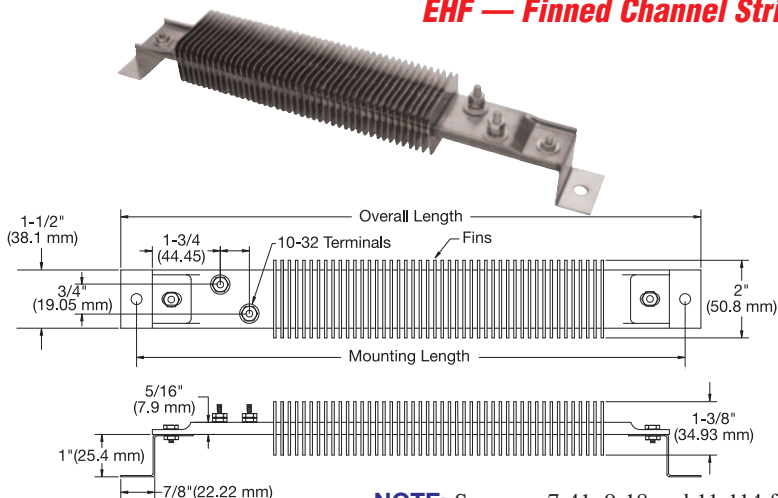
### Design Features

- \* 10-32 offset screw terminals (T4 style) standard, other terminations available
- \* UL recognized component
- \* Stainless steel sheath and fins
- \* Easy installation with special enclosure mounting brackets

## Stock and Standard (Non-Stock) Series EHF Heaters

Stock Items Are Shown In **RED**

Overall Length	Mounting Dimension	Watts	Part Number	
			120V	240V
12.125	11.375	200	<b>EHF00001</b>	EHF00002
15.625	14.875	350	<b>EHF00003</b>	EHF00004
19.5	18.75	450	<b>EHF00005</b>	EHF00006
25.375	24.625	700	EHF00007	EHF00008



**NOTE:** See page 7-41, 9-18 and 11-114 for other type enclosure heaters.

## Ordering Information

### Catalog Heaters

Select a Finned Strip Heater from the Standard Sizes and Ratings lists on pages 8-14 and 8-15.

Finned Strip Heaters whose Part Numbers are in **RED** are available from Stock for immediate delivery.

Standard Non-Stock Part Numbers have a 3-week lead time.

### Custom Engineered/Manufactured Heaters

An electric heater can be very application specific; for sizes and ratings not listed, **TEMPCO** will design and manufacture a Finned Strip Heater to meet your requirements. **Standard lead time is 3 weeks.**

Please Specify the following:

- Type of Application
- Length
- Wattage
- Voltage
- Termination Type
- Secondary Bushings (see page 8-13)
- Igloo™ Ceramic Terminal Covers

**WARNING:** Cancer and Reproductive Harm - [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

**(800) 323-6859 • Email: [sales@tempco.com](mailto:sales@tempco.com)**