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For decades, process measurement and control professionals have turned to OMEGA's famous FREE handbooks for product information and reference material. Of course, our people, services, facilities, and commitment to customer satisfaction go well beyond the handbooks.

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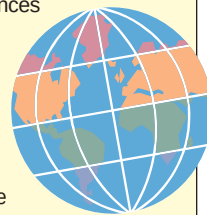
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On the Cover

HTWAT Series, see page 30.

CH-OTS, see page 108.

TRI Series, see page 132.

AHP Series, see page 119.

TOTE Series, see page 26.

KH-KIT Series, see page 6.

EMH Series, see page 102.

GCW Series, see page 23.

TRI Series, see page 132.

SRFR, see page 9.

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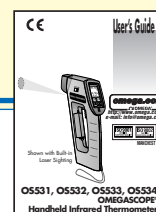
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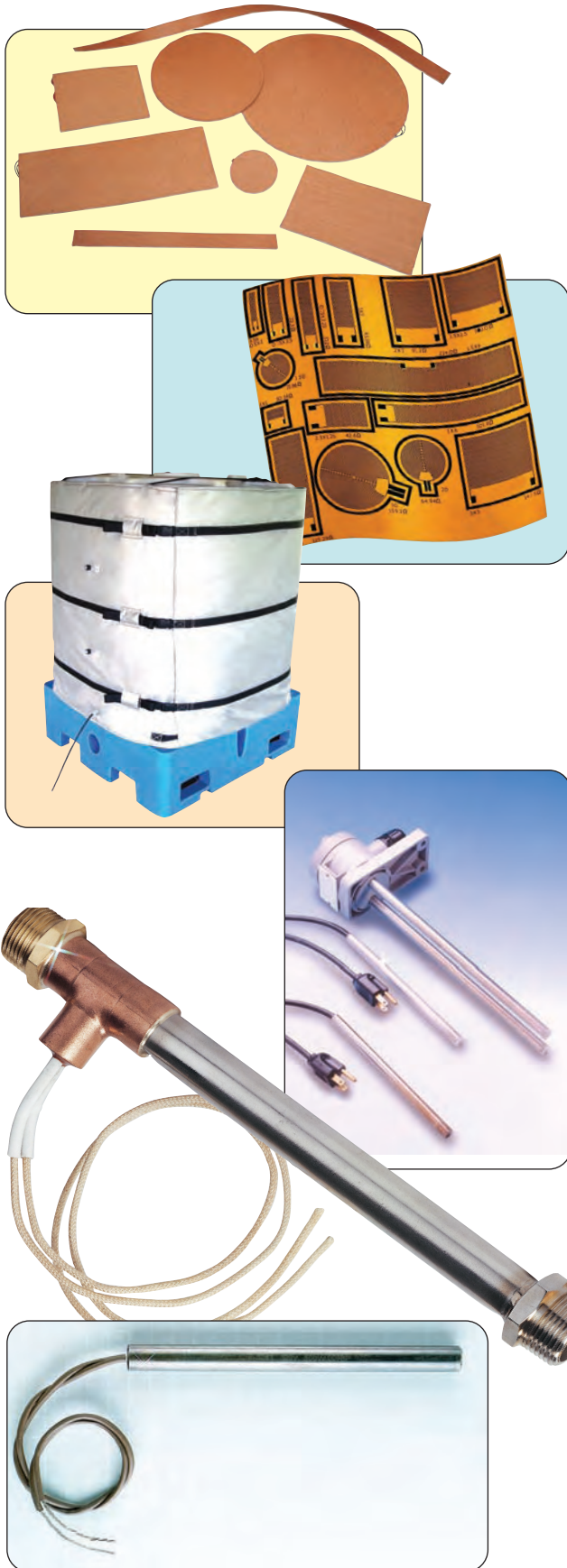
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ELECTRIC HEATERS

TABLE OF CONTENTS

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Introduction to Flexible Heaters/ Technical Reference	1
Kapton® Flexible Heaters	3
Silicone Flexible Heaters	9
Heavy-Duty Blankets and Drum Heaters	17
Heating Tapes	28
Rope Heaters and Heating Cords	34
Heating Cable Technical Reference	36
Self-Regulating Heating Cable	43
Cartridge Heater Technical Reference	56
Cartridge Heaters	62
Strip Heaters Technical Reference	74
Strip Heaters	81
Screw Plug Immersion Heaters	94
Over-the-Side Immersion Heaters	108
Air Process Heaters	119
Radiant Heater	123
Tubular and Band Heaters	131
Circulation and Comfort Heaters	152
Laboratory Equipment	154
Heater Hook-Up Wire	162
Controller and Switching Devices	172

INTRODUCTION TO FLEXIBLE HEATERS

Typical Applications of Flexible Heaters

OMEGALUX® is your dependable source of precision flexible heater products, and a unique source of creative application design, engineering assistance, and manufacturing support.

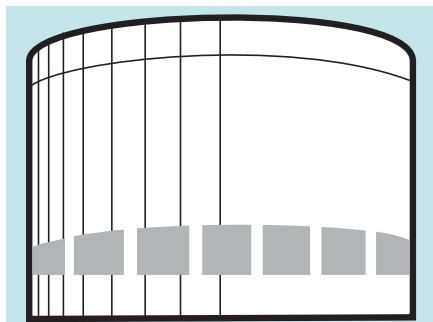
OMEGALUX makes standard and custom-configured; Flexible Heaters, Assemblies, Drum & Pail Heaters, Flexible Circuits and Flexible Heaters With Control Device Options (e.g. thermostats, thermistors, thermocouples, RTDs and thermal fuses).

OMEGALUX products are available in a wide range of materials and specifications. All undergo rigid quality assurance/quality control testing to insure that OMEGALUX products meet our standards and your application requirements.

You can improve heat transfer, speed warm-ups and increase the capacity for higher watt density with OMEGALUX Silicone Flexible Heaters.

OMEGALUX Silicone Flexible Heaters are rugged, reliable, accurate, and moisture and chemical-resistant. They can be easily bonded or adhered to other system parts.

OMEGALUX Silicone Flexible Heating Elements and Assemblies can be supplied in standard, off-the-shelf configurations or custom designed to your individual specifications

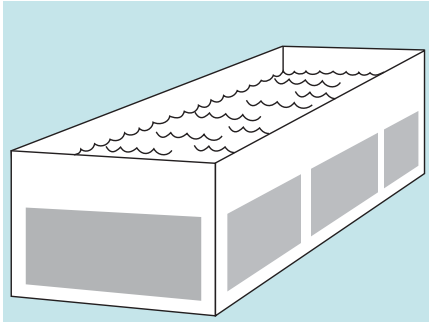


Storage Tanks

Viscosity control and freeze protection for:

Petroleum products

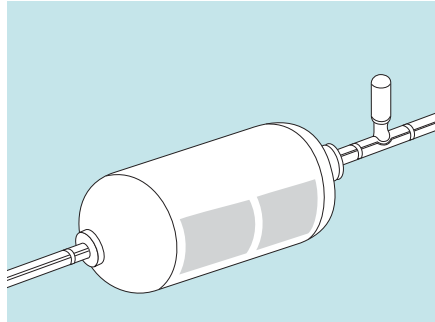
- ✓ Caustic liquids
- ✓ Water
- ✓ Molasses
- ✓ Most stored liquids



Process Vats and Dip Tanks

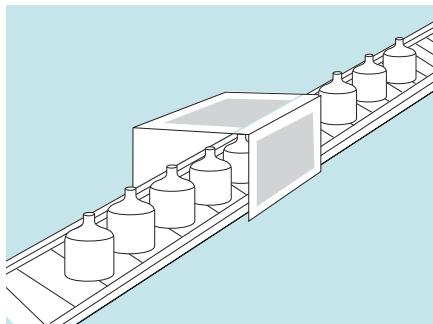
Heat raising and maintenance for:

- ✓ Plating
- ✓ Degreasing
- ✓ Rinsing



Heat Tracing Systems

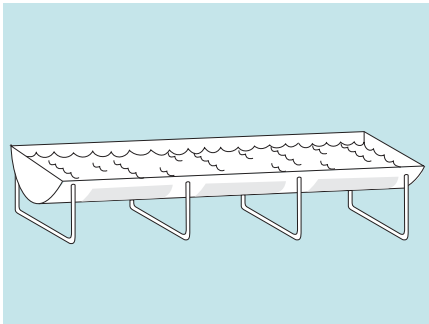
- ✓ Temperature control on special vessels and valves where it is difficult to heat with cable or tape.



Low Temperature Ovens

Process temperature control for:

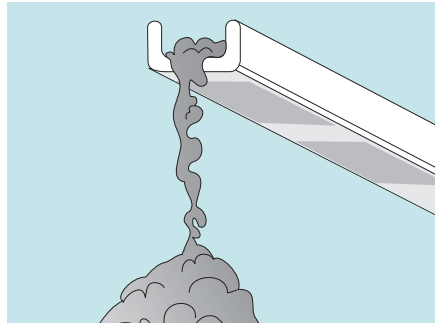
- ✓ Curing
- ✓ Shrinking
- ✓ Baking



Water and Feed Troughs

Freeze protection for:

- ✓ Water
- ✓ Livestock feeds



Conveyors

Freeze protection for:

- ✓ Coal
- ✓ Ash
- ✓ Gravel

APPLICATIONS GUIDE

Silicone Rubber/Fiberglass and Kapton® Insulated Flexible Heaters

Flexible heating elements have a wide range of industrial, commercial, and military applications where reliability, cost effectiveness, minimum cross-section, resistance to deterioration, and basic flexibility are critical.

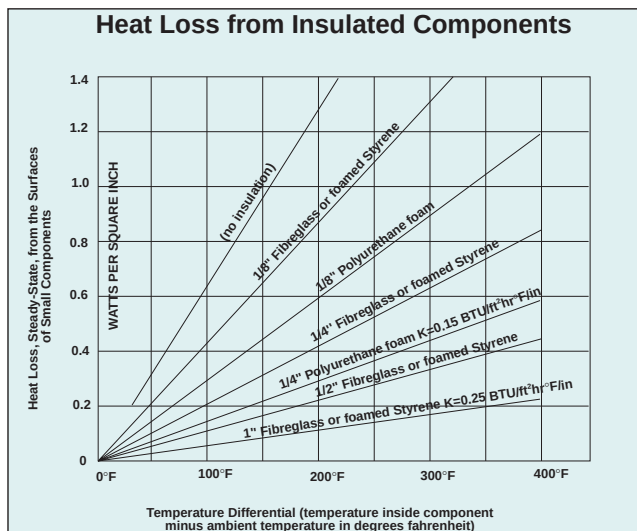
Silicone Rubber/Fiberglass Heaters are the most widely used flexible heaters. Temperature rated from -56 to 232°C (-70 to 450°F) silicone rubber resists radiation, moisture, compression set, weathering, vacuum, fungus, oils, solvents, and chemical attack. It may be factory bonded or applied with silicone rubber RTV cement or pressure sensitive adhesive systems. Various mechanical fastenings are also available.

Kapton®/FEP Film Insulation is ideal for very precise heating requirements such as satellites and aerospace equipment. Kapton, used from -200 to 200°C (-328 to 392°F), is self-extinguishing, has double the tensile strength of fiberglass reinforced silicone rubber, and is not affected by common solvents and fluids. Kapton is almost 50% lighter than silicone rubber insulation and provides a 0.010" maximum cross-section.

Temperature Control: In the majority of applications for silicone rubber and Kapton insulated heaters, some form of temperature control must be used. See Section P for temperature controls. In some applications, electromechanical thermostats or other types of temperature control may be used.

Custom Engineered Heaters:

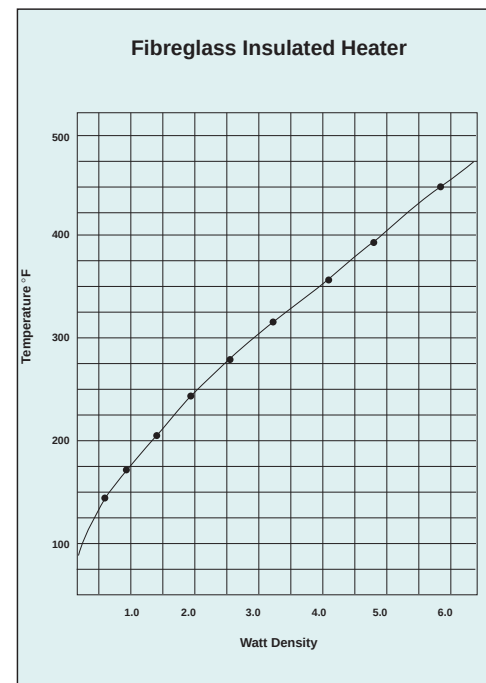
Flexible heaters can be custom made to meet your requirements for size, voltage and wattage. Built-in thermostats can also be provided on request. For more information, contact our engineering department.



Specific Heats And Densities Of Common Heat Sink Materials

Comparison Of Materials		
Material	Specific Heat*	Density (lbs/cu in)
Aluminum & Its Alloys	0.23	0.1018
Stainless Steels	0.12	0.2895
Carbon Steels	0.11	0.2827
Copper Alloys	0.10	0.3231
Nickel & Its Alloys	0.10	0.3340
Zinc & Its Alloys	0.10	0.2589

*Btu/lb°F for cal/gm°C



The temperature shown is the internal metallic element temperature. This would be the hottest point of the heater. The test heater was suspended horizontally in still air at a 21°C (70°F) ambient temperature.

Watt densities of up to 35 watts/in² are possible when heaters are bonded to a heat sink and controlled with a thermostat or electronic control.

KAPTON® INSULATED FLEXIBLE HEATERS



- ✓ Rated up to 200°C (392°F)
- ✓ Etched Foil Design
- ✓ 0.010" Maximum Thickness
- ✓ 2.5, 5, or 10 Watts/In²
- ✓ 115, 230[†] and 28V
- ✓ Optional Pressure-Sensitive Adhesive (PSA)

Kapton® insulated heaters are available in a variety of shapes, sizes, and wattages. Wattage ratings are 2.5, 5, or 10W/in² at 115, 230[†] or 28V. Kapton® offers a high degree of resistance to chemicals, and has excellent outgassing properties in high vacuum environments.

Typical construction consists of an etched foil element of 0.0005" or 0.0001" thickness which is encapsulated between two layers of 0.002" Kapton® and 0.001" FEP adhesive.

KHLV Series, Rectangular, 28 Volts

KHR Series, Round, 115 Volts

To Order (Specify Model Number)

Dia. cm (")	Total Wattage for Watt Density			Without PSA		With PSA	
	2.5W/in ²	5W/in ²	10W/in ²	Model No.	Price	Model No.	Price
5 (2)	—	—	31.4	KHR-2/(*)	\$33	KHR-2/(*)-P	\$36
7.6 (3)	17.7	35.3	70.7	KHR-3/(*)	36	KHR-3/(*)-P	40
10 (4)	31.4	62.8	126	KHR-4/(*)	41	KHR-4/(*)-P	41
13 (5)	49.1	98.2	196	KHR-5/(*)	49	KHR-5/(*)-P	54
15 (6)	70.7	141	283	KHR-6/(*)	56	KHR-6/(*)-P	62
18 (7)	96.2	192	385	KHR-7/(*)	62	KHR-7/(*)-P	68
20 (8)	126	251	503	KHR-8/(*)	68	KHR-8/(*)-P	74
23 (9)	159	318	636	KHR-9/(*)	74	KHR-9/(*)-P	81
25 (10)	196	393	785	KHR-10/(*)	80	KHR-10/(*)-P	88
28 (11)	238	475	950	KHR-11/(*)	88	KHR-11/(*)-P	97
30 (12)	283	565	1131	KHR-12/(*)	96	KHR-12/(*)-P	104

Comes with complete operator's manual.

* Insert watt density: 2 for 2.5 W/in², 5 for 5 W/in² or 10 for 10 W/in².

** Heaters with pressure sensitive adhesive: not available at 10 W/in²; maximum operating temperature is 149°C (300°F).

† Most sizes available in 230V. Consult heater sales and engineering.

Ordering Example: KHLV-104/5-P is a 2.5 x 10 cm (1 x 4"), 28V, 5W/in² Kapton heater with PSA, \$36. **Note:** Heaters are available in only the watt densities where total wattage is indicated.

MOST POPULAR MODELS HIGHLIGHTED!

To Order (Specify Model Number)

Width, cm (")	Length, cm (")	Total Wattage for Watt Density			Without PSA		With PSA	
		2.5W/in ²	5W/in ²	10W/in ²	Model No.	Price	Model No.	Price
1 (0.5)	5 (2)	—	5	10	KHLV-0502/(*)	\$31	KHLV-0502/(*)-P	\$35
1 (0.5)	10 (4)	5	10	20	KHLV-0504/(*)	33	KHLV-0504/(*)-P	36
2.5 (1)	2.5 (1)	—	5	10	KHLV-101/(*)	31	KHLV-101/(*)-P	35
2.5 (1)	5 (2)	5	10	20	KHLV-102/(*)	31	KHLV-102/(*)-P	35
2.5 (1)	7.6 (3)	7.5	15	30	KHLV-103/(*)	32	KHLV-103/(*)-P	35
2.5 (1)	10 (4)	10	20	40	KHLV-104/(*)	33	KHLV-104/(*)-P	36
2.5 (1)	13 (5)	12.5	25	50	KHLV-105/(*)	34	KHLV-105/(*)-P	37
5 (2)	5 (2)	10	20	40	KHLV-202/(*)	33	KHLV-202/(*)-P	36

Lead wires exit from the upper right hand corner of width (W) side of heater. For ½ and 1" wide heaters only, leads exit centrally from width (W) side. Leads exit round heaters radially.

Pressure sensitive adhesive (PSA) is available as an option on heaters rated at 2.5 or 5 W/in². The heaters can also be mechanically clamped or epoxy mounted by the user.

SPECIFICATIONS

Operating Temperature: -200 to 200°C (-328 to 392°F) for heaters without pressure sensitive adhesive (PSA). Maximum operating temperature for heaters with pressure sensitive adhesive is 149°C (300°F).

Maximum Thickness: 0.010" except at lead wire exit

Wattage: 2.5, 5 or 10 W/in²

Leads: FEP insulated (MIL-W-16878), 305 mm (12") long (wire gauge varies with heater)

Dielectric Strength: 1250 Vac

Minimum Bending Radius: 0.032"

KAPTON® INSULATED FLEXIBLE HEATERS

KH Series, Rectangular, 115 Volts

MOST POPULAR MODELS HIGHLIGHTED!

To Order (Specify Model Number)								
Width, cm (")	Length, cm (")	Total wattage for Watt Density			Without PSA		With PSA	
		2.5W/in ²	5W/in ²	10W/in ²	Model No.	Price	Model No.	Price
2.5 (1)	7.6 (3)	—	—	30	KH-103/(*)	\$32	KH-103/(*)-P	n/a
2.5 (1)	10 (4)	—	20	40	KH-104/(*)	33	KH-104/(*)-P	\$36
2.5 (1)	7.6 (3)	—	25	50	KH-105/(*)	34	KH-105/(*)-P	37
2.5 (1)	15 (6)	15	30	60	KH-106/(*)	35	KH-106/(*)-P	38
2.5 (1)	13 (8)	20	40	80	KH-108/(*)	37	KH-108/(*)-P	40
2.5 (1)	25 (10)	25	50	100	KH-110/(*)	38	KH-110/(*)-P	42
2.5 (1)	30 (12)	30	60	120	KH-112/(*)	40	KH-112/(*)-P	44
5 (2)	5 (2)	—	20	40	KH-202/(*)	32	KH-202/(*)-P	35
5 (2)	7.6 (3)	15	30	60	KH-203/(*)	34	KH-203/(*)-P	37
5 (2)	10 (4)	20	40	80	KH-204/(*)	36	KH-204/(*)-P	39
5 (2)	13 (5)	25	50	100	KH-205/(*)	37	KH-205/(*)-P	41
5 (2)	15 (6)	30	60	120	KH-206/(*)	39	KH-206/(*)-P	43
5 (2)	20 (8)	40	80	160	KH-208/(*)	42	KH-208/(*)-P	46
5 (2)	25 (10)	50	100	200	KH-210/(*)	45	KH-210/(*)-P	50
5 (2)	30 (12)	60	120	240	KH-212/(*)	48	KH-212/(*)-P	53
7.6 (3)	7.6 (3)	22.5	45	90	KH-303/(*)	36	KH-303/(*)-P	40
7.6 (3)	10 (4)	30	60	120	KH-304/(*)	39	KH-304/(*)-P	42
7.6 (3)	13 (5)	37.5	75	150	KH-305/(*)	41	KH-305/(*)-P	45
7.6 (3)	15 (6)	45	90	180	KH-306/(*)	43	KH-306/(*)-P	47
7.6 (3)	20 (8)	60	120	240	KH-308/(*)	48	KH-308/(*)-P	52
7.6 (3)	25 (10)	75	150	300	KH-310/(*)	52	KH-310/(*)-P	57
7.6 (3)	30 (12)	90	180	360	KH-312/(*)	57	KH-312/(*)-P	62
10 (4)	10 (4)	40	80	160	KH-404/(*)	41	KH-404/(*)-P	46
10 (4)	13 (5)	50	100	200	KH-405/(*)	44	KH-405/(*)-P	49
10 (4)	15 (6)	60	120	240	KH-406/(*)	47	KH-406/(*)-P	52
10 (4)	20 (8)	80	160	320	KH-408/(*)	53	KH-408/(*)-P	58
10 (4)	25 (10)	100	200	400	KH-410/(*)	59	KH-410/(*)-P	65
10 (4)	30 (12)	120	240	480	KH-412/(*)	65	KH-412/(*)-P	71
13 (5)	13 (5)	62.5	125	250	KH-505/(*)	48	KH-505/(*)-P	53
13 (5)	15 (6)	75	150	300	KH-506/(*)	52	KH-506/(*)-P	57
13 (5)	20 (8)	100	200	400	KH-508/(*)	59	KH-508/(*)-P	65
13 (5)	25 (10)	125	250	500	KH-510/(*)	67	KH-510/(*)-P	74
13 (5)	30 (12)	150	300	600	KH-512/(*)	75	KH-512/(*)-P	82
15 (6)	15 (6)	90	180	360	KH-606/(*)	56	KH-606/(*)-P	62
15 (6)	20 (8)	120	240	480	KH-608/(*)	65	KH-608/(*)-P	71
15 (6)	25 (10)	150	300	600	KH-610/(*)	74	KH-610/(*)-P	81
15 (6)	30 (12)	180	360	720	KH-612/(*)	83	KH-612/(*)-P	91
20 (8)	20 (8)	160	320	640	KH-808/(*)	67	KH-808/(*)-P	74
20 (8)	25 (10)	200	400	800	KH-810/(*)	77	KH-810/(*)-P	87
20 (8)	30 (12)	240	480	960	KH-812/(*)	86	KH-812/(*)-P	95
25 (10)	25 (10)	250	500	1000	KH-1010/(*)	79	KH-1010/(*)-P	87
25 (10)	30 (12)	300	600	1200	KH-1012/(*)	89	KH-1012/(*)-P	98
30 (12)	30 (12)	360	720	1440	KH-1212/(*)	95	KH-1212/(*)-P	103

n/a = not available with PSA. Comes with complete operator's manual.

* Insert watt density: 2 for 2.5 W/in², 5 for 5 W/in² or 10 for 10W/in².

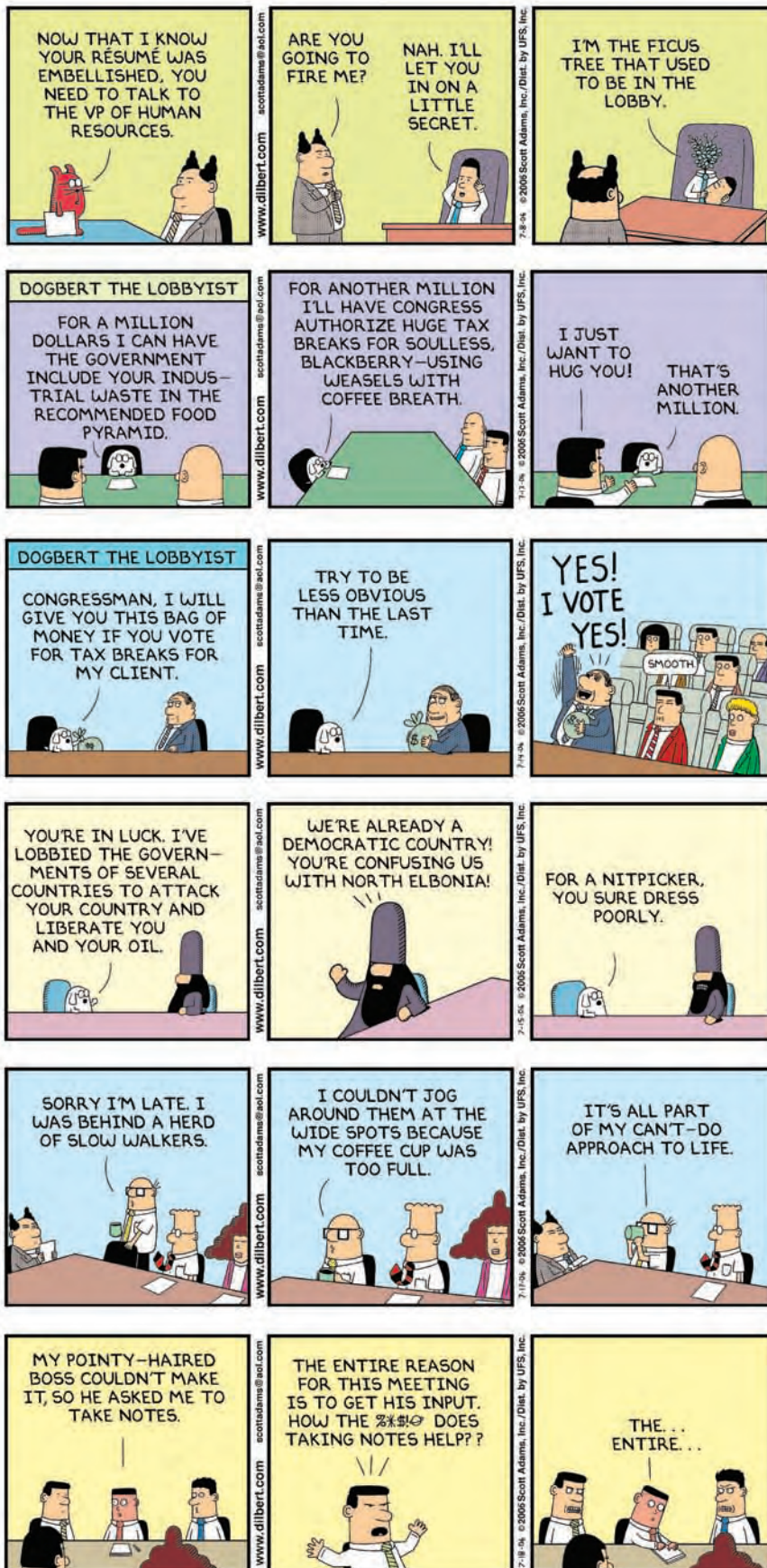
** Heaters with pressure sensitive adhesive (PSA): not available at 10W/in².

Ordering Example: KH-310/2, is a 7.6 x 25 cm (3 x 10"), 115 Vac, 2.5 W/in², Kapton heater, \$52.

Note: Heaters are available in only the watt densities where total wattage is indicated.

Accessory

Model No.	Price	Description
PE-1414	\$100	Reference Book: Engineering Economy: Applying Theory to Practice 



OSXL450
\$59

Infrared Thermometer with Circle/Dot Laser Sighting

PATENTED
Covered by U.S. and International patents and pending applications.

OS423-LS
\$185

Economical Professional Infrared Thermometer with Optional Probe

OS425-LS
\$245

Professional Infrared Thermometer with 50:1 Field of View and Magnetic Mount with Optional Probe

PATENTED
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KAPTON® HEATER KIT

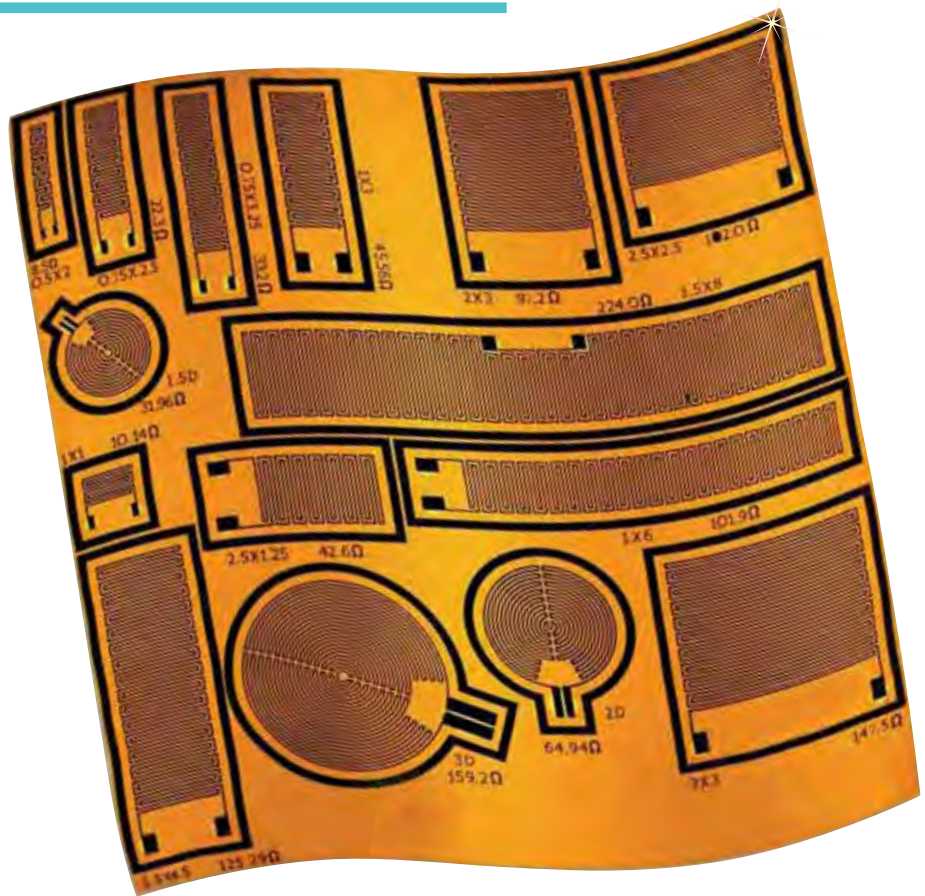
KH-KIT-EFH-15001

\$100

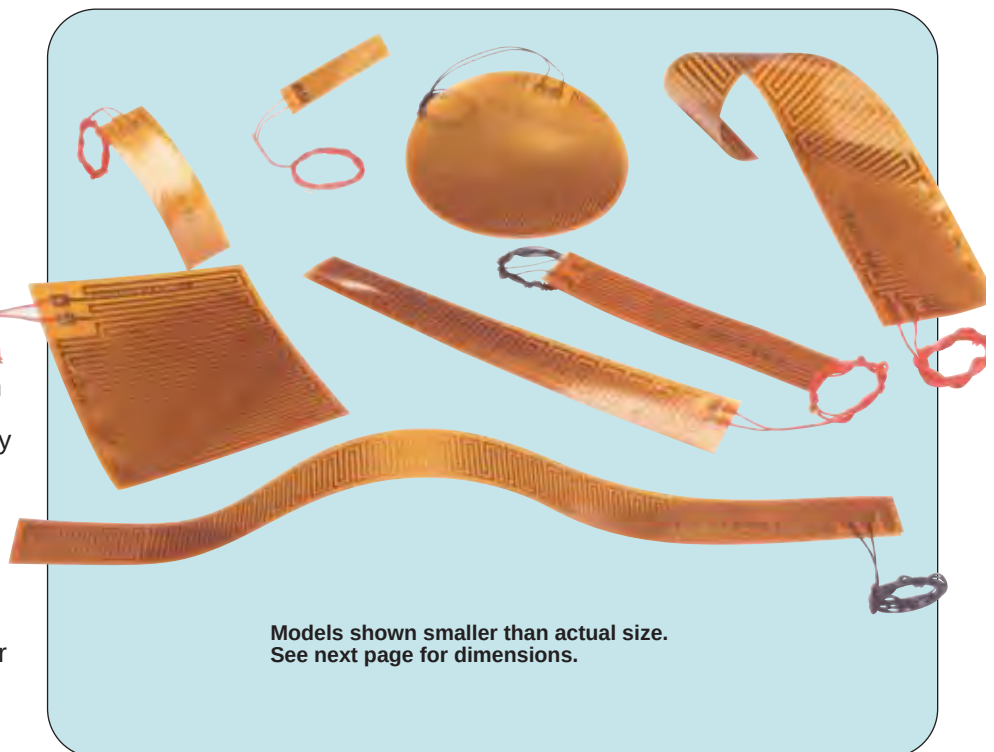


- ✓ Withstand Temperature Extremes from -200° to 200°C (-328 to 392°F)
- ✓ Excellent Tensile Strength, and Tear Resistance
- ✓ Low Out-Gassing
- ✓ Wattage 2.5, 5, or 10W/in
- ✓ Small, Flexible Radius (0.032" minimum)
- ✓ Chemical Resistance to many Solvents and Oils
- ✓ Available with or without Pressure Sensitive Adhesive
- ✓ 115 or 230 Vac
- ✓ Multiple Wattage Heaters and Profiled Watts.

The Kapton® heater kit contains thin and flexible heaters with adhesive backing to conform to practically any flat or curved surface. With 15 different shapes, this kit can suit almost any application. Heater configurations are outlined on a 0.3 x 0.3 m (1x1') sheet, with line markings for easy selection and cutout. When used in combination, these heaters can provide a number of resistance and wattages. Leads can be soldered on or connected with alligator clips.



KH-KIT-EFH-15001, \$100, shown smaller than actual size.



Models shown smaller than actual size. See next page for dimensions.

Typical Applications

- ✓ Aerospace
- ✓ Analytical Equipment
- ✓ Tooling
- ✓ Commercial Equipment
- ✓ Agriculture
- ✓ Packaging
- ✓ Material Handling

SPECIFICATIONS

Thickness: 0.203 mm (0.008")

Maximum Operating

Temperature:

Kapton®: 200°C (392°F)

Adhesive Backing
(Continuous Use):

149°C (300°F)

Adhesive Backing

(Short Time Periods):

Up to 232°C (450°F)

Dielectric Strength: 1000 Vac min

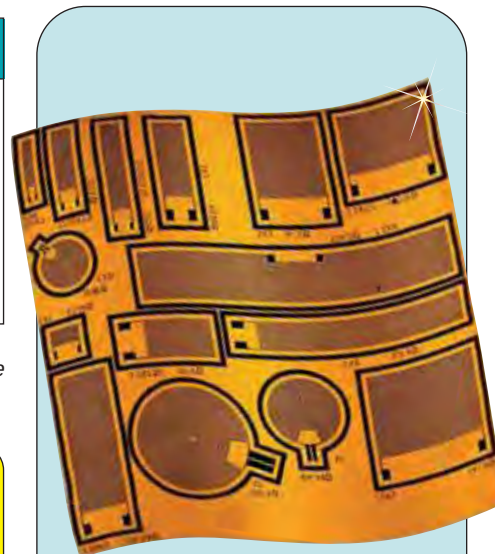
Recommended Leads: CURRENT RATING TABLE

Wire Gage (AWG)	Max Current (A)
28	1.25
26	1.25
24	3.16
22	5
20	10
18	15
16	15
14	20

A PTFE-insulated lead wire is recommended for energizing the heater. Use heater wattage chart along with current rating table to determine the recommended lead-wire gage.

CAUTION AND WARNING!

Fire and electrical shock may result if products are used improperly or installed or used by non-qualified personnel.



KH-KIT-EFH-15001, \$100, shown smaller than actual size.

The chart below shows wattage outputs when heaters are connected to various power supplies. Resistance values are nominal values only. The resistance values have a tolerance of $\pm 10\%$.

Heater Wattage Chart

Size (in)	Resistance (Ω)	Watts (12V)	Amps	Watts (28V)	Amps	Watts (115V)	Watts	Watts (230V)	Amps
0.5 x 2.0	8.8	16.4	1.4	89.1	3.2	1502.8	13.1	6011.4	26.1
0.75 x 2.5	23.5	6.1	0.5	33.4	1.2	562.8	4.9	2251.1	9.8
0.75 x 3.25	33.2	4.3	0.4	23.6	0.8	398.3	3.5	1593.4	6.9
1.0 x 1.0	11.0	13.1	1.1	71.3	2.5	1202.3	10.5	4809.1	20.9
1.0 x 3.0	40.0	3.6	0.3	19.6	0.7	330.6	2.9	1322.5	5.8
1.0 x 6.0	105.9	1.4	0.1	7.4	0.3	124.9	1.1	499.5	2.2
1.5 Dia.	32.8	4.4	0.4	23.9	0.9	403.2	3.5	1612.8	7.0
1.5 x 4.5	120.3	1.2	0.1	6.5	0.2	109.9	1.0	439.7	1.9
1.5 x 8.0	252.0	0.6	0.0	3.1	0.1	52.5	0.5	209.9	0.9
2.0 Dia.	56.4	2.6	0.2	13.9	0.5	234.5	2.0	937.9	4.1
2.0 x 3.0	103.7	1.4	0.1	7.6	0.3	127.5	1.1	510.1	2.2
2.5 x 1.25	42.8	3.4	0.3	18.3	0.7	309.0	2.7	1236.0	5.4
2.5 x 2.5	108.6	1.3	0.1	7.2	0.3	121.8	1.1	487.1	2.1
3.0 Dia.	169.0	0.9	0.1	4.6	0.2	78.3	0.7	313.0	1.4
3.0 x 3.0	153.7	0.9	0.1	5.1	0.2	86.0	0.7	344.2	1.5

Note: All kit heaters require either a temperature or power controller to regulate heater temperature.

ALL MODELS AVAILABLE FOR FAST DELIVERY!

To Order (Specify Model Number)

Model No.	Price	Description
KH-KIT-EFH-15001	\$100	Kapton® flexible heater sample kit
PE-1010	94	Reference Book: Engineering Design Process

Ordering Example: KH-KIT-EFH-15001, Kapton® flexible heater sample kit, \$100.

To Order, Call **1-800-872-4328** or Shop Online at **omega.comSM**

Paperless Recorder with
Standard Ethernet and USB
Communications Interface

RD9900 Series
Starts at
\$2500



Paperless Recorder/
Data Acquisition System

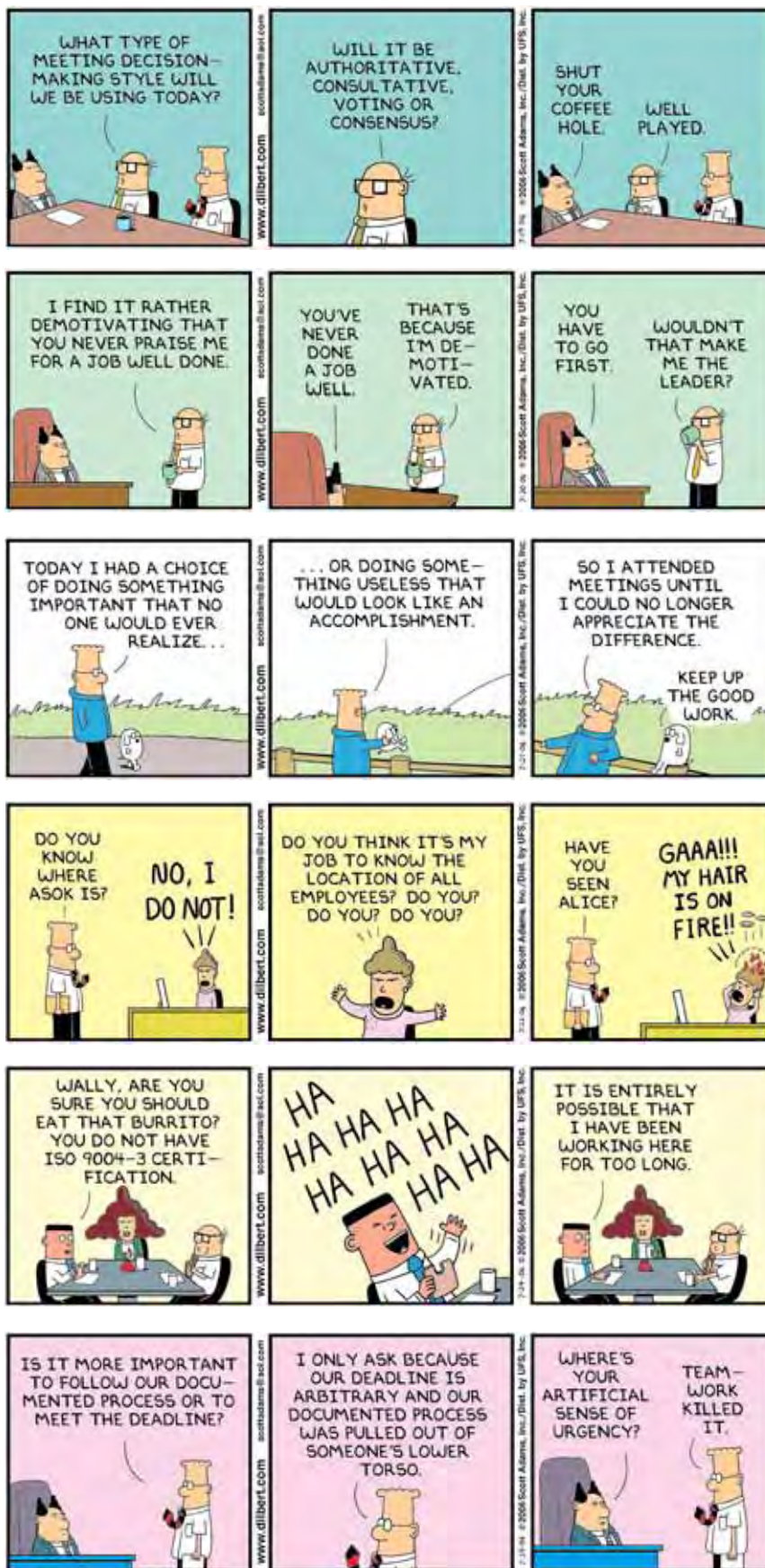
RD8800 Series
Starts at
\$1395



RD200 and
RD2800 Series
Starts at
\$1430

100 and 180 mm
Programmable
Chart Recorders

**Please search omega.com
for more details on these
featured products!**



FLEXIBLE SILICONE RUBBER FIBERGLASS INSULATED HEATERS

- ✓ Lightweight, Thin, Flexible
- ✓ Available in 2.5, 5 and 10 W/in²
- ✓ -56 to 232°C (-70 to 450°F) Operating Temperature
- ✓ Etched Foil and Wire Wound Design
- ✓ Round or Rectangular Shapes
- ✓ Available in 115 or 230** Vac
- ✓ Optional Pressure Sensitive Adhesive (PSA)[†]

SRF Series
Starts at

\$26



OMEGALUX[®] silicone rubber fiberglass insulated flexible heaters can improve heat transfer and speed warm-ups where controlled heating is required in confined areas. Two circuit designs are available: etched foil or wire wound. Heaters with etched foil designed elements are available where the length or width dimension is less than 305 mm (12"). All other heaters where both the length and

the width dimensions exceed 305 mm (12") use the wire-wound element design. Effect of power density: gentle warming is best done with 2.5 W/in². A good all purpose unit is the 5 W/in². Rapid warm-up and high temperature are

achieved with the 10 W/in²; however, temperature must be controlled as the safe maximum operating temperature limit of 232°C (450°F) may be exceeded.

Round Silicone Rubber Heaters

MOST POPULAR MODELS HIGHLIGHTED!

To Order (Specify Model Number)							
Diameter cm (in)	Total Wattage for Watt Density			Without PSA Model No.	Price	With PSA Model No.	Price
	2.5W/in ²	5W/in ²	10W/in ²				
7.6 (3)	17.5	35	70	SRFR-3/*	\$26	SRFR-3/*-P	\$28
10 (4)	31.4	62.8	125.6	SRFR-4/*	32	SRFR-4/*-P	35
13 (5)	49.0	98.15	196.3	SRFR-5/*	39	SRFR-5/*-P	42
15 (6)	70.67	141.3	282.7	SRFR-6/*	40	SRFR-6/*-P	44
18 (7)	96.2	192.4	384.8	SRFR-7/*	44	SRFR-7/*-P	48
20 (8)	125.65	251.3	502.6	SRFR-8/*	48	SRFR-8/*-P	53
23 (9)	157.9	315.8	631.7	SRFR-9/*	53	SRFR-9/*-P	59
25 (10)	196.25	392.5	785	SRFR-10/*	59	SRFR-10/*-P	65
28 (11)	237.45	474.9	949.8	SRFR-11/*	65	SRFR-11/*-P	72
30 (12)	376.8	753.6	1507.2	SRFR-12/*	72	SRFR-12/*-P	79

Comes with complete operator's manual

* Insert watt density: 2 for 2.5 W/in², 5 for 5 W/in² or 10 for 10 W/in².

** Most sizes available in 230V. Contact Engineering.

Ordering Example: SRFR-3/10, 7.6 cm (3") diameter heater with a watt density of 10 W/in² and 70 watts of total power, \$26.

[†] Heaters with pressure sensitive adhesive: max operating temperature is 149°C (300°F).

CAUTION AND WARNING!

Fire and electrical shock may result if products are used improperly or installed or used by non-qualified personnel. See inside back cover for additional warning.

Rectangular Silicone Rubber Heaters

MOST POPULAR MODELS HIGHLIGHTED!

To Order (Specify Model Number)								
Width, cm (")	Length, cm (")	Total Wattage for Watt Density			Without PSA		With PSA	
		2.5W/in ²	5W/in ²	10W/in ²	Model No.	Price	Model No.	Price
2.5 (1)	2.5 (1)	—	—	10	SRFG-101/10	\$21	SRFG-101/10-P	\$23
2.5 (1)	5 (2)	5	10	—	SRFG-102/*	22	SRFG-102/*-P	24
2.5 (1)	7.6 (3)	7.5	15	30	SRFG-103/*	22	SRFG-103/*-P	25
2.5 (1)	10 (4)	10	20	40	SRFG-104/*	23	SRFG-104/*-P	26
2.5 (1)	13 (5)	12.5	25	50	SRFG-105/*	24	SRFG-105/*-P	27
2.5 (1)	15 (6)	15	30	60	SRFG-106/*	25	SRFG-106/*-P	27
2.5 (1)	18 (7)	17.5	35	70	SRFG-107/*	26	SRFG-107/*-P	29
2.5 (1)	20 (8)	20	40	80	SRFG-108/*	18	SRFG-108/*-P	20
2.5 (1)	23 (9)	22.5	45	90	SRFG-109/*	19	SRFG-109/*-P	20
2.5 (1)	25 (10)	25	50	100	SRFG-110/*	19	SRFG-110/*-P	21
2.5 (1)	28 (11)	27.5	55	110	SRFG-111/*	20	SRFG-111/*-P	22
2.5 (1)	30 (12)	30	60	120	SRFG-112/*	20	SRFG-112/*-P	22
2.5 (1)	46 (18)	45	90	180	SRFG-118/*	24	SRFG-118/*-P	26
2.5 (1)	61 (24)	60	120	240	SRFG-124/*	28	SRFG-124/*-P	30
2.5 (1)	76 (30)	75	150	300	SRFG-130/*	29	SRFG-130/*-P	32
2.5 (1)	91 (36)	90	180	360	SRFG-136/*	35	SRFG-136/*-P	38
2.5 (1)	107 (42)	105	210	420	SRFG-142/*	38	SRFG-142/*-P	42
2.5 (1)	122 (48)	120	240	480	SRFG-148/*	42	SRFG-148/*-P	46
5 (2)	5 (2)	10	20	40	SRFG-202/*	22	SRFG-202/*-P	24
5 (2)	7.6 (3)	15	30	60	SRFG-203/*	23	SRFG-203/*-P	25
5 (2)	10 (4)	20	40	80	SRFG-204/*	24	SRFG-204/*-P	26
5 (2)	13 (5)	25	50	100	SRFG-205/*	20	SRFG-205/*-P	22
5 (2)	15 (6)	30	60	120	SRFG-206/*	22	SRFG-206/*-P	23
5 (2)	18 (7)	35	70	140	SRFG-207/*	21	SRFG-207/*-P	24
5 (2)	20 (8)	40	80	160	SRFG-208/*	23	SRFG-208/*-P	25
5 (2)	23 (9)	45	90	180	SRFG-209/*	24	SRFG-209/*-P	26
5 (2)	25 (10)	50	100	200	SRFG-210/*	25	SRFG-210/*-P	27
5 (2)	28 (11)	55	110	220	SRFG-211/*	25	SRFG-211/*-P	28
5 (2)	30 (12)	60	120	240	SRFG-212/*	26	SRFG-212/*-P	29
5 (2)	46 (18)	90	180	360	SRFG-218/*	32	SRFG-218/*-P	35
5 (2)	61 (24)	120	240	480	SRFG-224/*	37	SRFG-224/*-P	40
5 (2)	76 (30)	150	300	600	SRFG-230/*	42	SRFG-230/*-P	45
5 (2)	91 (36)	180	360	720	SRFG-236/*	48	SRFG-236/*-P	52
5 (2)	107 (42)	210	420	840	SRFG-242/*	52	SRFG-242/*-P	58
5 (2)	122 (48)	240	480	960	SRFG-248/*	58	SRFG-248/*-P	64
7.6 (3)	7.6 (3)	22.5	45	90	SRFG-303/*	23	SRFG-303/*-P	26
7.6 (3)	10 (4)	30	60	120	SRFG-304/*	25	SRFG-304/*-P	27
7.6 (3)	13 (5)	37.5	75	150	SRFG-305/*	26	SRFG-305/*-P	28
7.6 (3)	15 (6)	45	90	180	SRFG-306/*	27	SRFG-306/*-P	30
7.6 (3)	18 (7)	52.5	105	210	SRFG-307/*	28	SRFG-307/*-P	31
7.6 (3)	20 (8)	60	120	240	SRFG-308/*	29	SRFG-308/*-P	32
7.6 (3)	23 (9)	67.5	135	270	SRFG-309/*	31	SRFG-309/*-P	34
7.6 (3)	25 (10)	75	150	300	SRFG-310/*	32	SRFG-310/*-P	35
7.6 (3)	28 (11)	82.5	165	330	SRFG-311/*	33	SRFG-311/*-P	36
7.6 (3)	30 (12)	90	180	360	SRFG-312/*	34	SRFG-312/*-P	38

Comes with complete operator's manual

* Insert watt density: 2 for 2.5 W/in², 5 for 5 W/in² or 10 for 10W/in².

** Most sizes available in 230V. Consult heater sales and engineering.

Ordering Example: SRFG-208/5-P, is a 5 x 20 cm (2 x 8") heater with a watt density of 5 W/in², total rated wattage output of 80 watts, with optional pressure sensitive adhesive, \$25

Note: Heaters are available in only the watt densities where total wattage is shown.

Heaters with pressure sensitive adhesive: not available at 10W/in² max. operating temperature is 149°C (300°F).

Rectangular Silicone Rubber Heaters

MOST POPULAR MODELS HIGHLIGHTED!

To Order (Specify Model Number)								
Width, cm (")	Length, cm (")	Total Wattage for Watt Density			Without PSA		With PSA	
		2.5W/in ²	5W/in ²	10W/in ²	Model No.	Price	Model No.	Price
7.6 (3)	46 (18)	135	270	540	SRFG-318/*	\$42	SRFG-318/*-P	\$46
7.6 (3)	61 (24)	180	360	720	SRFG-324/*	49	SRFG-324/*-P	54
7.6 (3))	76 (30)	225	450	900	SRFG-330/*	56	SRFG-330/*-P	62
7.6 (3)	91 (36)	270	540	1080	SRFG-336/*	63	SRFG-336/*-P	70
7.6 (3)	107 (42)	315	630	1260	SRFG-342/*	71	SRFG-342/*-P	78
7.6 (3)	122 (48)	360	720	1440	SRFG-348/*	78	SRFG-348/*-P	86
10 (4)	10 (4)	40	80	160	SRFG-404/*	29	SRFG-404/*-P	32
10 (4)	13 (5)	50	100	200	SRFG-405/*	31	SRFG-405/*-P	34
10 (4)	15 (6)	60	120	240	SRFG-406/*	32	SRFG-406/*-P	35
10 (4)	18 (7)	70	140	280	SRFG-407/*	34	SRFG-407/*-P	37
10 (4)	20 (8)	80	160	320	SRFG-408/*	35	SRFG-408/*-P	39
10 (4)	23 (9)	90	180	360	SRFG-409/*	37	SRFG-409/*-P	41
10 (4)	25 (10)	100	200	400	SRFG-410/*	38	SRFG-410/*-P	42
10 (4)	28 (11)	110	220	440	SRFG-411/*	40	SRFG-411/*-P	44
10 (4)	30 (12)	120	240	480	SRFG-412/*	41	SRFG-412/*-P	46
10 (4)	46 (18)	180	360	720	SRFG-418/*	51	SRFG-418/*-P	56
10 (4)	61 (24)	240	480	960	SRFG-424/*	60	SRFG-424/*-P	66
10 (4)	76 (30)	300	600	1200	SRFG-430/*	69	SRFG-430/*-P	76
10 (4)	91 (36)	360	720	1440	SRFG-436/*	78	SRFG-436/*-P	86
10 (4)	107 (42)	420	840	1680	SRFG-442/*	88	SRFG-442/*-P	96
10 (4)	122 (48)	480	960	—	SRFG-448/*	97	SRFG-448/*-P	106
13 (5)	13 (5)	62.5	125	250	SRFG-505/*	35	SRFG-505/*-P	39
13 (5)	15 (6)	75	150	300	SRFG-506/*	37	SRFG-506/*-P	41
13 (5)	18 (7)	87.5	175	350	SRFG-507/*	39	SRFG-507/*-P	42
13 (5)	20 (8)	100	200	400	SRFG-508/*	40	SRFG-508/*-P	44
13 (5)	23 (9)	112.5	225	450	SRFG-509/*	42	SRFG-509/*-P	46
13 (5)	25 (10)	125	250	500	SRFG-510/*	44	SRFG-510/*-P	48
13 (5)	28 (11)	137.5	275	550	SRFG-511/*	46	SRFG-511/*-P	50
13 (5)	30 (12)	150	300	600	SRFG-512/*	48	SRFG-512/*-P	52
15 (6)	15 (6)	90	180	360	SRFG-606/*	38	SRFG-606/*-P	42
15 (6)	18 (7)	105	210	420	SRFG-607/*	40	SRFG-607/*-P	44
15 (6)	20 (8)	120	240	480	SRFG-608/*	40	SRFG-608/*-P	44
15 (6)	23 (9)	135	270	540	SRFG-609/*	42	SRFG-609/*-P	46
15 (6)	25 (10)	150	300	600	SRFG-610/*	43	SRFG-610/*-P	47
15 (6)	28 (11)	165	330	660	SRFG-611/*	44	SRFG-611/*-P	48
15 (6)	30 (12)	180	360	720	SRFG-612/*	46	SRFG-612/*-P	51
15 (6)	46 (18)	270	540	1080	SRFG-618/*	56	SRFG-618/*-P	61
15 (6)	61 (24)	360	720	1440	SRFG-624/*	66	SRFG-624/*-P	92
15 (6)	76 (30)	450	900	—	SRFG-630/*	76	SRFG-630/*-P	83
15 (6)	91 (36)	540	1080	—	SRFG-636/*	85	SRFG-636/*-P	94
15 (6)	107 (42)	630	1260	—	SRFG-642/*	91	SRFG-642/*-P	100
15 (6)	122 (48)	720	1440	—	SRFG-648/*	105	SRFG-648/*-P	115
18 (7)	18 (7)	122.5	245	490	SRFG-707/*	40	SRFG-707/*-P	44
18 (7)	20 (8)	140	280	560	SRFG-708/*	42	SRFG-708/*-P	46
18 (7)	23 (9)	157.5	315	630	SRFG-709/*	44	SRFG-709/*-P	48

Comes with complete operator's manual. * Insert watt density: 2 for 2.5 W/in², 5 for 5 W/in² or 10 for 10W/in².

** Most sizes available in 230V. Consult heater sales and engineering.

Ordering Example: SRFG-404/5-P is a 10 x 10 cm (4 x 4") heater with a watt density of 80 W/in², total rated wattage output of 160 watts, with optional pressure sensitive adhesive, \$32.

Note: Heaters are available in only the watt densities where total wattage is shown.

Heaters with pressure sensitive adhesive: max operating temperature is 149°C (300°F).

Rectangular Silicone Rubber Heaters

MOST POPULAR MODELS HIGHLIGHTED!

To Order (Specify Model Number)								
		Total Wattage for Watt Density						
					Without PSA		With PSA	
Width, cm (")	Length, cm (")	2.5W/in ²	5W/in ²	10W/in ²	Model No.	Price	Model No.	Price
18 (7)	25 (10)	175	350	700	SRFG-710/*	\$46	SRFG-710/*-P	\$50
18 (7)	28 (11)	192.5	385	770	SRFG-711/*	47	SRFG-711/*-P	52
18 (7)	30 (12)	210	420	840	SRFG-712/*	47	SRFG-712/*-P	54
20 (8)	20 (8)	160	320	640	SRFG-808/*	44	SRFG-808/*-P	48
20 (8)	23 (9)	180	360	720	SRFG-809/*	46	SRFG-809/*-P	51
20 (8)	25 (10)	200	400	800	SRFG-810/*	48	SRFG-810/*-P	53
20 (8)	28 (11)	220	440	880	SRFG-811/*	50	SRFG-811/*-P	55
20 (8)	30 (12)	240	480	960	SRFG-812/*	53	SRFG-812/*-P	58
20 (8)	46 (18)	360	720	1440	SRFG-818/*	66	SRFG-818/*-P	72
20 (8)	61 (24)	480	960	—	SRFG-824/*	79	SRFG-824/*-P	86
20 (8)	76 (30)	600	1200	—	SRFG-830/*	92	SRFG-830/*-P	101
20 (8)	91 (36)	720	1440	—	SRFG-836/*	105	SRFG-836/*-P	115
20 (8)	107 (42)	840	1680	—	SRFG-842/*	118	SRFG-842/*-P	129
20 (8)	122 (48)	960	1920	—	SRFG-848/*	131	SRFG-848/*-P	144
23 (9)	23 (9)	202.5	405	810	SRFG-909/*	49	SRFG-909/*-P	53
23 (9)	25 (10)	225	450	900	SRFG-910/*	51	SRFG-910/*-P	56
23 (9)	28 (11)	247.5	495	990	SRFG-911/*	53	SRFG-911/*-P	59
23 (9)	30 (12)	270	540	1080	SRFG-912/*	56	SRFG-912/*-P	61
25 (10)	25 (10)	250	500	1000	SRFG-1010/*	52	SRFG-1010/*-P	59
25 (10)	28 (11)	275	550	1100	SRFG-1011/*	58	SRFG-1011/*-P	64
25 (10)	30 (12)	300	600	1200	SRFG-1012/*	59	SRFG-1012/*-P	65
25 (10)	46 (18)	450	900	—	SRFG-1018/*	75	SRFG-1018/*-P	82
25 (10)	61 (24)	600	1200	—	SRFG-1024/*	92	SRFG-1024/*-P	101
25 (10)	76 (30)	750	1500	—	SRFG-1030/*	108	SRFG-1030/*-P	118
25 (10)	91 (36)	900	1800	—	SRFG-1036/*	124	SRFG-1036/*-P	136
25 (10)	107 (42)	1050	—	—	SRFG-1042/*	140	SRFG-1042/*-P	154
25 (10)	122 (48)	1200	—	—	SRFG-1048/*	157	SRFG-1048/*-P	172
28 (11)	28 (11)	302.5	605	1210	SRFG-1111/*	59	SRFG-1111/*-P	65
28 (11)	30 (12)	330	660	1320	SRFG-1112/*	62	SRFG-1112/*-P	69
30 (12)	30 (12)	360	720	—	SRFG-1212/*	71	SRFG-1212/*-P	74
30 (12)	46 (18)	540	1080	—	SRFG-1218/*	85	SRFG-1218/*-P	88
30 (12)	61 (24)	720	1440	—	SRFG-1224/*	105	SRFG-1224/*-P	115
30 (12)	76 (30)	900	—	—	SRFG-1230/*	124	SRFG-1230/*-P	136
30 (12)	91 (36)	1080	—	—	SRFG-1236/*	144	SRFG-1236/*-P	158
30 (12)	107 (42)	1260	—	—	SRFG-1242/*	163	SRFG-1242/*-P	180
30 (12)	122 (48)	1440	—	—	SRFG-1248/*	183	SRFG-1248/*-P	201

Comes with complete operator's manual.

* Insert watt density: 2 for 2.5 W/in², 5 for 5 W/in² or 10 for 10W/in².

** Most sizes available in 230V. Consult heater sales and engineering.

Ordering Example: SRFG-712/5-P is a 18 x 30 cm (7 x 12") heater with a watt density of 5 W/in², total rated wattage output of 420 watts, with optional pressure sensitive adhesive, \$54.

Note: Heaters are available in only the watt densities where total wattage is shown. Heaters with pressure sensitive adhesive: max operating temperature is 149°C (300°F).

Accessory

Model No.	Price	Description
PE-1408	\$40	Reference Book: Industrial Robotics 

APPLICATIONS

- ✓ Freeze Protection
- ✓ Low Temperature Ovens
- ✓ Heat Tracing Systems
- ✓ Viscosity Control
- ✓ Dehumidification of Motors and Control Devices

SPECIFICATIONS

Wattage: 5 to 1440 Watts

Power: 115 or 230** Vac

Watt Density: 2.5, 5 and 10 W/in²

Lead Wire:

305 mm (12") PFA insulated

Thickness: 0.045 to 0.0700", except at lead wire exit

Dielectric Strength: 1250 Vac

Maximum Temperature: heaters without pressure sensitive adhesive, 232°C (450°F); heaters with pressure sensitive adhesive, 149°C (300°F)

Minimum Temperature: -56°C (-70°F)

SILICONE RUBBER HEATERS

Round Heat Blankets

SRMU Series
Starts at

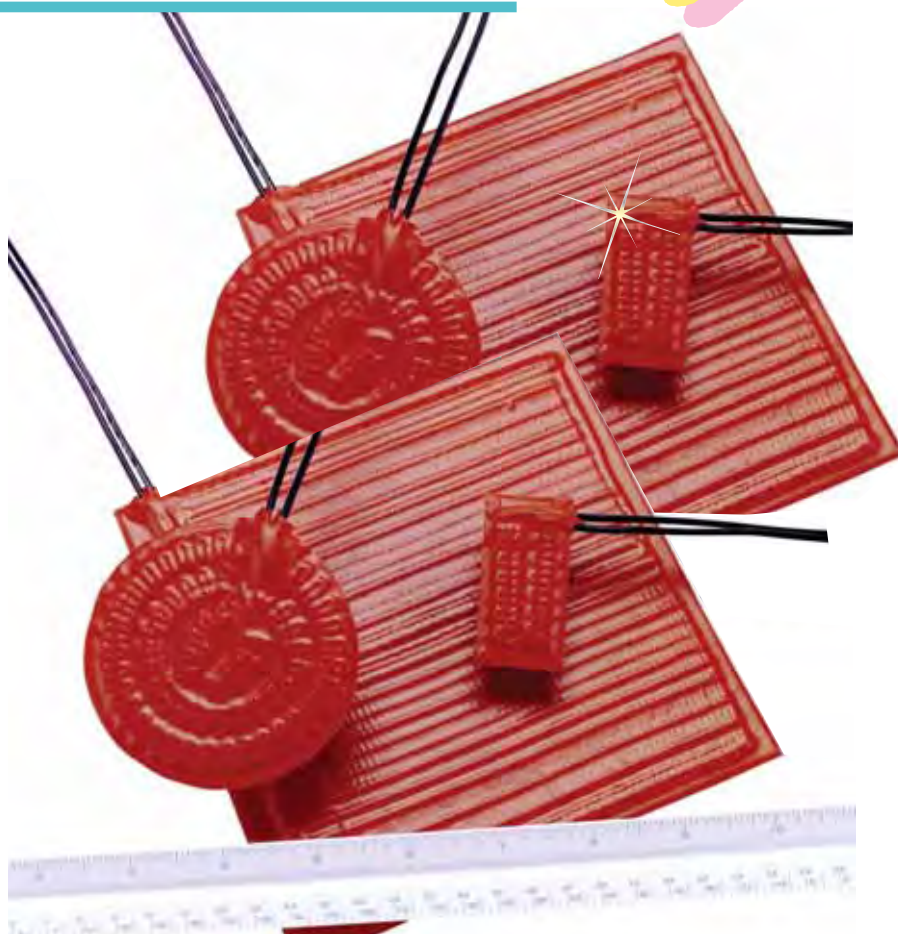
\$24

Round

- ✓ Flexible
- ✓ Continuous Exposure to Temperatures up to 232°C (450°F)
- ✓ Moisture and Chemical Resistant
- ✓ Wide Variety of Sizes and Shapes
- ✓ Optional Presensitive Adhesive Backing
- ✓ Moisture Resistant
- ✓ Chemical Resistant
- ✓ Radiation Resistant

Environmental factors of many industrial heating applications require a product with the ability to withstand chemicals, moisture and abusive treatment. These same applications also require rapid heat up, steady temperature maintenance, and uniform heat distribution. For applications such as these, OMEGA silicone rubber heating blankets are the best products available.

OMEGA silicone rubber heating blankets are used for freeze protection, process temperature control, melting of solids, temperature heat-up or maintenance. Whether installed in Original Equipment or in the field, our silicone heaters will provide the durability required.



Additional Lead Length: 12" is standard, heaters are also available with 96" leads may be custom ordered. To specify additional lead length add the suffix "-096" to the end of the part number and **\$45** to the price. Examples:

Round

Standard 12" leads:

SRMU0206D, \$36

Optional 96" leads:

SRMU0206D-096, \$81

Square/Rectangular

Standard 12" leads:

SRMU020606, \$34

Optional 96" leads:

SRMU020606-096, \$79

SPECIFICATIONS

Operating Voltage: 120 Vac

Leads: 30.48 cm (12") PFA standard
(*additional length available)

Heating Element: Laminated between two layers of, 0.015 mil, fiberglass reinforced silicone rubber

Silicone Rubber Density: 16.8 oz/yd²
(0.06 grams/cm²) per layer

Maximum Energized Exposure Temperature: 232°C (450°F)

Maximum De-energized Exposure Temperature: 260°C (500°F)

Minimum Exposure Temperature: -51°C (-60°F)

Dielectric Strength: > 2000V

MOST POPULAR MODELS HIGHLIGHTED!

To Order (Specify Model Number)

Diameter cm (")	2.5Watts/in ² (0.39 Watts/cm ²)	5Watts/in ² (0.78 Watts/cm ²)	10 Watts/in ² (1.55 Watts/cm ²)	Price no PSA	Price with PSA*
7.62 (3)	SRMU0203D	SRMU0503D	SRMU1003D	\$24	\$26
10.16 (4)	SRMU0204D	SRMU0504D	SRMU1004D	29	32
12.70 (5)	SRMU0205D	SRMU0505D	SRMU1005D	35	39
15.24 (6)	SRMU0206D	SRMU0506D	SRMU1006D	36	40
17.78 (7)	SRMU0207D	SRMU0507D	SRMU1007D	40	44
20.32 (8)	SRMU0208D	SRMU0508D	SRMU1008D	44	48
22.86 (9)	SRMU0209D	SRMU0509D	SRMU1009D	49	54
25.40 (10)	SRMU0210D	SRMU0510D	SRMU1010D	54	59
27.94 (11)	SRMU0211D	SRMU0511D	SRMU1011D	62	66
30.48 (12)	SRMU0212D	SRMU0512D	SRMU1012D	67	73

* To Order with PSA (Presensitive Adhesive) add suffix "-P" to Model Number.

Ordering Example: SRMU0506D-P, 5 Watt/in², 15.24 cm (6") diameter heater with pressure sensitive adhesive, \$36.



SILICONE RUBBER HEATERS

Square/Rectangular Heat Blankets

SRMU Series
Starts at

\$19

1 to 3" Widths

MOST POPULAR MODELS HIGHLIGHTED!

To Order (Specify Model Number)

Width cm (")	Length cm (")	2.5Watts/in ² (0.39 Watts/cm ²)	5Watts/in ² (0.78 Watts/cm ²)	10 Watts/in ² (1.55 Watts/cm ²)	Price no PSA	Price with PSA*
2.54 (1)	2.54 (1)	N/A	N/A	SRMU100101	\$19	\$21
2.54 (1)	5.08 (2)	N/A	SRMU050102	N/A	20	22
2.54 (1)	7.62 (3)	SRMU020103	SRMU050103	SRMU100103	20	22
2.54 (1)	10.16 (4)	SRMU020104	SRMU050104	SRMU100104	21	23
2.54 (1)	12.70 (5)	SRMU020105	SRMU050105	SRMU100105	21	23
2.54 (1)	15.24 (6)	SRMU020106	SRMU050106	SRMU100106	23	25
2.54 (1)	17.78 (7)	SRMU020107	SRMU050107	SRMU100107	24	26
2.54 (1)	20.32 (8)	SRMU020108	SRMU050108	SRMU100108	16	18
2.54 (1)	22.86 (9)	SRMU020109	SRMU050109	SRMU100109	18	19
2.54 (1)	25.40 (10)	SRMU020110	SRMU050110	SRMU100110	18	19
2.54 (1)	27.94 (11)	SRMU020111	SRMU050111	SRMU100111	18	19
2.54 (1)	30.48 (12)	SRMU020112	SRMU050112	SRMU100112	19	21
2.54 (1)	45.72 (18)	SRMU020118	SRMU050118	SRMU100118	21	23
2.54 (1)	60.96 (24)	SRMU020124	SRMU050124	SRMU100124	25	28
2.54 (1)	76.20 (30)	SRMU020130	SRMU050130	SRMU100130	26	29
2.54 (1)	91.44 (36)	SRMU020136	SRMU050136	SRMU100136	31	35
2.54 (1)	106.68 (42)	SRMU020142	SRMU050142	SRMU100142	34	37
2.54 (1)	121.92 (48)	SRMU020148	SRMU050148	SRMU100148	38	41
5.08 (2)	5.08 (2)	SRMU020202	SRMU050202	SRMU100202	20	22
5.08 (2)	7.62 (3)	SRMU020203	SRMU050203	SRMU100203	21	23
5.08 (2)	10.16 (4)	SRMU020204	SRMU050204	SRMU100204	21	23
5.08 (2)	12.70 (5)	SRMU020205	SRMU050205	SRMU100205	19	21
5.08 (2)	15.24 (6)	SRMU020206	SRMU050206	SRMU100206	19	21
5.08 (2)	17.78 (7)	SRMU020207	SRMU050207	SRMU100207	20	22
5.08 (2)	20.32 (8)	SRMU020208	SRMU050208	SRMU100208	21	23
5.08 (2)	22.86 (9)	SRMU020209	SRMU050209	SRMU100209	21	23
5.08 (2)	25.40 (10)	SRMU020210	SRMU050210	SRMU100210	23	25
5.08 (2)	27.94 (11)	SRMU020211	SRMU050211	SRMU100211	24	26
5.08 (2)	30.48 (12)	SRMU020212	SRMU050212	SRMU100212	24	26
5.08 (2)	45.72 (18)	SRMU020218	SRMU050218	SRMU100218	29	32
5.08 (2)	60.96 (24)	SRMU020224	SRMU050224	SRMU100224	34	37
5.08 (2)	76.20 (30)	SRMU020230	SRMU050230	SRMU100230	37	41
5.08 (2)	91.44 (36)	SRMU020236	SRMU050236	SRMU100236	42	47
5.08 (2)	106.68 (42)	SRMU020242	SRMU050242	SRMU100242	48	52
5.08 (2)	121.92 (48)	SRMU020248	SRMU050248	SRMU100248	53	58
7.62 (3)	7.62 (3)	SRMU020303	SRMU050303	SRMU100303	21	23
7.62 (3)	10.16 (4)	SRMU020304	SRMU050304	SRMU100304	23	25
7.62 (3)	12.70 (5)	SRMU020305	SRMU050305	SRMU100305	24	26
7.62 (3)	15.24 (6)	SRMU020306	SRMU050306	SRMU100306	25	28
7.62 (3)	17.78 (7)	SRMU020307	SRMU050307	SRMU100307	26	29
7.62 (3)	20.32 (8)	SRMU020308	SRMU050308	SRMU100308	28	30
7.62 (3)	22.86 (9)	SRMU020309	SRMU050309	SRMU100309	28	30
7.62 (3)	25.40 (10)	SRMU020310	SRMU050310	SRMU100310	29	32
7.62 (3)	27.94 (11)	SRMU020311	SRMU050311	SRMU100311	30	33
7.62 (3)	30.48 (12)	SRMU020312	SRMU050312	SRMU100312	31	34
7.62 (3)	45.72 (18)	SRMU020318	SRMU050318	SRMU100318	38	41
7.62 (3)	60.96 (24)	SRMU020324	SRMU050324	SRMU100324	45	50
7.62 (3)	76.20 (30)	SRMU020330	SRMU050330	SRMU100330	52	57
7.62 (3)	91.44 (36)	SRMU020336	SRMU050336	SRMU100336	58	63
7.62 (3)	106.68 (42)	SRMU020342	SRMU050342	SRMU100342	65	72
7.62 (3)	121.92 (48)	SRMU020348	SRMU050348	SRMU100348	72	79

* To order with PSA
(Pressure Sensitive
Adhesive) add suffix "-P"
to Model Number.

To custom order 96"
leads, add suffix "-096"
to model number and \$45
to price.

Ordering Example:
SRMU020306-P,
10 watt/in² 4 x 6" heater
with PSA (pressure
sensitive adhesive), \$28.



SILICONE RUBBER HEATERS

Square/Rectangular Heat Blankets

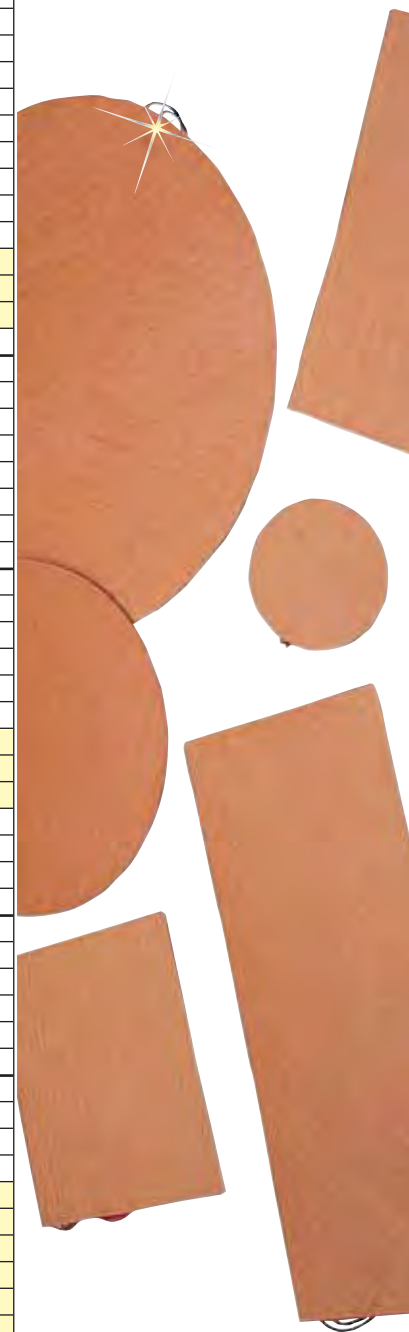
SRMU Series
Starts at

\$26

4 to 8" Widths

MOST POPULAR MODELS HIGHLIGHTED!

To Order (Specify Model Number)						
Width cm (")	Length cm (")	2.5Watts/in ² (0.39 Watts/cm ²)	5Watts/in ² (0.78 Watts/cm ²)	10 Watts/in ² (1.55 Watts/cm ²)	Price no PSA	Price with PSA*
10.16 (4)	10.16 (4)	SRMU020404	SRMU050404	SRMU100404	\$26	\$29
10.16 (4)	12.70 (5)	SRMU020405	SRMU050405	SRMU100405	28	30
10.16 (4)	15.24 (6)	SRMU020406	SRMU050406	SRMU100406	30	33
10.16 (4)	17.78 (7)	SRMU020407	SRMU050407	SRMU100407	31	35
10.16 (4)	20.32 (8)	SRMU020408	SRMU050408	SRMU100408	33	36
10.16 (4)	22.86 (9)	SRMU020409	SRMU050409	SRMU100409	34	37
10.16 (4)	25.40 (10)	SRMU020410	SRMU050410	SRMU100410	35	39
10.16 (4)	27.94 (11)	SRMU020411	SRMU050411	SRMU100411	36	40
10.16 (4)	30.48 (12)	SRMU020412	SRMU050412	SRMU100412	38	41
10.16 (4)	45.72 (18)	SRMU020418	SRMU050418	SRMU100418	46	51
10.16 (4)	60.96 (24)	SRMU020424	SRMU050424	SRMU100424	55	61
10.16 (4)	76.20 (30)	SRMU020430	SRMU050430	SRMU100430	64	70
10.16 (4)	91.44 (36)	SRMU020436	SRMU050436	SRMU100436	72	79
10.16 (4)	106.68 (42)	SRMU020442	SRMU050442	SRMU100442	80	88
10.16 (4)	121.92 (48)	SRMU020448	SRMU050448	N/A	89	98
12.70 (5)	12.70 (5)	SRMU020505	SRMU050505	SRMU100505	33	36
12.70 (5)	15.24 (6)	SRMU020506	SRMU050506	SRMU100506	34	37
12.70 (5)	17.78 (7)	SRMU020507	SRMU050507	SRMU100507	35	37
12.70 (5)	20.32 (8)	SRMU020508	SRMU050508	SRMU100508	38	41
12.70 (5)	22.86 (9)	SRMU020509	SRMU050509	SRMU100509	39	43
12.70 (5)	25.40 (10)	SRMU020510	SRMU050510	SRMU100510	40	44
12.70 (5)	27.94 (11)	SRMU020511	SRMU050511	SRMU100511	41	46
12.70 (5)	30.48 (12)	SRMU020512	SRMU050512	SRMU100512	44	48
15.24 (6)	15.24 (6)	SRMU020606	SRMU050606	SRMU100606	33	37
15.24 (6)	17.78 (7)	SRMU020607	SRMU050607	SRMU100607	35	39
15.24 (6)	20.32 (8)	SRMU020608	SRMU050608	SRMU100608	36	40
15.24 (6)	22.86 (9)	SRMU020609	SRMU050609	SRMU100609	38	41
15.24 (6)	25.40 (10)	SRMU020610	SRMU050610	SRMU100610	39	43
15.24 (6)	27.94 (11)	SRMU020611	SRMU050611	SRMU100611	40	44
15.24 (6)	30.48 (12)	SRMU020612	SRMU050612	SRMU100612	43	47
15.24 (6)	45.72 (18)	SRMU020618	SRMU050618	SRMU100618	51	57
15.24 (6)	60.96 (24)	SRMU020624	SRMU050624	SRMU100624	60	66
15.24 (6)	76.20 (30)	SRMU020630	SRMU050630	N/A	69	76
15.24 (6)	91.44 (36)	SRMU020636	SRMU050636	N/A	77	86
15.24 (6)	106.68 (42)	SRMU020642	SRMU050642	N/A	87	95
15.24 (6)	121.92 (48)	SRMU020648	SRMU050648	N/A	95	105
17.78 (7)	17.78 (7)	SRMU020707	SRMU050707	SRMU100707	36	40
17.78 (7)	20.32 (8)	SRMU020708	SRMU050708	SRMU100708	39	43
17.78 (7)	22.86 (9)	SRMU020709	SRMU050709	SRMU100709	40	44
17.78 (7)	25.40 (10)	SRMU020710	SRMU050710	SRMU100710	41	46
17.78 (7)	27.94 (11)	SRMU020711	SRMU050711	SRMU100711	44	48
17.78 (7)	30.48 (12)	SRMU020712	SRMU050712	SRMU100712	45	50
20.32 (8)	20.32 (8)	SRMU020808	SRMU050808	SRMU100808	40	44
20.32 (8)	22.86 (9)	SRMU020809	SRMU050809	SRMU100809	43	47
20.32 (8)	25.40 (10)	SRMU020810	SRMU050810	SRMU100810	44	48
20.32 (8)	27.94 (11)	SRMU020811	SRMU050811	SRMU100811	46	51
20.32 (8)	30.48 (12)	SRMU020812	SRMU050812	SRMU100812	48	52
20.32 (8)	45.72 (18)	SRMU020818	SRMU050818	SRMU100818	60	66
20.32 (8)	60.69 (24)	SRMU020824	SRMU050824	N/A	79	84
20.32 (8)	76.20 (30)	SRMU020830	SRMU050830	N/A	84	93
20.32 (8)	91.44 (36)	SRMU020836	SRMU050836	N/A	95	105
20.32 (8)	106.68 (42)	SRMU020842	SRMU050842	N/A	108	119
20.32 (8)	121.92 (48)	SRMU020848	SRMU050848	N/A	119	131



* To order with PSA (Pressure Sensitive Adhesive) add suffix "-P" to Model Number.

To custom order 96" leads, add suffix "-096" to model number and \$45 to price.

Ordering Example: SRMU100608-P, 10 watt/in² 6 x 8" heater with PSA (pressure sensitive adhesive), \$40.



SILICONE RUBBER HEATERS

Square/Rectangular Heat Blankets

SRMU Series
Starts at**\$44**

9 to 12" Widths

**MOST POPULAR MODELS HIGHLIGHTED!****To Order (Specify Model Number)**

Width cm (")	Length cm (")	2.5 Watts/in ² (0.39 Watts/cm ²)	5 Watts/in ² (0.78 Watts/cm ²)	10 Watts/in ² (1.55 Watts/cm ²)	Price no PSA	Price with PSA*
22.86 (9)	22.86 (9)	SRMU020909	SRMU050909	SRMU100909	\$44	\$48
22.86 (9)	25.40 (10)	SRMU020910	SRMU050910	SRMU100910	46	51
22.86 (9)	27.94 (11)	SRMU020911	SRMU050911	SRMU100911	49	54
22.86 (9)	30.48 (12)	SRMU020912	SRMU050912	SRMU100912	52	57
25.40 (10)	25.40 (10)	SRMU021010	SRMU051010	SRMU101010	49	54
25.40 (10)	27.94 (11)	SRMU021011	SRMU051011	SRMU101011	52	57
25.40 (10)	30.48 (12)	SRMU021012	SRMU051012	SRMU101012	54	59
25.40 (10)	45.72 (18)	SRMU021018	SRMU051018	N/A	69	76
25.40 (10)	60.69 (24)	SRMU021024	SRMU051024	N/A	84	92
25.40 (10)	76.20 (30)	SRMU021030	SRMU051030	N/A	99	109
25.40 (10)	91.44 (36)	SRMU021036	SRMU051036	N/A	114	126
25.40 (10)	106.68 (42)	SRMU021042	N/A	N/A	129	142
124.40 (10)	121.92 (48)	SRMU021048	N/A	N/A	143	157
27.94 (11)	27.94 (11)	SRMU021111	SRMU051111	SRMU101111	54	58
27.94 (11)	30.48 (12)	SRMU021112	SRMU051112	SRMU101112	58	64
30.48 (12)	20.32 (12)	SRMU021212	SRMU051212	N/A	61	66
30.48 (12)	22.86 (18)	SRMU021218	SRMU051218	N/A	78	86
30.48 (12)	25.40 (24)	SRMU021224	SRMU051224	N/A	95	105
30.48 (12)	27.94 (30)	SRMU021230	N/A	N/A	114	126
30.48 (12)	30.48 (36)	SRMU021236	N/A	N/A	132	145
30.48 (12)	45.72 (42)	SRMU021242	N/A	N/A	149	164
30.48 (12)	60.96 (48)	SRMU021248	N/A	N/A	167	184

* To order with PSA (Pressure Sensitive Adhesive) add suffix "-P" to Model Number. To custom order 96" leads, add suffix "-096" to model number and \$45 to price.

Ordering Example: SRMU020608-P, 2.5 watt/in² 6 x 8" heater, \$40.

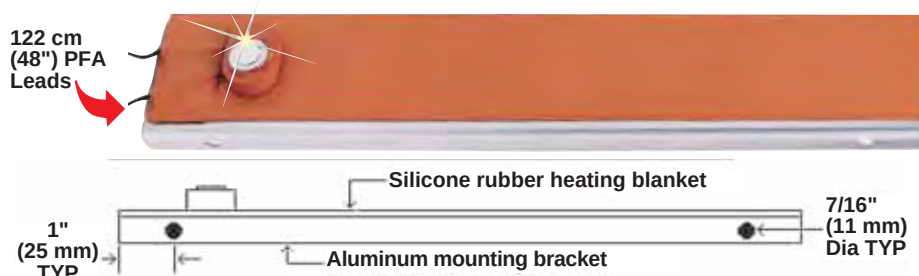
Silicone Rubber Enclosed Heaters

SREH Series
Starts at**\$25**

- ✓ Moisture Resistant
- ✓ Chemical Resistant
- ✓ Radiation Resistant

SREH series enclosure heaters feature our serpentine wound heating element laminated between two layers of 15 mil fiberglass reinforced silicone rubber and bonded to an aluminum mounting plate. The mounting plate comes with two 11 mm (7/16") holes for mounting. The built-in air sensing thermostat regulates the temperature in the enclosure to prevent condensation or freezing. The SREH enclosure heaters can be mounted vertically or horizontally, however optimal control is achieved when mounted vertically.

SPECIFICATIONS

Operating Voltage: 120 Vac**Leads:** 122 cm (48") PFA**Heating Element:** Laminated between two layers of, 0.015 mil, fiberglass reinforced silicone rubber122 cm
(48") PFA
Leads**Silicone Rubber Density:** 16.8 oz/yd²
(0.06 grams/cm²) per layer**Overall Thickness:** (blanket and bracket) 3/4" (0.64 cm)**Maximum Energized Exposure Temperature:** 232°C (450°F)**Maximum De-energized Exposure Temperature:** 260°C (500°F)**Minimum Exposure Temperature:** -51°C (-60°F)**Dielectric Strength:** > 2000V**Approvals:** UR Pending**To Order (Specify Model Number)**

Width cm (")	Length cm (")	Total Watts	Thermostat		Model Number (120 Vac)	Price
			Opens	Closes		
6.4 (2.5)	15.24 (6)	60	N/A	N/A	SREH600	\$25
6.4 (2.5)	15.24 (6)	60	15°C (60°F)	4°C (40°F)	SREH640	78
6.4 (2.5)	15.24 (6)	60	60°C (140°F)	43°C (110°F)	SREH6110	78
6.4 (2.5)	15.24 (6)	60	82°C (180°F)	65°C (150°F)	SREH6150	78
6.4 (2.5)	30.48 (12)	120	N/A	N/A	SREH1200	32
6.4 (2.5)	30.48 (12)	120	15°C (60°F)	4°C (40°F)	SREH1240	87
6.4 (2.5)	30.48 (12)	120	140°F (60°C)	43°C (110°F)	SREH12110	87
6.4 (2.5)	30.48 (12)	120	180°F (82°C)	65°C (150°F)	SREH12150	87

Ordering Example: SREH1240, 30.48 cm (12"), 120 Watt heater with 15°C (60°F) setpoint thermostat, \$87.

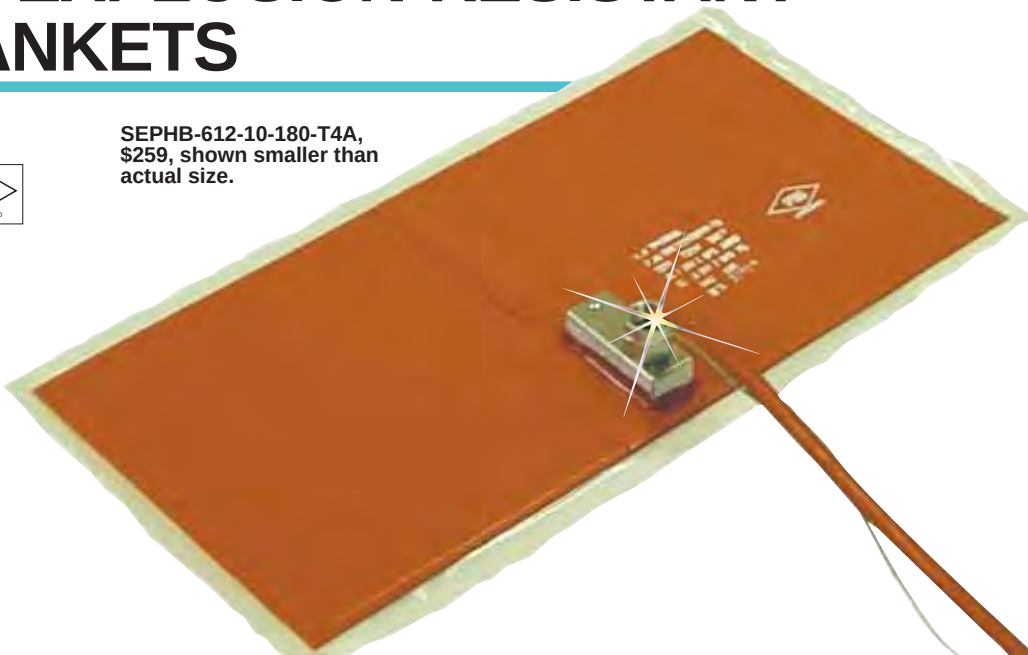
HEAVY-DUTY, EXPLOSION-RESISTANT HEATING BLANKETS

SEPHB Series
Starts at

\$259



SEPHB-612-10-180-T4A,
\$259, shown smaller than
actual size.



- ✓ Factory Mutual Hazardous Area Approval
- ✓ Class I, Div 2, Groups A, B, C, and D; Class II, Div II, Groups F and G
- ✓ Integral Built-In High-Limit Thermal Cutout Prevents Temperature Runaway[†]
- ✓ Optional Pressure Sensitive Adhesive Available
- ✓ Moisture and Chemical Resistant
- ✓ Maximum Exposure Temperature of 232°C (450°F)

APPLICATION

- ✓ Low-Temperature Ovens
- ✓ Process Vats and Dip Tanks
- ✓ Storage Tanks
- ✓ Hoppers, Dry Storage Bins, Coal Silos
- ✓ Conveyors

OMEGALUX® silicone rubber heavy-duty heating blankets feature built-in high-limit thermal cutout protection, which, in the event of a primary temperature controller failure, maintains blanket sheath temperature below the minimum safe auto-ignition temperature of the material being heated or materials in the area. ("T Rating" in the National Electric Code, Section 500).

OMEGALUX® SEPHB Series blankets are flexible and readily conform to most plane and simple curved surfaces. Blankets are easy to install with optional factory applied pressure-sensitive adhesive, creating a permanent bond.

OMEGALUX® SEPHB blankets are compatible with most chemical fluids and oils commonly encountered in field service. They are exceptionally resistant to weather, moisture, and effects of sunlight, and ozone gases, and they can be used in areas of high radioactivity.

High-Limit Thermostat Temperature

T4A	70°C (158°F)
T3	145°C (292°F)

SPECIFICATIONS

Wattage: 180, 360, 720 or 1440 W

Power: 120, 240 and 480V (contact OMEGALUX® for 480V heaters)

Dielectric Strength: 2000V

Watt Density: 2.5 W/in²

CAUTION AND WARNING!

Fire and electrical shock may result if products are used improperly or installed or used by non-qualified personnel. See inside back cover for additional warnings.

MOST POPULAR MODELS HIGHLIGHTED!

To Order (Specify Model Number)

Volts	Watts	Dimensions: mm (in)	Model No.	Price
120	180	152 x 305 (6 x 12)	SEPHB-612-180-120-*	\$259
240	180	152 x 305 (6 x 12)	SEPHB-612-180-240-*	259
120	360	152 x 610 (6 x 24)	SEPHB-624-360-120-*	321
240	360	152 x 610 (6 x 24)	SEPHB-624-360-240-*	321
120	360	305 x 305 (12 x 12)	SEPHB-1212-360-120-*	321
240	360	305 x 305 (12 x 12)	SEPHB-1212-360-240-*	321
120	720	305 x 610 (12 x 24)	SEPHB-1224-720-120-*	433
240	720	305 x 610 (12 x 24)	SEPHB-1224-720-240-*	433
120	1440	610 x 610 (24 x 24)	SEPHB-2424-1440-120-*	709
240	1440	610 x 610 (24 x 24)	SEPHB-2424-1440-240-*	709

Accessory

Model No.	Price	Description
ME-1726	\$110	Reference Book: Elasticity in Engineering Mechanics

*Insert "High-Limit Thermostat Temperature (T) Rating" from above table.

[†]Article 501 of the NEC requires that the maximum sheath temperature of the heater shall not exceed 80 percent of the auto-ignition temperature of the surrounding atmosphere when heater is continuously energized.

Auto-Ignition Temperature: The minimum temperature required to initiate or cause self-sustained combustion of a solid, liquid or gas independently of the heating or heated element (see NFPA 325M, Fire Hazard Properties of Flammable Liquids, Gases and Volatile Solids).

Ordering Example: SEPHB-624-360-120-T4A, 360 W, 120V heating blanket with a high-limit thermostat temperature rating of 70°C (158°F), \$321.

RUGGED LOW COST FLEXIBLE HEATING BLANKETS

SSHB Series
Starts at

\$67



- ✓ Moisture and Chemical Resistant
- ✓ Constant Low Watt Density of 2½ Watts Per Square Inch
- ✓ Maximum Exposure Temperature of 232°C (450°F)
- ✓ Five Standard Sizes
- ✓ Easy to Install
- ✓ 120, 240 or 480V*
- ✓ Optional Pressure Sensitive Adhesive Available

OMEGALUX® silicone rubber laminated heating blankets are low watt density electrical resistance heaters in blanket form. They are designed for freeze protection as well as process temperature control applications. The rugged heater element is made from multi-strand braided and knitted wire. The vulcanized heater assembly is water tight. Optional pressure sensitive adhesive makes installation easy. Heat from the blanket itself cures the silicone adhesive, creating a permanent bond.



SPECIFICATIONS

Power: 120, 240 and 480V*

Wattage: 180, 360, 720 or 1440 W

Watt Density: 2.5 W/in²

Dielectric Strength: 2000V

Lead Wire: 4' long, 16 AWG, silicone rubber insulated

APPLICATIONS

- ✓ Storage Tanks
- ✓ Conveyors
- ✓ Water and Feed Troughs
- ✓ Dust Collectors
- ✓ Tank Trucks
- ✓ Process Vats and Dip Tanks
- ✓ Melt Pots

To Order 480 Vac powered models, add suffix "-480" to model number and the following additional price:

Heating Blanket Size	Additional Price
6 x 12"	\$8
6 x 24"	14
12 x 12"	14
12 x 24"	24
24 x 24"	44

CAUTION AND WARNING!

Fire and electrical shock may result if products are used improperly or installed or used by non-qualified personnel. See inside back cover for additional warnings.

MOST POPULAR MODELS HIGHLIGHTED!

To Order (Specify Model Number)

Volts	Watts	Dimensions (inches)	Model No. (Without Adhesive)	Price	Model No. (With Adhesive)	Price
120	180	6 x 12	SSHB-612-180-120	\$67	SSHB-612-180-120-P	\$73
240	180	6 x 12	SSHB-612-180-240	67	SSHB-612-180-240-P	73
120	360	6 x 24	SSHB-624-360-120	101	SSHB-624-360-120-P	107
240	360	6 x 24	SSHB-624-360-240	101	SSHB-624-360-240-P	107
120	360	12 x 12	SSHB-1212-360-120	101	SSHB-1212-360-120-P	107
240	360	12 x 12	SSHB-1212-360-240	101	SSHB-1212-360-240-P	107
120	720	12 x 24	SSHB-1224-720-120	175	SSHB-1224-720-120-P	191
240	720	12 x 24	SSHB-1224-720-240	175	SSHB-1224-720-240-P	191
120	1440	24 x 24	SSHB-2424-1440-120	338	SSHB-2424-1440-120-P	372
240	1440	24 x 24	SSHB-2424-1440-240	338	SSHB-2424-1440-240-P	372

* Contact OMEGALUX® for 480V heaters.

Ordering Example: SSHB-612-180-120-P, heater with pressure sensitive adhesive, \$73

For conduit bracket and RTV adhesive sealant, order SRL-CB, \$33.

SILICONE RUBBER LAMINATED DRUM HEATERS

Heavy Duty Drum Heaters

SHDH Series
Starts at

\$157

- ✓ Low Watt Density Electrical Resistance Heater
- ✓ 4.5 Watts/Sq. Inch Exposure Temperature up to 232°C (450°F)
- ✓ Rugged and Flexible Heater Element
- ✓ Constant Watt Density
- ✓ Quick and Simple Installation
- ✓ Moisture and Chemical Resistant
- ✓ Economical
- ✓ Dense Grounding Grid of Tinned Copper Wire

OMEGALUX® silicone rubber laminated heavy duty drum Heaters are electrical resistance heaters in blanket form. They are designed to provide a practical efficient means of freeze protection, viscosity control, melting of solids and maintaining materials at elevated temperatures.

OMEGALUX heavy duty drum heaters are totally integrated heating systems consisting of a durable, multi-strand nickel-chromium heating element insulated with two applications of high temperature fiberglass yarn and knitted into tape form. These tapes are laminated between multiple layers of silicone impregnated fiberglass cloth and a



dense grounding grid of tinned copper wire. This thin line design enables use of the standard drum and cradle without any modifications to either. It is thin enough to fit between the drum and its cradle, a problem commonly encountered with other drum heaters.

The optional OMEGALUX thermostatic control combined with the low watt density serpentine heating element ensures even heat distribution across the entire inner surface of the drum

heater and provides a positive prevention from hot spots and overheating sensitive products.

SPECIFICATIONS

Power: 120 and 240V
Wattage: 600, 698, 965, 1200 W
Maximum Continuous Exposure Temperature: 232°C (450°F)
Thickness: ⅝"
Width: 4"
Closure: one heavy duty spring
Dielectric Strength: 2000V
Watts/Square Inch: 4.5

SHDH Series

MOST POPULAR MODELS HIGHLIGHTED!

To Order (Specify Model Number)											
55 gal, 1200 W, 66.5" long			30 gal 1000 W, 54" long			15 gal, 698 W, 40" long			5 gal, 550 W, 31" long		
Models Without Adjustable Thermostat*											
Volts	Model No.	Price	Volts	Model No.	Price	Volts	Model No.	Price	Volts	Model No.	Price
120	SHDH-1200-120	\$197	120	SHDH-1000-120	\$183	120	SHDH-698-120	\$157	120	SHDH-550-120	\$138
240	SHDH-1200-240	197	240	SHDH-1000-240	183	240	SHDH-698-240	157	240	SHDH-550-240	138
Models With Adjustable Thermostat 50° to 425°F									5 gal, 600 W, 31" long		
Volts	Model No.	Price	Volts	Model No.	Price	Volts	Model No.	Price	Volts	Model No.	Price
120	SHDH-C-1200-120	\$254	120	SHDH-C-1000-120	\$220	120	SHDH-C-698-120	\$206	120	SHDH-C-600-120	\$186
240	SHDH-C-1200-240	254	240	SHDH-C-1000-240	220	240	SHDH-C-698-240	206	240	SHDH-C-600-240	186

Heaters are supplied with 6" ⅜" HSJO 3 prong plug. Plugs are not provided on 240V drum heaters.

* Remote temperature control recommended. See CPP and CBC Series temperature controllers on the web.

Ordering Example: SHDH-1200-240, 240V drum heater for a 55 gallon drum, \$197.

STANDARD DRUM HEATERS

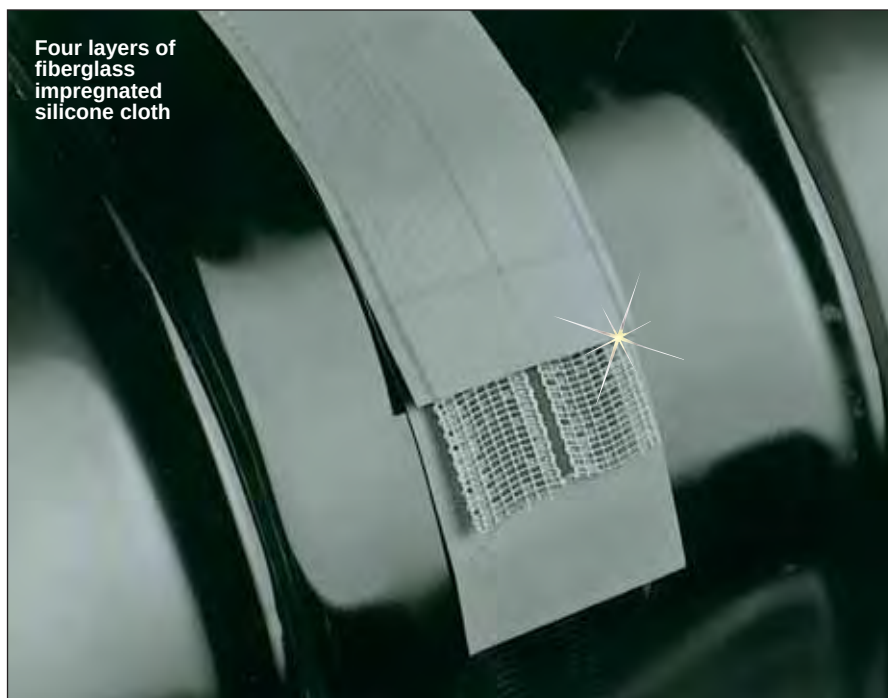
SSDH Series
Starts at

\$99



- ✓ Models Available for 55, 30, 15, and 5 Gallon Drums
- ✓ With or Without Adjustable Thermostat
- ✓ Same Rugged Construction as SHDH Series Drum Heaters but Without Grounding Grid of Copper Wire
- ✓ Use the Standard Drum and Cradle
- ✓ For Freeze Protection or Temperature Maintenance Applications
- ✓ Moisture and Chemical Resistant
- ✓ Low Watt Density Electrical Resistance Heater
- ✓ Parallel Circuit Design
- ✓ Exposure Temperature up to 232°C (450°F)
- ✓ Rugged and Flexible Heater Element

Four layers of fiberglass impregnated silicone cloth



SPECIFICATIONS

Power: 120 and 240V
Wattage: 600, 698, 925, 1200 W
Maximum Continuous Exposure Temperature: 232°C (450°F)
Thickness: $\frac{3}{32}$ "
Width: 4"
Closure: one heavy duty spring
Dielectric Strength: 2000V

Parallel wired heating tapes. Multistrand 36-40 gage resistance wire insulated with braided fiberglass yarn. Braided fiberglass yarn cords hold the element in configuration.

CAUTION AND WARNING!

Fire and electrical shock may result if products are used improperly or installed or used by non-qualified personnel. See inside back cover for additional warnings.



MOST POPULAR MODELS HIGHLIGHTED!

To Order (Specify Model Number)											
55 gal, 1200 W, 66.5" long			30 gal 1000 W, 54" long			15 gal, 698 W, 40" long			5 gal, 550 W, 31" long		
Models Without Adjustable Thermostat*											
Volts	Model No.	Price	Volts	Model No.	Price	Volts	Model No.	Price	Volts	Model No.	Price
120	SSDH-1200-120	\$140	120	SSDH-1000-120	\$132	120	SSDH-698-120	\$115	120	SSDH-550-120	\$99
240	SSDH-1200-240	140	240	SSDH-1000-240	132	240	SSDH-698-240	115	240	SSDH-550-240	99
Models With Adjustable Thermostat 50° to 425°F									5 gal, 550 W, 31" long		
Volts	Model No.	Price	Volts	Model No.	Price	Volts	Model No.	Price	Volts	Model No.	Price
120	SSDH-C-1200-120	\$194	120	SSDH-C-1000-120	\$158	120	SSDH-C-698-120	\$158	120	SSDH-C-550-120	\$144
240	SSDH-C-1200-240	194	240	SSDH-C-1000-240	158	240	SSDH-C-698-240	158	240	SSDH-C-550-240	144

Heaters are supplied with 6 $\frac{1}{2}$ " HSJO 3 prong plug. Plugs are not provided on 240V drum heaters.

* Remote temperature control recommended. See CPP and CBC Series temperature controllers on the web.

Ordering Example: SSDH-1200-240, 240V drum heater, for 55 gallon drum, \$140.

EXPLOSION-RESISTANT DRUM HEATERS

SEPDH Series
Starts at
\$1884



- ✓ Factory Mutual Hazardous Area Approval
- ✓ Class I, Div II, Groups A, B, C, and D; Class II, Div II, Groups F and G
- ✓ Inherently Safe
- ✓ Integral Built-In High-Limit Thermal Cutout** Prevents Temperature Runaway
- ✓ Up to 2½ Watts Per Square Inch
- ✓ Exposure Temperature Up to 200°C (392°F)

OMEGALUX® silicone rubber area drum heaters are low-watt density electrical resistance heaters in blanket form. They are designed to provide a practical, efficient means of freeze protection, viscosity control, melting of solids, and maintaining materials at elevated temperatures in Class I, Division II areas.

OMEGALUX® SEPDH drum heaters feature built-in high-limit thermal cutout protection, which, in the event of a primary temperature controller failure, maintains heater sheath temperature below the minimum safe auto-ignition temperature of the material being heated or materials in the area. OMEGALUX® SEPDH drum heaters are compatible with most chemical fluids and oils used in field service. Unlike many other drum heaters, the SEPDH has a thin-line design that lets it fit between the drum and the cradle.

CAUTION AND WARNING!

Fire and electrical shock may result if products are used improperly or installed or used by non-qualified personnel. See inside back cover for additional warnings.



SEPDH-C-1300-120-T4A, \$1884, shown smaller than actual size.



SPECIFICATIONS

Size: 30 and 55 gallon
Wattage: 1000 W (30 gallon)
 1300 W (55 gallon)
Power: 120 and 240V
Dielectric Strength: 2000V
Thickness: 4.8 mm (3/16")
Width: 203 mm (8")
Closure: Two stretch springs

High-Limit Thermostat Temperature	
T4A	93°C (200°F)
T3	156°C (312°F)

MOST POPULAR MODELS HIGHLIGHTED!

To Order (Specify Model Number)		
Model No.	Volts	Price
55 Gallon		
SEPDH-C-1300-120-*	120	\$1884
SEPDH-C-1300-240-*	240	1884
30 Gallon		
SEPDH-C-1000-120-*	120	\$1920
SEPDH-C-1000-240-*	240	1920

* Insert "High-Limit Thermostat Temperature" rating from above table. The maximum allowable sheath temperature ("T" rating) must be specified if drum heater is to be used in a Division II area. "C" specifies heaters with adjustable temperature control assembly and temperature ranges from -4 to 163°C (25 to 325°F).

** Article 501 of the NEC requires that the maximum sheath temperature of the heater shall not exceed 80 percent of the auto-ignition temperature of the surrounding atmosphere when heater is continuously energized.

Auto-Ignition Temperature: The minimum temperature required to initiate or cause self-sustained combustion of a solid, liquid or gas independently of the heating or heated element (see NFPA 325M, Fire Hazard Properties of Flammable Liquids, Gases, and Volatile Solids).
Ordering Example: SEPDH-C-1300-120-T3, 55 gallon, 120V drum heater with a T3 rating of 156°C (312°F), \$1884.

GAS CYLINDER WARMERS

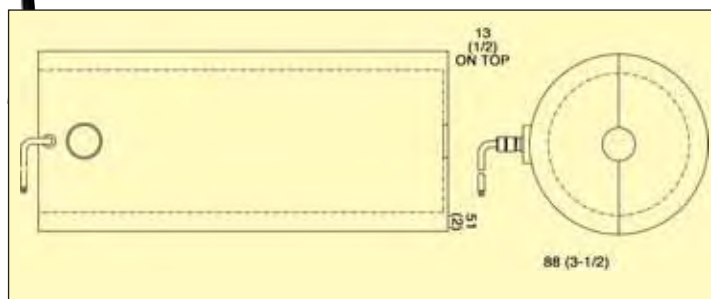
GCW Series
Starts at
\$819



- ✓ Approved for Hazardous Locations (Class I, Division I, Groups C & D)
- ✓ Built-In Insulation:
Sides: 51 mm (2.0") Thick
Top: 13 mm (0.5") Thick
- ✓ Self-Regulating Grounded Heating Element
- ✓ Maintenance
Temperature When Ambient is -1 to 35°C (30 to 95°F)* Bottom: 32 to 54°C (90 to 129°F)
Top: 27 to 49°C (81 to 120°F)
- ✓ 66°C (150°F) Maximum Exposure Temperature on Heating Surface
- ✓ Moisture and Oil Resistant
- ✓ Fits Most Gas Cylinders
- ✓ Available in 120 and 240 Vac
- ✓ Up to 150 W
- ✓ Frequency Range: 50 to 60 Hz
- ✓ Can be Used Outdoors
- ✓ Optional Under-Cylinder Insulation Pad and Valve Cover

OMEGA's GCW Series gas cylinder warmers create a convection current and increase pressure inside the cylinder. This cost-effective process reduces condensation, allowing more gas to fill the cylinder. Use with gases such as SF₆, propane, nitrogen, oxygen, BCl₃, WF₆, and HF.

* Gas flow rate may affect maintenance temperatures. Consult Engineering for more information.



ALL MODELS AVAILABLE FOR FAST DELIVERY!

To Order (Specify Model Number)

Model No.	Price	Description: cm (in)
GCW-848-150-120	\$819	Gas cylinder warmer, 20 x 122 (8 x 48)
GCW-848-150-240	819	Gas cylinder warmer, 20 x 122 (8 x 48)
GCWH-848-150-120	1310	Gas cylinder warmer, 20 x 122 (8 x 48) HAZ
GCWH-848-150-240	1310	Gas cylinder warmer, 20 x 122 (8 x 48) HAZ
GCW-951-150-120	901	Gas cylinder warmer, 23 x 130 (9 x 51)
GCW-951-150-240	901	Gas cylinder warmer, 23 x 130 (9 x 51)
GCWH-951-150-120	1339	Gas cylinder warmer, 23 x 130 (9 x 51) HAZ
GCWH-951-150-240	1339	Gas cylinder warmer, 23 x 130 (9 x 51) HAZ
GCW-TOP	87	Gas cylinder top cover
GCW-BOTTOM-8	77	Gas cylinder bottom pad, 20 (8)
GCW-BOTTOM-9	83	Gas cylinder bottom pad, 23 (9)
GCW-BOTTOM-15	94	Gas cylinder bottom pad, 38 (15)
GE-1301	86	Reference Book: Theory Design of PID Controllers

Because of the nature of the heating element, a high inrush of current may occur during start-up at lower ambient temperatures. Length and diameter will determine wattage needed.
Ordering Example: GCW-848-150-240, gas cylinder warmer, 20 x 122 cm (8 x 48"), \$819.



DRUM HEATERS

FCDH Series
\$1024
All Models



- ✓ 55 Gallon Wraparound
- ✓ Easy-to-Use Digital Temperature Controller with Audible/Visual Alarm
- ✓ Low Watt Density
- ✓ Silicone-Coated Fiberglass Facing
- ✓ 25 mm (1") Fiberglass Insulation
- ✓ Metal and Poly Drum Models

The FCDH Series consists of full-coverage insulated drum heaters that provide a safe and efficient method of temperature and viscosity control. An easy-to-use digital temperature controller prevents temperature runaway. These heaters use a patented grounded heating element and are designed for indoor use when it is desirable to insulate the entire surface of the drum.

SPECIFICATIONS

Digital On/Off Temperature Controllers:

Metal Drums: 10 to 232°C (50 to 450°F)

Poly Drums: 10 to 71°C (50 to 160°F)

Max Exposure Temperature: 260°C (500°F)

Outer Sheath: Silicone-coated fiberglass facing

Inner Sheath: Silicone-coated fiberglass liner

Insulation: 25.4 mm (1") fiberglass

Dielectric Strength: Over 2000V

Power Cord: 1.8 m (6') with plug on 120V models, stripped lead ends on 240V models

Power: 120 or 240 Vac



FCDH-1600-120, \$1024, shown smaller than actual size.



ALL MODELS AVAILABLE FOR FAST DELIVERY!

To Order (Specify Model Number)

Model No.	Price	Description	Type	Wattage	Voltage
FCDH-1600-120	\$1024	Drum heater	Metal	1600	120
FCDH-750-120	1024	Drum heater	Plastic	750	120
FCDH-1600-240	1024	Drum heater	Metal	1600	240
FCDH-750-240	1024	Drum heater	Plastic	750	240

Accessories

FCDH-TOP	\$89	Drum top cover
FCDH-STRIP	68	Expander strip for rolling drums with removable lids
PE-1405	86	Reference Handbook: The Control of Boilers

All drum heaters are for 55 gallon size and comes with a digital temperature controller.

The 120 Vac models include a 3-prong plug, and the 240 Vac models have stripped leads.

FCDH-TOP is an insulation cover that fits on the top of a drum to help prevent heat loss.

Ordering Example: FCDH-1600-120, drum heater for 55 gallon size, 120V, 1600 W, with a digital temperature controller, FCDH-TOP, insulation cover that fits on the top of a drum to help prevent heat loss, \$1024 + 89 = \$1113.

DUAL ZONE DRUM HEATER

FCDDH-3200-240

\$1299



- ✓ Easy-to-Use Digital Temperature Controller with Audible/Visual Alarm
- ✓ Large Heater Coverage and High Wattages for Fast Heat-Up
- ✓ High Wattage 3200W (1600W Per Zone)
- ✓ 25 mm (1") Fiberglass Insulation
- ✓ Designed for 55 Gallon Metal Drums

OMEGALUX® full-coverage drum heaters are designed to wrap around a drum and heat the contents while insulating to keep the heat exactly where it needs to be. Full-coverage drum heaters combine the convenience of quick heat-up time and the precision of a digital controller to provide the most practical, efficient means of freeze protection, viscosity control, and maintenance of materials at elevated temperatures. The dual zone drum heater provides a fully heated area with independent temperature control for each zone. It is designed to quickly melt heavy solids like molasses, syrups, etc.

FCDDH-3200-240, \$1299, shown smaller than actual size.



SPECIFICATIONS

Digital On/Off Temperature Controller: 10 to 232°C (50 to 450°F) for metal drums

Heated Area: Fully heated

Wattage: 3200W (1600W per zone)

Max Exposure Temperature: 260°C (500°F)

Outer Sheath: Silicone-coated fiberglass facing

Inner Sheath: Silicone-coated fiberglass liner

Insulation: 25.4 mm (1") fiberglass

Dielectric Strength: Over 2000V

Power Cord: 1.8 m (6') with stripped lead ends

Power: 240 Vac (grounded heating element meets NEC 427.23)



AVAILABLE FOR FAST DELIVERY!

To Order (Specify Model Number)

MODEL NO	PRICE	DESCRIPTION
FCDDH-3200-240	\$1299	Dual zone drum heater
ACCESSORIES		
FCDG-TOP	\$89	Drum top cover
FCDH-STRIP	68	Expander strip for rolling drums with removable lids
PE-1018	220	Reference Book: The Control Handbook

All drum heaters are for 55 gallon size and come with two digital temperature controllers. **Ordering Example:** FCDDH-3200-240, dual zone drum heater for 55 gallon size, 240V, 3200W, with a digital temperature controller for each zone and FCDH-TOP insulation cover that fits on the top of a drum to help prevent heat loss, \$1299 + 89 = **\$1388**.



WRAP-AROUND TOTE TANK HEATERS

TOTE Series
Starts at

\$1469



- ✓ Fits Any Tote Tank from 1 to 1.2 m (40 to 48") Square
- ✓ Comes in Heights of 0.9, 1.1 or 1.2 m (36, 42 or 48")
- ✓ 2 Heating Zones
- ✓ 2 Built-In Adjustable Thermostats
- ✓ 2 Built-In High-Limit Thermostats
- ✓ Adjustable Nylon Straps with Buckles
- ✓ Flexible Silicone-Impregnated Cloth Facing and Liner
- ✓ 6 mm (¼") Fiberglass Insulation
- ✓ 1.8 m (6') Power Cord

The OMEGA® TOTE Series tote tank heaters are flexible wrap-around surface heaters offered in different sizes based on height. These heaters provide a quick, easy, non-invasive way to warm your product. They fit nearly every standard tote tank utilizing adjustable nylon straps with buckles. There are 3 straps for placing around the tank and 2 for across the top. Units include an adjustable thermostat and a manual reset high-limit thermostat for each of the 2 zones.

SPECIFICATIONS

Adjustable Thermostat Setting:
10 to 70°C (50 to 160°F)

High-Limit Thermostat Setting:
Approximately 90°C (195°F)



TOTE481-ADJ/120V,
\$1473, shown smaller
than actual size.

High-Limit Thermostat Reset: Manual
Maximum Exposure Temperature:
230°C (450°F)

Outer Sheath and Liner:
Silicone impregnated

Attachment Method: Nylon straps
with adjustable buckles

Fiberglass Insulation: 6 mm (0.25")

Total Blanket Length:
Approximately 5 m (16.5')

Heated Length: Approx 4.1 m (13.5')
Height: 915 mm (36"), 1065 mm (42")
or 1220 mm (48")

Wattage: 1440 or 2880 W

Power Cord: 1.8 m (6') with standard
power plug

Power: 120 or 240 Vac

ALL MODELS AVAILABLE FOR FAST DELIVERY!

To Order (Specify Model Number)

Model No.	Price	Description	Weight
TOTE361-ADJ/120V	\$1469	Tote heater with thermostat, 120V, 1440 W, 0.9 m (36") height	40 lbs
TOTE362-ADJ/240V	1469	Tote heater with thermostat, 240V, 2880 W, 0.9 m (36") height	40 lbs
TOTE421-ADJ/120V	1659	Tote heater with thermostat, 120V, 1440 W, 1.1 m (42") height	45 lbs
TOTE422-ADJ/240V	1659	Tote heater with thermostat, 240V, 2880 W, 1.1 m (42") height	45 lbs
TOTE481-ADJ/120V	1694	Tote heater with thermostat, 120V, 1440 W, 1.2 m (48") height	50 lbs
TOTE482-ADJ/240V	1694	Tote heater with thermostat, 240V, 2880 W, 1.2 m (48") height	50 lbs
TOTE-COVER	441	Tote insulated top cover	
PE-1038	175	Reference Handbook: Applied Process Design	

Comes with adjustable and high-limit thermostats for each of 2 heat zones.

Ordering Example: TOTE361-ADJ/120V, tote heater with thermostat, 120V, 1440 W, 0.9 m (36") height, TOTE-COVER, tote insulated top cover, \$1469 + 441 = \$1910.

HIGH WATT DRUM HEATERS AND INSULATING BLANKETS

DRUM-DHW-55 Series

\$270

All Models



- ✓ Fits Standard 55 Gallon Metal Drums
- ✓ Built in Thermostat 10 to 218°C (50 to 425°F)
- ✓ 115 or 230 Vac Standard
- ✓ Simple Spring and Hook Arrangement
- ✓ Resistant to Mechanical Damage
- ✓ Chemical Resistant
- ✓ Freeze Protection or Temperature Maintenance Applications
- ✓ Built-In Metal Screen is Grounded Electrically for Safety
- ✓ UL Recognized Components

Omegalux® drum heaters can easily be wrapped around a drum and attached with a simple spring and hook arrangement. Once in position, the drum heater provides uniform and even heat to the contents of the drum. Omegalux® drum heaters are manufactured using a nickel alloy resistance wire and fully vulcanized fiberglass reinforced silicone rubber. They are resistant to mechanical damage and to attack from many chemical substances. The use of reinforced silicone rubber material as a base for the drum heater allows the design of extra flexible, very thin and efficient heaters. Each heater band is equipped with a 1.8 m (6') cord set (230 Vac heaters do not have a plug). A built-in metal screen is grounded electrically for safety. All heaters are high potential dielectric tested at 1500V at the factory. Drum heaters are available with either a 115 or 230V rating. When used with lightweight insulating blankets, drum heaters provide more efficient, more uniform heating with better temperature control. Designed for use with 55 gallon steel drums, the rugged



DRUM-DHW-55-115-TS, \$270, shown smaller than actual size.

TOTE-BH-55 Series

\$920

All Models

TOTE-BH-55-115-TS, \$920, shown smaller than actual size.



aluminized cloth has 25.4 mm (1") of fiberglass insulation- for less heat loss and increased worker safety. Provides outstanding freeze protection, as well as temperature and viscosity control. Velcro fasteners make installation easy for a single person.

Specifications

Power: 115 and 230 Vac
Wattage: 1000 or 1500 W
Max Ambient Operating Temp: 148°C (300°F)
Max Exposure Temp: 232°C (450°F)
Width: 1.2 mm (4")
Power Cord: 1.8 m (6') (230 Vac does not include plug)

ALL MODELS AVAILABLE FOR FAST DELIVERY!

To Order (Specify Model Number)

Model No.	Price	Description	Watts
DRUM-DHW-55-115-TS	\$270	Flexible drum heater (115V)	1500
DRUM-DHW-55-230-TS	270	Flexible drum heater (230V)	1500
TOTE-BH-55-115-TS	920	Insulating blanket with heater (115V)	1000
TOTE-BH-55-230-TS	920	Insulating blanket with heater (230V)	1000
COVER-IB-55	760	Insulating blanket	—
PE-1018	220	Reference Book: The Control Handbook	

Ordering Example: DRUM-DHW-55-115-TS, 115V flexible drum heater for 55 gallon drum, \$270.

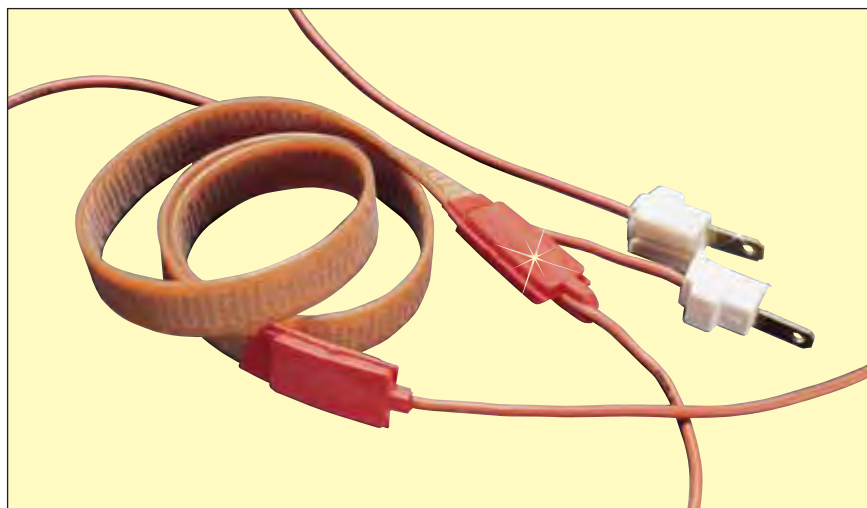


MEDIUM TEMPERATURE HEATING TAPES

SRT Series
Starts at

\$49

- ✓ Maximum Exposure Temperature up to 230°C (450°F)
- ✓ Uniform Heat Distribution
- ✓ Moisture and Chemical Resistant
- ✓ Integrally Molded Separable Plug
- ✓ Available with Leads Same End†



SPECIFICATIONS

Heating Elements: 36-40 gage finely stranded resistance wire

Heating Elements Insulation: double braided fiberglass yarn

Dielectric Strength: in e/css of 2000V

Lead Wires: 16 AWG high temperature 600V silicone rubber insulated lead wire emerging from opposite ends of the heating tape into separate sides of integrally molded separable plug

OMEGALUX® Silicone Rubber Extruded Heating Tapes are low-watt density electrical resistance heaters designed for temperature maintenance in applications requiring moisture and chemical resistance. Silicone rubber tapes are constructed of finely stranded resistance wires fully insulated with braided fiberglass and knitted into flat tape with fiberglass yarn. These tapes are encapsulated in a void-free silicone rubber sheath.

APPLICATIONS

- ✓ Silicone rubber extruded heating tapes can be used in direct contact with a metal or conductive surface



Integrally molded separable plug shown.

MOST POPULAR MODELS HIGHLIGHTED!

To Order (Specify Model Number)

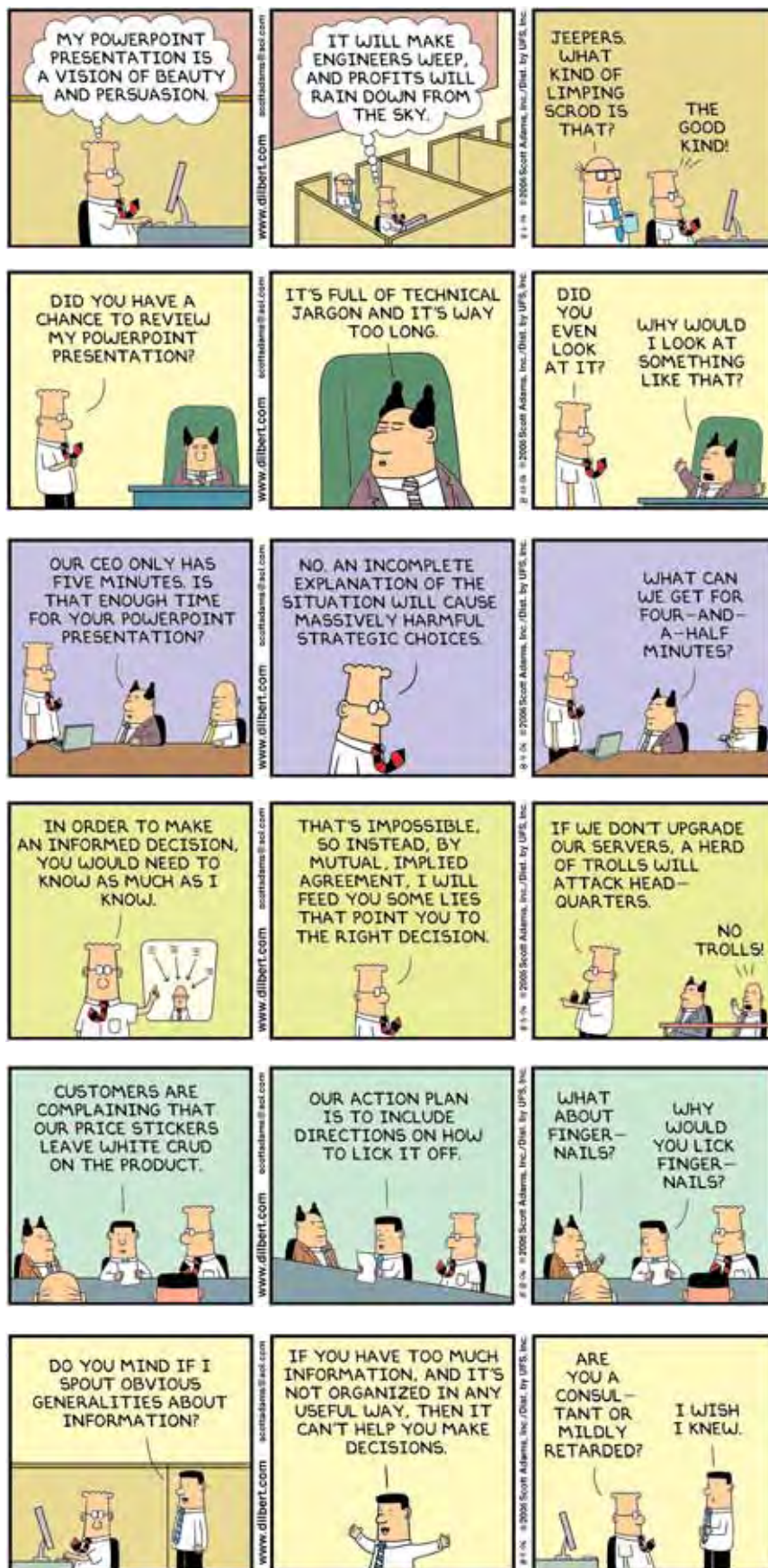
Watts	W/in ²	Volts	Size cm/m ("I")	Model No.	Price
52	4.3	120	1/0.6 (1/2)	SRT051-020	\$49
104	4.3	120	1/1.2 (1/4)	SRT051-040	55
156	4.3	120	1/1.8 (1/6)	SRT051-060	66
209	4.3	120	1/2.4 (1/8)	SRT051-080	77
261	4.3	120	1/3 (1/10)	SRT051-100	88
313	4.3	120	1/3.7 (1/12)	SRT051-120	79
104	4.3	120	2.5/0.6 (1/2)	SRT101-020	66
209	4.3	120	2.5/1.2 (1/4)	SRT101-040	82
313	4.3	120	2.5/1.8 (1/6)	SRT101-060	104
418	4.3	120	2.5/2.4 (1/8)	SRT101-080	120
522	4.3	120	2.5/3 (1/10)	SRT101-100	137
627	4.3	120	2.5/3.7 (1/12)	SRT101-140	169
836	4.3	120	2.5/4.9 (1/16)	SRT101-160	180
940	4.3	120	2.5/5.5 (1/18)	SRT101-180	197
1045	4.3	120	2.5/6.1 (1/20)	SRT101-200	213
209	4.3	120	5/0.6 (2/2)	SRT201-020	88
418	4.3	120	5/1.2 (2/4)	SRT201-040	126
627	4.3	120	5/1.8 (2/6)	SRT201-060	175
836	4.3	120	5/2.4 (2/8)	SRT201-080	219
1045	4.3	120	5/3 (2/10)	SRT201-100	240
1254	4.3	120	5/3.7 (2/12)	SRT201-120*	262
1463	4.3	120	5/4.3 (2/14)	SRT201-140*	279
1672	4.3	120	5/4.9 (2/16)	SRT201-160*	317
1881	4.3	120	5/5.5 (2/18)	SRT201-180*	361
2090	4.3	120	5/6.1 (2/20)	SRT201-200*	388

† To order heaters with power leads exiting the same end of the tape, add suffix "-LSE" to model number. Call Sales for pricing. To order 240V version change the "1" before the "-" in model number to "2". All 240V versions are supplied without plugs. Call for sales prices.

* Does not come with plug.

Comes with instruction sheet.

Ordering Example: SRT051-060, 120V, 156 Watt, heating tape, \$66.



Single- and Three-Phase DIN Rail Mount Solid State Relays

SSRDIN Series Starts at \$53



DP63000 Series Starts at \$121



Digital Panel Meters For Temperature, Process, Voltage and Current

DP63200-RTD Digital Panel RTD Meters \$186



Please search omega.com for more details on these featured products!

HEATING TAPES WITH BUILT-IN ADJUSTABLE THERMOSTAT

HTWAT Series
Starts At

\$134



- ✓ Adjustable Thermostat Control Sets Up to 218°C (425°F)
- ✓ No Additional Control Needed
- ✓ Moisture and Chemical Resistant
- ✓ Suitable for Electrically Conductive Surfaces
- ✓ Rapid Heat Up

HTWAT Series silicone rubber heating tapes with adjustable thermostat control are designed for process temperature control, freeze protection, and supplemental heat. Applications include valves, pipe lines, bearings, filter housings, actuators and more. Wrap the flexible heating tape around the desired object you want to heat, set the temperature, and it will maintain heat at the set temperature.

SPECIFICATIONS

Adjustable thermostat:

10 to 218°C (50 to 425°F)

Maximum Exposure Temperature:

232°C (450°F)

Nominal Watt Density:

6.0 watts/in V (0.009 watts/mm V)

Minimum Bend Radius:

25 mm (0.250")

Outer Sheath:

Extruded silicone rubber

Construction:

Fiberglass knitted and braided

Power Cord: 1.8 m (6') with plug

on 120V models, stripped lead ends on 240V models

Power: 120 or 240 Vac



HTWAT051-002,
\$134, shown smaller
than actual size.

MOST POPULAR MODELS HIGHLIGHTED!

To Order (Specify Model Number)

Model No.	Price	Volts	Watts	Size
HTWAT051-002	\$134	120	72	½" x 2'
HTWAT051-004	143	120	144	½" x 4'
HTWAT051-006	149	120	216	½" x 6'
HTWAT051-008	158	120	288	½" x 8'
HTWAT051-010	171	120	360	½" x 10'
HTWAT101-002	134	120	144	1" x 2'
HTWAT101-004	144	120	288	1" x 4'
HTWAT101-006	156	120	432	1" x 6'
HTWAT101-008	164	120	576	1" x 8'
HTWAT101-010	172	120	720	1" x 10'
HTWAT201-002	196	120	288	2" x 2'
HTWAT201-004	210	120	576	2" x 4'
HTWAT201-006	220	120	864	2" x 6'
HTWAT201-008	228	120	1152	2" x 8'
HTWAT201-010	243	120	1440	2" x 10'
HTWAT301-002	218	120	432	3" x 2'
HTWAT301-004	233	120	864	3" x 4'
HTWAT301-006	244	120	1296	3" x 6'
HTWAT301-008	253	120	1440	3" x 8'
HTWAT301-010	269	120	1440*	3" x 10'
PE-1022	79	Reference Book: Process Control Systems		

To order 240V version change the "1" in the part no. before the "-" to "2" for 240V.

240V versions are supplied without plugs. Prices are the same. *240V version is 1800 watts

Ordering Example: HTWAT202-008, heating tape, 2"x 2", 240V, 1440 watts, with integral adjustable thermostat, \$243.

HEATING TAPES WITH BUILT-IN THERMOSTAT



HTWT101-006-60F, \$163, shown smaller than actual size.

HTWT Series Starts at

\$143



- ✓ Flexible Silicon Rubber
- ✓ Built-In Thermostat Set at 16°C (60°F)
- ✓ Moisture and Chemical Resistant
- ✓ Suitable for Electrically Conductive Surfaces



HTWT Series consists of flexible silicon rubber heating tapes with a built-in thermostat set at 16°C (60°F). Units are ideal for freeze protection or a low-temperature process control solution. Units are plug-and-play and are suitable for electrically conductive surfaces. They use a patented grounded heating element for safety.

SPECIFICATIONS

Thermostat Setting: 16°C (60°F)

Max Exposure Temperature: 230°C (450°F)

Nominal Watts per square mm (in): 0.009 (6.0)

Outer Sheath: Extruded silicone rubber

Construction: Kapton® wrapped fiberglass, knit and braided

Width: 25.4 mm (1")

Power Cord: 1.8 m (6') with plug on 120V models, stripped lead ends on 240V models

Power: 120 or 240 Vac

MOST POPULAR MODELS HIGHLIGHTED!

To Order (Specify Model Number)

Model No.	Price	Description	Length mm (in)	Wattage	Voltage
HTWT101-002-60F	\$143	Heating tapes	610 (24)	104	120
HTWT101-004-60F	154	Heating tapes	1220 (48)	209	120
HTWT101-006-60F	163	Heating tapes	1829 (72)	313	120
HTWT101-008-60F	170	Heating tapes	2438 (96)	418	120
HTWT101-010-60F	184	Heating tapes	3048 (120)	522	120
HTWT102-004-60F	154	Heating tapes	1220 (48)	209	240
HTWT102-006-60F	163	Heating tapes	1829 (72)	313	240
HTWT102-008-60F	170	Heating tapes	2438 (96)	418	240
HTWT102-010-60F	184	Heating tapes	3048 (120)	522	240
PE-1409	134	Reference Handbook: Electric Machinery Fundamentals			

All heating tapes are 25.4 mm (1") wide and come with a thermostat set at 16°C (60°F).
Ordering Example: HTWT101-004-60F, heating tape 25.4 (1) x 1220 mm (48"), 120V, 209 W, with a thermostat set at 16°C (60°F), \$154.

HIGH TEMPERATURE HEATING TAPES

FGS, FGH, FWH Series
Starts at

\$22

- ✓ Maximum Exposure Temperature up to 480°C (900°F)
- ✓ Reliable
- ✓ Fiberglass Insulated
- ✓ Fast Thermal Response
- ✓ Integral Molded Separable Plug
- ✓ Available with Leads Same End†

Standard tapes are made from fine gage stranded resistance wires that are double insulated with braided fiberglass and knitted into flat tapes for maximum flexibility. A heavy insulated tape is made by taking a standard tape and braiding it between layers of fiberglass yarn. Wide tapes are made from two or more standard tapes that are sewn between two layers of fiberglass cloth.

SPECIFICATIONS

Heating Elements: 36-40 gage resistance wire.

Lead Wires: emerge from opposite ends into separate sides of an integrally molded separable plug.

Heating Element Insulation: double-braided fiberglass

Dielectric Strength: in excess of 2000V

APPLICATIONS

Wide and heavy-duty insulated tapes are good for direct contact on a conductive surface.

Wide Heavy Insulated Tapes

To Order (Specify Model Number)					
Watts	W/in ²	Volts	Size	Model No.	Price
208	4.9	120	1¼" x 2'	FWH171-020	\$82
416	4.9	120	1¼" x 4'	FWH171-040	120
624	4.9	120	1¼" x 6'	FWH171-060	164
832	4.9	120	1¼" x 8'	FWH171-080	191
1040	4.9	120	1¼" x 10'	FWH171-100	224
314	5.2	120	2½" x 2'	FWH251-020	120
628	5.2	120	2½" x 4'	FWH251-040	175
942	5.2	120	2½" x 6'	FWH251-060	246
1256	5.2	120	2½" x 8'	FWH251-080	300
1570	5.2	120	2½" x 10'	FWH251-100	227
418	5.3	120	3¼" x 2'	FWH321-020	120
836	5.3	120	3¼" x 4'	FWH321-040	175
1256	5.3	120	3¼" x 6'	FWH321-060	246
1672	5.3	120	3¼" x 8'	FWH321-080*	300
2092	5.3	120	3¼" x 10'	FWH321-100*	333

† To order heaters with power leads exiting the same end of the tape, add suffix "-LSE" to model number. Consult Sales for pricing. To order 240V version change the "1" in the part no. prior to the "-" to "2" for 240V. All 240V versions are supplied without plugs. Call Sales for prices.

* Does not come with plug.

Comes with instruction sheet.

CAUTION AND WARNING!

Fire and electrical shock may result if products are used improperly or installed or used by non-qualified personnel. See inside back cover for additional warnings.

Beaker Not Included

Standard Insulated Tape Shown

MOST POPULAR
MODELS HIGHLIGHTED!

Standard Insulated Tapes

To Order (Specify Model Number)					
Watts	W/in ²	Volts	Size	Model No.	Price
46	8.6	120	¾" x 12"	FGS0031-010	\$22
104	8.6	120	½" x 2'	FGS051-020	27
209	8.6	120	½" x 4'	FGS051-040	27
313	8.6	120	½" x 6'	FGS051-060	38
418	8.6	120	½" x 8'	FGS051-080	44
522	8.6	120	½" x 10'	FGS051-100	55
209	8.6	120	1" x 2'	FGS101-020	27
418	8.6	120	1" x 4'	FGS101-040	38
627	8.6	120	1" x 6'	FGS101-060	44
836	8.6	120	1" x 8'	FGS101-080	66
1045	8.6	240	1" x 10'	FGS102-100*	76

Heavy Insulated Tapes

To Order (Specify Model Number)					
Watts	W/in ²	Volts	Size	Model No.	Price
104	8.6	120	½" x 2'	FGH051-020	\$27
209	8.6	120	½" x 4'	FGH051-040	27
313	8.6	120	½" x 6'	FGH051-060	38
418	8.6	120	½" x 8'	FGH051-080	44
522	8.6	120	½" x 10'	FGH051-100	55
209	8.6	120	1" x 2'	FGH101-020	49
418	8.6	120	1" x 4'	FGH101-040	71
627	8.6	120	1" x 6'	FGH101-060	88
836	8.6	120	1" x 8'	FGH101-080	104
1040	8.6	120	1" x 10'	FGH101-100	109

Ordering Example: FGH101-060, heavy insulated, 120V, 627 Watt, heating tape, \$88.

ULTRA-HIGH TEMPERATURE HEATING TAPES

STH, SST, SWH Series
Starts at

\$27



- ✓ Maximum Exposure Temperature up to 760°C (1400°F)
- ✓ Premium Quality
- ✓ Moisture and Chemical Resistant
- ✓ Samox Insulated
- ✓ Integrally Molded Separate Plug
- ✓ Available with Leads Same End†

Standard tapes are made from fine gage stranded resistance wires that are double insulated with braided Samox and knitted into flat tapes for maximum flexibility. A heavy insulated tape is made by taking a standard tape and braiding it between two layers of Samox yarn. Wide tapes are made from two or more standard tapes that are sewn between two layers of Samox cloth.

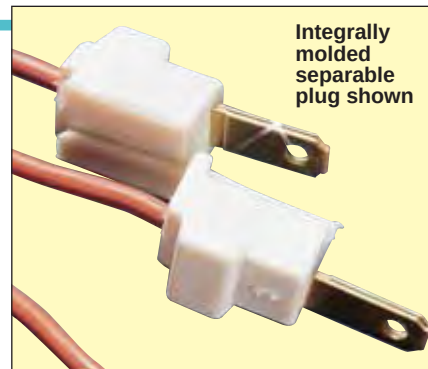
SPECIFICATIONS

Heating Elements: 36-40 gage stranded resistance wire

Heating Elements Insulated: double braided Samox

Dielectric Strength: In excess of 2000V

Lead Wires: Emerge from opposite ends into separate sides of integrally molded separate plug. Maximum temperature for lead wires is 260°C (500°F).



Integrally molded separable plug shown

Laboratory: Wide and Heavy Insulated tapes are good for direct contact on conductive surfaces. Do not use standard insulated tapes on a metal or conductive surface.

MOST POPULAR MODELS HIGHLIGHTED!

To Order (Specify Model Number)

				Heavy Insulated Tapes		Standard Insulated Tapes	
Watt	W/in ²	Volts	Size	Model Number	Price	Model Number	Price
156	13	120	½" x 2'	STH051-020	\$38	SST051-020	\$27
313	13	120	½" x 4'	STH051-040	44	SST051-040	33
470	13	120	½" x 6'	STH051-060	60	SST051-060	44
627	13	120	½" x 8'	STH051-080	71	SST051-080	55
783	13	240	½" x 10'	STH052-100*	88	SST052-100*	62
940	13	240	½" x 12'	STH052-120*	104	SST052-120*	77
313	13	120	1" x 2'	STH101-020	44	SST101-020	33
627	13	120	1" x 4'	STH101-040	66	SST101-040	44
940	13	240	1" x 6'	STH102-060*	82	SST102-060*	49
1256	13	240	1" x 8'	STH102-080*	88	SST102-080*	66

				Wide Heavy Insulated Tapes	
Watt	W/in ²	Volts	Size	Model Number	Price
314	7.5	120	1¾" x 2'	SWH171-020	\$98
628	7.5	120	1¾" x 4'	SWH171-040	137
942	7.5	120	1¾" x 6'	SWH171-060	186
1256	7.5	120	1¾" x 8'	SWH171-080	246
1570	7.5	240	1¾" x 10'	SWH172-100*	295
470	7.8	120	2½" x 2'	SWH251-020	120
940	7.8	120	2½" x 4'	SWH251-040	175
1410	7.8	120	2½" x 6'	SWH251-060	246
1880	7.8	120	2½" x 8'	SWH251-080*	301
2350	7.8	240	2½" x 10'	SWH252-100*	317
628	8.0	120	3¾" x 2'	SWH351-020	137
1256	8.0	120	3¾" x 4'	SWH351-040	202
1884	8.0	120	3¾" x 6'	SWH351-060*	273
2512	8.0	120	3¾" x 8'	SWH351-080*	382
3140	8.0	240	3¾" x 10'	SWH352-100*	408

† To order heaters with power leads exiting the same end of the tape, add suffix "LSE" to model number. Call Sales for prices. To order 240V version change the "1" before the "-" in model number to "2". All 240V versions are supplied without plugs. Call sales for prices.

* Does not come with plug.

CAUTION AND WARNING!

Fire and electrical shock may result if products are used improperly or installed or used by non-qualified personnel. See inside back cover for additional warning.

Ordering Example: STH051-020, heavy insulated, 120V, 156 watt, heating tape, \$38. Comes with instruction sheet.

To Order, Call **1-800-872-4328** or Shop Online at **omega.comSM**



OMEGALUX® ROPE HEATERS

FGR Series
Starts at

\$12



- ✓ Operating Temperature Rating to 482°C (900°F)
- ✓ Wraps Around Small Diameter Pipes and Tubes

OMEGALUX® rope heaters apply heat to tubing with diameters as small as 3.2 mm ($\frac{1}{8}$ "). Featuring a maximum allowable operating temperature of 482°C (900°F), the FGR Series rope heaters can be wrapped around either conductive or non-conductive surfaces. Each end terminates with 610 mm (24") long fiberglass-insulated lead wire.

SPECIFICATIONS

Maximum Allowable Temperature: 482°C (900°F)

Suitable for Use on Conductive Surface: Yes

Resists Moisture Vapor or Chemicals: No

Standard Diameter: 5 mm ($\frac{3}{16}$ ")

Voltage: 120 Vac or Vdc, 240V optional

Linear Wattage: 4 Watts/in.

Heater Length: 0.9, 1.8, 2.4 or 3.0 m (3, 6, 8 or 10')

Lead Length: 609 mm (24")

Termination: Stripped leads

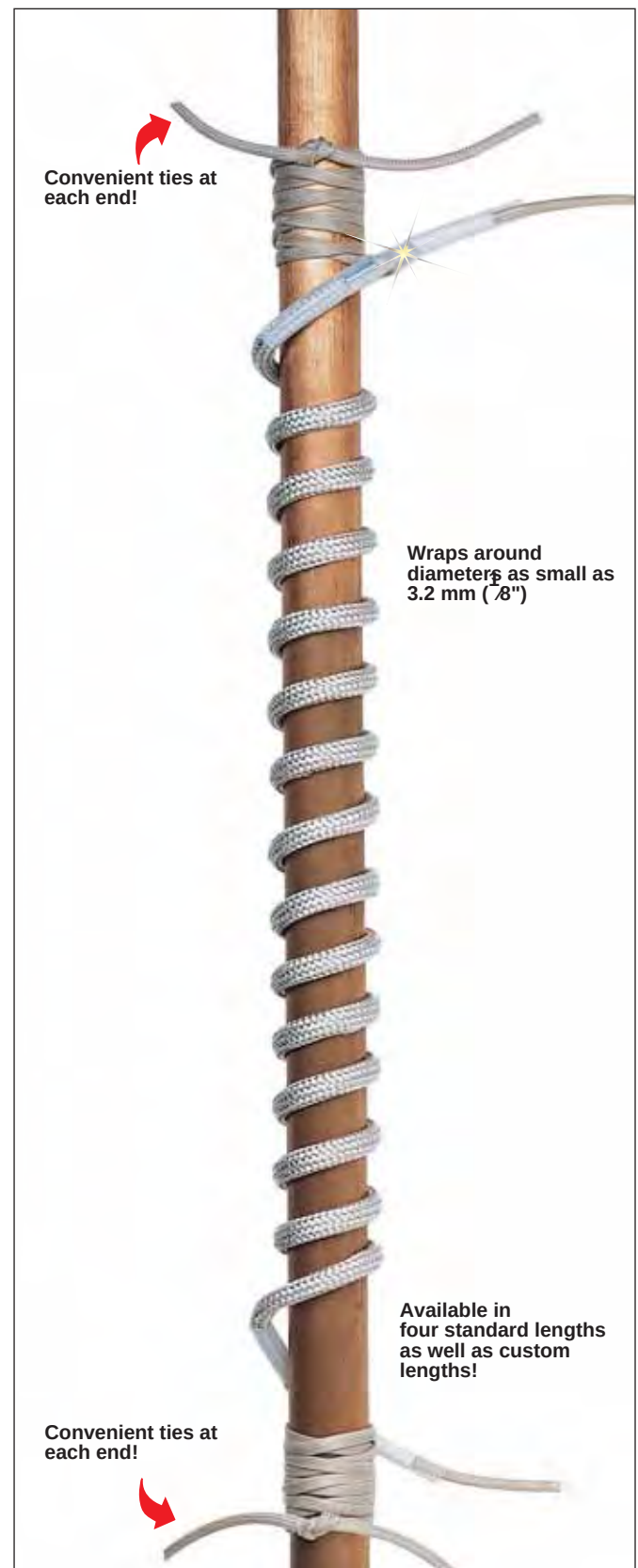
ALL MODELS AVAILABLE FOR FAST DELIVERY!

To Order (Specify Model Number)

Model Number	Description Length	Wattage	Voltage	Price
FGR-030	0.9 m (3')	125	120	\$12
FGR-060	1.8 m (6')	250	120	28
FGR-080	2.4 m (8')	400	120	30
FGR-100	3.0 m (10')	500	120	40

240 Vac models and other wattages also available.

Ordering Example: FGR-060, 1.8 m (6') 120 Vac rope heater, \$28.



HEATING CORDS

HTC Series
Starts at

\$26



- ✓ Maximum Exposure Temperature 482°C (900°F)
- ✓ Wraparound Diameters as Small as 3.2 mm (1/8")
- ✓ Knitted and Braided Fiberglass Construction
- ✓ Power Density: 0.003 W/mm² (1.8 W/in²)
- ✓ Double-Braided Fiberglass Outer Sheath
- ✓ Suitable for Electrically Conductive Surfaces
- ✓ 120 Vac
- ✓ Includes High-Temperature Tie-Downs

OMEGA heating cords are designed for use on small-diameter tubes, vessels, or wherever space is limited. They can be wrapped around tubing as small as 3.2 mm (1/8") diameter. The double-braided fiberglass outer sheath ensures durability for laboratory, production, or maintenance applications.

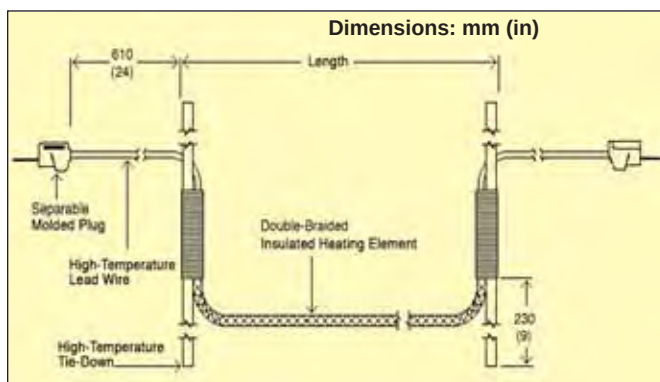
Portable Thermocouple Temperature Controller CN-TOT. See Page 172 for details.

Must-Have Accessory!



CN-TOT-175JF-120V, \$202, shown smaller than actual size.

Dimensions: mm (in)



HTC-030, \$46, shown smaller than actual size.



ALL MODELS AVAILABLE FOR FAST DELIVERY!

To Order (Specify Model Number)

Model No.	Price	Description
HTC-030	\$26	Heating cord 0.9 m (3'), 64 W, 120V
HTC-060	30	Heating cord 1.8 m (6'), 125 W, 120V
HTC-120	38	Heating cord 3.6 m (12'), 260 W, 120V
OP-5A	87	Reference Book: Manual on the Use of Thermocouples

Ordering Example: HTC-030, heating cord 0.9 m (3'), 64 W, 120V, \$26.

SPECIFYING OMEGALUX® HEAT CABLE

For Piping Systems

HEAT LOSS CALCULATIONS

CALCULATING HEAT LOSSES FROM INSULATED METAL PIPES

STEP 1. OBTAIN NECESSARY INFORMATION

- Desired pipe maintenance temperature in °F (T_M).
- Minimum expected ambient temperature in °F (T_A).
- Size of pipe, nominal.
- Data on thermal insulation.
 - Insulation material
 - Thickness in inches
 - Inside diameter of insulation in inches. For soft insulation, ID of insulation is same as OD of pipe. For hard insulation, use one size larger. Also, use one size larger for all spiraled installations. Use Chart 1 (page 39)
- Maximum expected wind velocity, if over 20 mph.

STEP 2. DETERMINE HEAT LOSSES PER FOOT OF PIPE

- Calculate maximum temperature differential.
 $\Delta T = T_M - T_A$
- Use Chart 1 to determine heat loss rate in watts per foot of pipe per °F temperature differential. Enter chart with insulation ID and insulation thickness. The chart value includes a 10% safety factor.
- Multiply maximum temperature differential from Step 2A by heat loss rate from Step B, to determine heat losses per foot of pipe. $Q = (\Delta T)(\text{Heat loss rate per } ^\circ\text{F})$
- Adjust for K factor if necessary. Chart 1 (page 39) is based on fiberglass insulation with $K = 0.25$ at 50°F maintenance temperature. For other materials or other maintenance temperatures,

adjust Q by the ratio of your insulation K factor to 0.25 as shown in parenthesis under your K value. See Chart 2 (page 39).

Adjust $Q = (Q) [(\frac{\%}{0.25}) \text{ or adjustment factor from chart 2}]$

Use the adjusted Q value in future calculations.

- Adjust for wind velocity if necessary. Chart 1 is based on 20 mph maximum wind velocity. Add 5% additional safety margin for each 5 mph over 20. Use the adjusted Q value in future calculations. Do not however, add more than 15% regardless of wind speed.

- Adjust for indoor installation. Multiply Q by 0.9 if installation is indoors.

SYSTEM SPECIFICATION

To specify which heat tracing product to use, an analysis of the parameters of the products must be done. This will determine the suitability of the product for the application.

- Determine the suitability of the cable** based on the maintenance and maximum intermittent exposure temperatures. See cable specifications.

- Select the cable with a suitable jacket material.**

Sheath Material	Self Reg.	Constant Wattage	Mineral Insulated
Basic:			
Thermoplastic Rubber (TPR)	x	—	—
PVC	—	x	—
Fluoropolymer Thermoplastic	—	x	—
Copper	—	—	x
Incoloy	—	—	x
Optional:			
Tinned Copper Braid	x	x	—
TPR Overbraid	x	—	—
Fluoropolymer Overbraid	x	x	—
Polyethylene Coating	—	—	x



- Choose the heat output rating** of the cable which will make up heat loss calculated in Step 2.

✓ **Choose any heating cable which will make up heat output rating which equals or exceeds the calculated heat loss. For SPF, SRC and SRM /E self-regulating heat trace cables, consult heat output (Watts/ft) vs. maintenance temperature graphs.**

✓ **If mineral insulated heating cable is to be used, consult Applications Engineering.**

✓ **If the calculated heat loss per foot exceeds the heat output rating of the desired heating cable, there are a number of possible solutions These are:**

- Choose a different type of heater.
- Use more insulation
- Switch to an insulation with a lower "k" factor.
- Use two or more parallel runs of cable on the pipe where the sum of the cables' heat output equals or exceeds the calculated heat loss.
- Spiral wrap the cable. Consult wrapping factor Chart 3 (page 40). Consider also the minimum radius given in the specifications for the type of cable to be used.

- Determine the number of feet of heating cable required.**

Pipe—

- For a straight run of cable, it is equal to the length of pipe.
- For parallel runs of cable, it is the number of runs times the pipe length.
- For spiral wrapped runs, it is the feet of cable per foot of pipe times the pipe length.

Flanges —

- For each pair of flanges, provide an extra amount of cable equal to twice the diameter of the flanges.

Valves —

- Consult chart 4 on page 41 for valve allowances.

Pipe Hangers —

- Allow 3 times the pipe diameter for each hanger.

Variation Allowance —

- Extra cable should be provided for possible differences between piping drawings and the actual installation. Allow extra heating cable of: 1% for up to 1" diameter pipes
2% for pipes larger than 1" but less than 4" in diameter
3-5% for pipes larger than 4"

Other fittings —

- Consult OMEGALUX®

Total length of heating cable required is the sum of the above. Be sure not to exceed maximum circuit lengths for the cable.

5. Choose heater voltage based on the voltages available at the installation site. For longer runs of heating cable, it is beneficial to use the highest possible voltage. If available voltages are different than the rated voltage of the cable, the heat output will be affected.

6. Consider the electrical design parameters of the installation. Consult Article 427 of National Electric Code for additional details on electrical installation. This

section is intended to provide general guidelines related to the electrical design of pipe tracing systems. The information provided is intended to be used in conjunction with the OMEGALUX® heat cable installation instructions. Each application must use OMEGALUX® installation kits for electrical termination to be approved by U.L., F.M., etc. For information on installation kits such as for power termination, splices, tees, etc., consult pages 49 through 51, RTES, RTST, RTPC and RTEC.

In addition to termination, each heating cable installation must have some form of overcurrent protection such as circuit breakers or fusing. The rating of these devices should be 125% of the total current load. For constant output heating cables such as constant wattage or mineral insulated*, the total load can be calculated using the formula:

$$\text{Total current Load (Amps)} = \frac{\text{Cable length(Feet)} \times \text{Watt/ft (at operating conditions)}}{\text{Operating Voltage}}$$

For OMEGALUX® self-regulating heating cable, the total current load is calculated differently. When power is applied to a self-regulating heating cable, a brief current load surge is experienced. This surge is generally termed inrush current. The value of the inrush current is dependent on the temperature at which the cable is energized.



To calculate the current load, use the equation:

$$\text{Total current Load (Amps)} = \text{inrush current} \times \text{cable length (ft)}$$

For self-regulating cable, refer to SRL, SRM for inrush current values.

When selecting circuit breakers as the overcurrent protection device for installations utilizing self-regulating heating cable, it is recommended that the "thermal" trip type units be selected instead of the "magnetic" trip type. This will minimize possibility of nuisance tripping when the cable must be energized at lower than normal temperatures.

A ground fault interrupter (GFI) device may be placed in the circuit as additional protection. This will reduce the risk of shock or electrical arcing due to physical abuse of the cable. OMEGALUX® recommends that the GFI be rated for a 30 milliamp trip. Since a ground path is required for proper operation of a GFI, the cable should have the metal overbraid (with or without any overcoat) option or a metallic sheath. GFI devices are strongly recommended for installations in hazardous areas.

7. Consider the control scheme.

A wide range of control schemes exist in pipe tracing. Some of the more popular techniques and applications will be discussed here but are by no means limited to these.



SPECIFYING OMEGALUX® HEAT CABLE

For Piping Systems (continued)

Control can be based on two different areas, the temperature of the pipe or the temperature of the surrounding area. The latter of the two, ambient sensing, is normally recommended for freeze protection applications. Pipe sensing is widely used in applications ranging from freeze protection to process temperature maintenance.

Good control of the temperature of a pipeline is very dependent on the placement of the sensing element. Ambient sensing elements should be placed where the lowest ambient temperature is expected. Pipe sensing element should not be located within five feet of a beginning, end, splice, or any disruption of the thermal insulation. The pipe sensing element should be located at a point along the pipe most representative of the entire piping system.

When specifying a temperature controller, the total load of the heating cable system to be controlled cannot exceed the amperage rating of the controller.



If the amperage rating of the controller is exceeded, an auxiliary contractor will be required to control power to the heating cable system.

OMEGALUX® has a wide variety of controls available for almost any pipe tracing system.

8. Specify the heating cable product –

- ✓ For self regulating heat cable refer to pages 43 to 47.
- ✓ For constant wattage heat cable, refer to page 48, 54 and 55.
- ✓ For mineral insulated heating cable, refer to OMEGALUX® mineral insulated heating cable in this section.

Third Party Approvals

Approval	Cable:	SRF	SRL3	SRL5	SRL8	SRL10	SRM3	SRM5	SRM8	SRM10	CWM4	CWM8	CWM12
UL listed for ordinary areas		✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓
FM approval for ordinary areas		✓	✓	✓	✓	✓	✓	✓	✓	✓	*	✓	*
FM approval for hazardous areas, Class I, Div. II, Groups B, C, D (gases, vapors)			✓	✓	✓	✓	✓	✓	*	✓	*	✓	*
FM approval for hazardous areas, Class II, Div. II, Group G (combustible dust)			✓	✓	✓	✓	✓	✓	*	✓	*	✓	*
FM approval for hazardous areas, Class III, Div. II, (easily ignitable fibers & fillings)			✓	✓	✓	✓	✓	✓	*	✓	*	✓	*
CSA certified for ordinary areas		✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	

*Approval Pending.

HEATING CABLE SYSTEMS

CHART 1. Heat Losses From Insulated Metal Pipes Watts Per Foot of Pipe Per °F Temperature Differential (For up to 20 mph wind speed)

Pipe Size (Nom.)	Insulation I.D.	INSULATION THICKNESS (IN.)							
		½	¾	1	1½	2	2½	3	4
½	0.840	0.054	0.041	0.035	0.028	0.024	0.022	0.020	0.018
¾	1.050	0.063	0.048	0.040	0.031	0.027	0.024	0.022	0.020
1	1.315	0.075	0.055	0.046	0.036	0.030	0.027	0.025	0.022
1¼	1.660	0.090	0.066	0.053	0.041	0.034	0.030	0.028	0.024
1½	1.990	0.104	0.075	0.061	0.046	0.038	0.034	0.030	0.026
2	2.875	0.120	0.086	0.069	0.052	0.043	0.037	0.033	0.029
2½	2.875	0.141	0.101	0.080	0.059	0.048	0.042	0.037	0.032
3	3.500	0.168	0.118	0.093	0.068	0.055	0.048	0.042	0.035
3½	4.000	0.189	0.133	0.104	0.075	0.061	0.052	0.046	0.038
4	4.500	0.210	0.147	0.115	0.083	0.066	0.056	0.050	0.041
—	5.000	0.231	0.161	0.125	0.090	0.072	0.061	0.054	0.044
5	5.563	0.255	0.177	0.137	0.098	0.078	0.066	0.058	0.047
6	6.625	0.300	0.207	0.160	0.113	0.089	0.075	0.065	0.053
—	7.625	0.342	0.235	0.181	0.127	0.100	0.084	0.073	0.059
8	8.625	0.385	0.263	0.202	0.141	0.111	0.092	0.080	0.064
—	9.625	0.427	0.291	0.224	0.156	0.121	0.101	0.087	0.070
10	10.750	0.474	0.323	0.247	0.171	0.133	0.110	0.095	0.076
12	12.750	0.559	0.379	0.290	0.200	0.155	0.128	0.109	0.087
14	14.000	0.612	0.415	0.316	0.217	0.168	0.138	0.118	0.093
16	16.000	0.696	0.471	0.358	0.246	0.189	0.155	0.133	0.104
18	18.000	0.781	0.527	0.401	0.274	0.210	0.172	0.147	0.115
20	20.000	0.865	0.584	0.443	0.302	0.231	0.189	0.161	0.125
24	24.000	1.034	0.696	0.527	0.358	0.274	0.223	0.189	0.147

Values in Table 1 are based on the formula below, plus a 10% Safety margin.

The k factor of .025 for fiberglass at 50°F is assumed.

$$\text{Watts/ft of pipe} = \frac{2\pi K (\Delta T)}{(Z) \ln \left(\frac{D_o}{D_i} \right)}$$

k= Thermal Conductivity (BTU•IN/HR•SQ FT•°F)

D_o= Outside Diameter of Insulation (IN)

D_i= Inside Diameter of Insulation (IN)

ΔT = Temperature Differential (°F)

Z = 40.944 BTU • IN/W • HR • FT

CHART 2. Thermal Conductivity (K) of Typical Pipe Insulation Materials
BTU • In/Hr • Sq Ft • °F

INSULATION TYPE		Pipe Maintenance Temperature							
		0°F	50°F	100°F	150°F	200°F	300°F	400°F	500°F
Fiberglass or Mineral Fiber Based on ASTM C-547	k value	0.23	0.25	0.27	0.30	0.32	0.37	0.41	0.45
	Adjustment factor	(.92)	(1.00)	(1.08)	(1.20)	(1.28)	(1.48)	(1.64)	(1.80)
Calcium Silicate* Based on ASTM C-533	k value	0.35	0.37	0.40	0.43	0.45	0.50	0.55	0.60
	Adjustment factor	(1.40)	(1.48)	(1.60)	(1.72)	(1.80)	(2.00)	(2.20)	(2.40)
Foamed Glass* Based on ASTM C-552	k value	0.38	0.40	0.43	0.47	0.51	0.60	0.70	0.81
	Adjustment factor	(1.52)	(1.60)	(1.72)	(1.88)	(2.04)	(2.40)	(2.80)	(3.24)
Foamed Glass* Based on ASTM C-591	k value	0.18	0.17	0.18	0.21	0.25	—	—	—
	Adjustment factor	(.72)	(.68)	(.72)	(.84)	(1.00)	—	—	—

*For rigid insulation, one size larger than pipe is recommended, up through 8" Use same size insulation on 10" pipe and larger.

SPECIFYING OMEGALUX® HEAT CABLE

For Piping Systems (continued)

SYSTEM SPECIFICATIONS
(as discussed on page 36)

EXAMPLE FOR OUTDOOR INSTALLATIONS

Maintain a 1½" pipe at 100°F to keep a process fluid flowing. Use 2" thick fiberglass insulation. Minimum expected ambient temperature is 0°F Maximum expected wind velocity is 35 mph.

HEAT LOSS CALCULATIONS

STEP 1

- A. $T_M = 100^\circ\text{F}$
- B. $T_A = 0^\circ\text{F}$
- C. 1½" Nominal
- D. (1) Fiberglass, which is soft
(2) 2" thick
(3) 1.900"
(4) $K = 0.27$, from chart 2 (page 39)
- E. 35 mph wind

STEP 2

- A. $T = 100^\circ\text{F} - 0^\circ\text{F} = 100^\circ\text{F}$
- B. 0.038 watts/FT•°F
- C. $Q = (100^\circ\text{F})(0.038 \text{ watts/FT}\cdot^\circ\text{F}) = 3.80 \text{ watts/FT}$
- D. Adjusted $K = 1.08$ from Chart 2
Adjusted $Q = (3.80 \times 1.08) = 4.10 \text{ watts/FT}$
- E. Add 15% additional for 35 mph wind
 $(4.10 \times 1.15) = 4.72 \text{ watts/FT}$
- F. Outdoors

STEP 1

In our example, the maintenance temperature is 100°F and the maximum intermittent exposure temperature is 150°F so any cable is suitable based on these parameters.

STEP 2

Based on the chemical environment we could use self-regulating with fluoropolymer overbraid option, or constant Wattage with the basic fluoropolymer sheath or fluoropolymer with overbraid option, or mineral insulated cable with any of the basic sheath materials.

STEP 3

There are a number of different solutions to our sample application. Let's look at each type of heat tracing products individually.

CHART 3 WRAPPING FACTOR (Feet of Cable per Foot of Pipe) Pitch (Ins)

Pipe Size	2	3	4	5	6	7	8	9	10	11	12	14	16	18	24	30	36	42
½	1.90	1.47	1.29	1.19	1.14	1.10	1.08	1.06	—	—	—	—	—	—	—	—	—	—
¾	2.19	1.64	1.40	1.27	1.19	1.14	1.11	1.09	1.07	1.06	—	—	—	—	—	—	—	—
1	2.57	1.87	1.55	1.38	1.27	1.21	1.16	1.13	1.11	1.09	1.07	—	—	—	—	—	—	—
1¼	3.07	2.18	1.76	1.53	1.39	1.30	1.24	1.19	1.16	1.13	1.11	1.08	1.06	—	—	—	—	—
1½	3.43	2.41	1.92	1.65	1.48	1.37	1.29	1.24	1.20	1.16	1.14	1.10	1.08	1.06	—	—	—	—
2	4.15	2.86	2.25	1.90	1.67	1.52	1.42	1.34	1.28	1.24	1.20	1.15	1.12	1.10	1.05	—	—	—
2½	4.91	3.36	2.61	2.17	1.89	1.70	1.56	1.46	1.39	1.33	1.28	1.21	1.17	1.13	1.08	1.05	—	—
3	5.88	3.99	3.06	2.52	2.17	1.93	1.76	1.63	1.53	1.45	1.39	1.30	1.23	1.19	1.11	1.07	1.05	—
4	7.43	5.01	3.82	3.11	2.65	2.33	2.09	1.92	1.78	1.67	1.58	1.45	1.36	1.29	1.17	1.11	1.08	1.06
5	9.09	6.10	4.63	3.75	3.17	2.77	2.47	2.24	2.06	1.92	1.81	1.63	1.51	1.42	1.25	1.17	1.12	1.09
6	10.75	7.20	5.44	4.40	3.70	3.22	2.86	2.58	2.36	2.19	2.04	1.83	1.67	1.55	1.34	1.23	1.16	1.12
8	13.88	9.28	6.99	5.63	4.72	4.08	3.60	3.23	2.94	2.71	2.51	2.22	2.00	1.83	1.53	1.36	1.26	1.20
10	17.20	11.49	8.65	6.94	5.81	5.01	4.41	3.95	3.58	3.28	3.03	2.65	2.37	2.15	1.75	1.52	1.38	1.29
12	20.34	13.58	10.21	8.19	6.85	5.89	5.18	4.62	4.18	3.83	3.53	3.07	2.73	2.40	1.97	1.68	1.51	1.39
14	22.30	14.89	11.18	8.97	7.49	6.44	5.66	5.05	4.57	4.17	3.85	3.34	2.96	2.67	2.11	1.79	1.59	1.46
16	25.44	16.98	12.75	10.22	8.53	7.33	6.43	5.74	5.18	4.73	4.35	3.77	3.33	3.00	2.34	1.97	1.73	1.57
18	28.58	19.07	14.31	11.47	9.57	8.22	7.21	6.42	5.80	5.29	4.86	4.20	3.71	3.33	2.58	2.15	1.88	1.69
20	31.71	21.16	15.88	12.72	10.61	9.11	7.99	7.11	6.42	5.85	5.38	4.64	4.09	3.66	2.82	2.34	2.03	1.81
24	37.99	25.34	19.02	15.22	12.70	10.90	9.55	8.50	7.66	6.98	6.41	5.52	4.85	4.34	3.32	2.72	2.33	2.07

To determine the wrapping factor, divide the calculated heat loss by the heat output of the cable. Locate the value that is equal to or the next highest in the row for the pipe size in your application. The value at the top of the column is the pitch or spacing from center to center of the cable along the pipe.

Self regulating—we could use the 8 Watt per foot cable since its output at 100°F is 5 Watts per foot.

Constant wattage—we could use the 8 Watt per foot constant wattage cable.

We could also change the insulation, its thickness, etc. and try a different rating.

STEP 4

Pipe - 115 ft

Flanges - Approx. 1 ft

Valves - 1 ft

Variation Allowance:

$$115' \times 0.02 = 2 \text{ ft}$$

Total Length of Heat Cable Req'd. = 119 ft

STEP 5

If we use a 240 Volt power source,

**CHART 4
LENGTH ALLOWANCES
FOR VALVES***

Pipe Size	Butterfly Valves (Feet)	Globe or Gate Valves (Feet)
1/2	1	1
3/4	1	1
1	1	1
1 1/2	1	1
2	1	2
2 1/2	1	2
3	1	2
4	2	3
5	2	4
6	2	5
8	3	5
10	3	6
12	4	6
14	4	8
16	5	8
18	5	10
20	5	10
24	5	10

*This table assumes that the valve is covered by the same type and thickness of insulation on the pipe and all cracks are sealed.



we could use the following:

- A. 8 Watt per foot self regulating, or
- B. 8 Watt per foot constant wattage, or
- C. MI cable**

STEP 6

DETERMINE TOTAL CURRENT LOAD

In our sample problem, the total current load for the constant wattage cable is:

$$\frac{119 \text{ ft} \times 8 \text{ W/ft}}{240 \text{ Volts}} = 3.97 \text{ Amps,}$$

In our example using 8 Watts per foot, 240 Volt self-regulating heating

cable, the current load, based on a minimum 50°F start-up temperature, would be (.08 Amps per foot) x (119 ft) = (9.52 Amps)

STEP 7

Refer to (page 36) for complete discussion of the control scheme.

STEP 8

SPECIFY THE HEAT CABLE PRODUCT

SELF-REGULATING: In our example, we would specify 119 ft of SRL 8-2CT heating cable.

CONSTANT WATTAGE: In our example, we would specify 119 ft of CWM 8-2 or CWM 8-2CT heating cable.

SPECIFYING OMEGALUX® HEAT CABLE

PLASTIC PIPE TRACING DESIGN

OMEGALUX® SRL self-regulating heating cables are well suited for use on plastic pipes. The self-regulating characteristic maintains the maximum temperature of the cable to acceptable limits for use on plastic pipe. However, careful attention should be taken when designing the heat tracing system not to exceed the maximum allowable pipe temperature for the plastic pipe being used. This maximum temperature rating may vary with the operating pressure of the pipe. Consult the manufacturers data for the pipe being used to obtain maximum ratings.

When using SRL self-regulating heating cable on plastic pipe, the output of the cable is affected due to the poor heat transfer characteristics of the pipe. When designing a system for use on plastic pipe, use the graphs below for the adjusted cable output vs. temperature. Note that the use of aluminum tape improves the heat transfer from the cable to the pipe. This improves the efficiency of the system. Appropriate graphs for the cable output with the use of aluminum tape on plastic pipes are also shown below.

Example:

If the pipeline described in the example on page 38 is assumed to be plastic pipe, then the following figures must be used to select the rating of RL heating cable to be used. From Step 2 on page 36, we know that 4.72 watts/ft. is required to make up for heat losses. If the cable is applied to the pipe **without** using aluminum tape, then from Figure B-1, the heat output required is found to be greater than what a single straight run of any of the heating cable shown could produce. Consult Step 3 on page 36 for recommendations in this case.

If aluminum tape is applied **under or over the cable**, then from Figure B-2 it can be seen that 10 Watt per foot SRL heating cable can be used. In this case, if aluminum tape was applied **under and over** the cable, 10 Watt per foot SRL heating cable would still be required.

Note: These graphs are for cable installed on plastic pipe only.

FIGURE B-1

SRL Heating Cable on Plastic Pipe without Aluminum Tape, Cable Output vs. Temperature

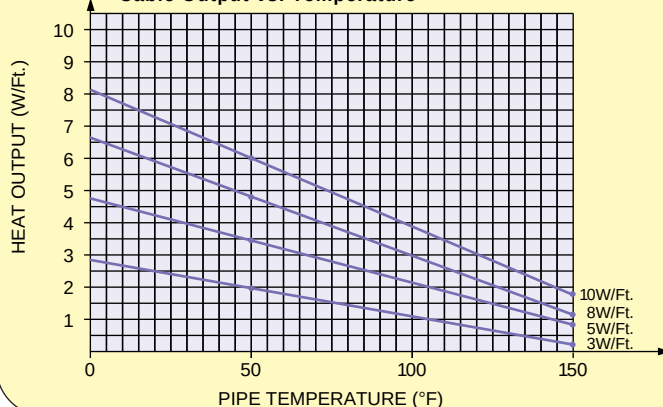


FIGURE B-2

SRL Heating Cable on Plastic Pipe with Aluminum Tape Installed on the Pipe Under or Over the Cable, Cable Output vs. Temperature

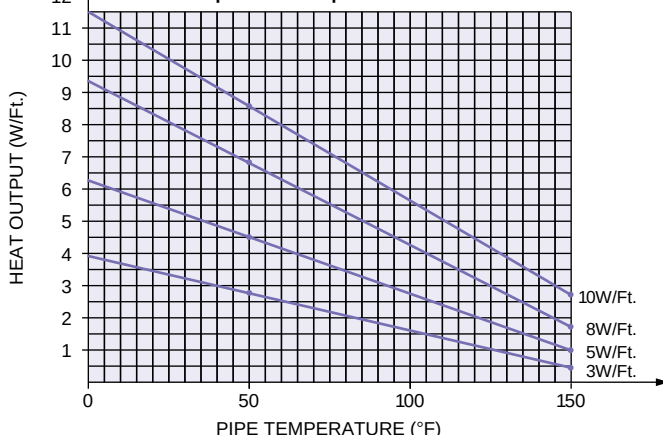
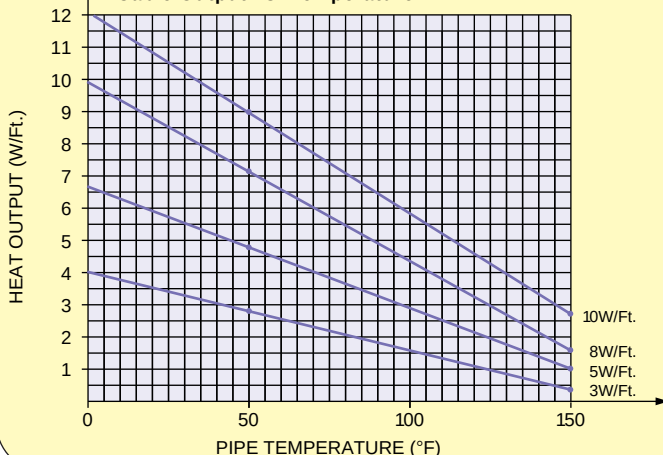


FIGURE B-3

SRL Heating Cable on Plastic Pipe with Aluminum Tape Installed on the Pipe Under and Over the Cable, Cable Output vs. Temperature

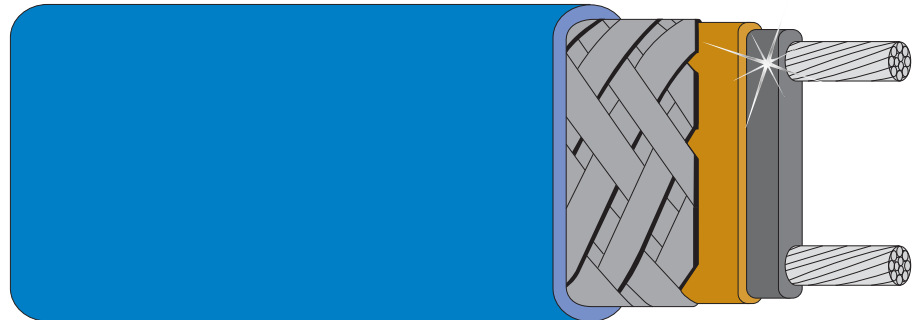


ECONOMICAL, SELF-REGULATING FREEZE PROTECTION HEATING CABLE

SRF SERIES

\$100

25' Length
Basic Unit



- ✓ Self-Regulating, Energy-Efficient Freeze Protection
- ✓ Cost-Effective for Contractor/Construction Applications
- ✓ Industrial Grade, 16 AWG Wire Buss
- ✓ Longer Circuit Paths, Up to 128 m (420') at 240V
- ✓ 3, 5, and 8 W
- ✓ 120, 208 to 277V
- ✓ UL, FM, CSA Approvals

APPLICATIONS

- ✓ Commercial Construction
- ✓ Cooling Towers
- ✓ Chilled Water and Plumbing Pipes
- ✓ Sump Discharge Pipes
- ✓ Wet Sprinkler Systems
- ✓ Exposed P-Traps

INDUSTRIAL APPLICATIONS

- ✓ Water Treatment Facilities
- ✓ Vessel Freeze Protection
- ✓ Safety Shower Lines

APPROVALS

- ✓ Listed for Ordinary Areas
- ✓ Factory Mutual Approved for Ordinary Areas
- ✓ CSA Certified for Ordinary Areas

Accessory

Model No.	Price	Description
MS-0345	\$150	Reference Book: Maintenance Engineering Handbook

Standard Construction

A. Buss wires. Twin 16 AWG copper buss wires provide good current capability.

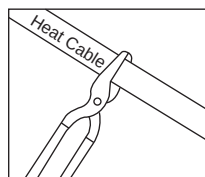
B. Matrix. A semiconductive polymer core whose electrical resistance varies with temperature. When process temperature drops, the core's heat output increases; conversely, as process temperature rises, heat output decreases.

C. Jacket. This flame-retardant insulation jacket is a thermoplastic rubber material with excellent

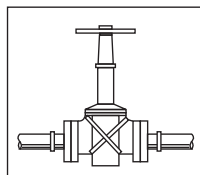
water resistance. It also resists certain mildly corrosive chemicals.

D. Tinned-Copper Braid. The braid covering the jacket provides additional mechanical protection and a positive ground path.

E. Optional High Temp TPR Overjacket. The TPR overcoat protects the braid and provides resistance to certain inorganic chemical solutions. Add suffix -CR to the model number.



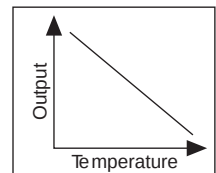
Cut to Length in Field



Can be Overlapped

Maintains up to 65°C (150°F)
Withstands up to 85°C (185°F)

Low Temperature



Self-Regulating

OMEGALUX® SRF cable is ideal for keeping metal and plastic pipes warm in commercial construction, institutional buildings, and some industrial freeze-protection applications. SRF cable is constructed of a self-regulating polymer core that varies its output along its entire length, saving

energy and eliminating hot spots along the pipe. The parallel construction makes it easier to install than zone or series types of cable since it can be cut to length at any point on the pipe. It can be overlapped without overheating the cable.

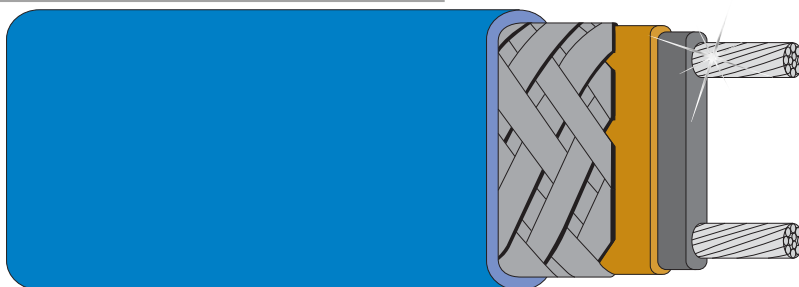
MOST POPULAR MODELS HIGHLIGHTED!

To Order (Specify Model Number)

Output at Rated Voltage at 10°C (50°F)		TYPE SRF				
		Tinned-Copper Braid		Tinned-Copper Braid and TPR Overcoat (-CR)		
				Model No.	Price/ Ft.	Wt. lbs./ 1000'
Watts/ Ft.	Volts	Model No.	Price/ Ft.	Model No.	Price/ Ft.	Wt. lbs./ 1000'
3	120	SRF3-1C	\$4	SRF3-1CR	\$5	64
3	208 to 277	SRF3-2C	4	SRF3-2CR	5	64
5	120	SRF5-1C	4	SRF5-1CR	5	64
5	208 to 277	SRF5-2C	4	SRF5-2CR	6	64
8	120	SRF8-1C	4	SRF8-1CR	6	64
8	208 to 277	SRF8-2C	5	SRF8-2CR	6	64

Minimum length of heating cable is 7.6 m (25') See pages 50 to 53 for heat cable accessories and controls.

Ordering Example: SRF5-1C, 5 W per foot heating cable, 30 m (100') length, \$400.



APPLICATIONS

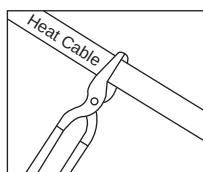
Standard Construction

- A. Buss wires.** Twin 16 AWG copper buss wires provide good current capability.
- B. Matrix.** A semiconductive polymer core whose electrical resistance varies with temperature. When process temperature drops, the core's heat output increases; conversely, as process temperature rises, heat output decreases.
- C. Jacket.** This flame-retardant insulation jacket is a thermoplastic rubber material with excellent water resistance. It also resists certain mildly corrosive chemicals.

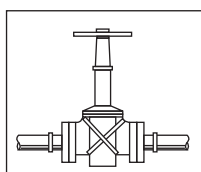
D. Tinned-Copper Braid. Provides additional mechanical protection and a positive ground path.

E. Optional Overcoat Over Braid ("CR" or "CT"). TPR ("CR") or fluoropolymer ("CT") jacket over the braid. The TPR coating is for certain aqueous and mainly corrosive solutions. The fluoropolymer coating is used for exposure to most other corrosive materials. Add suffix -CR or -CT to the model number.

FEATURES



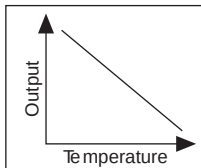
Cut to Length in Field



Can be Overlapped

Maintains up to 65°C (150°F)
Withstands up to 85°C (185°F)

Low Temperature



Self-Regulating

APPROVALS

To Order (Specify Model Number)

Output at Rated Voltage at 10°C (50°F)		TYPE SRL							
		Tinned-Copper Braid		Tinned-Copper Braid and TPR Overcoat (-CR)			Tinned-Copper Braid and Fluoropolymer Overcoat (-CT)		
Watts/Ft.	Volts	Model No.	Price/Ft.	Model No.	Price/Ft.	Wt. lbs./1000'	Model No.	Price/Ft.	Wt. lbs./1000'

HEATING CABLE SYSTEMS

GENERAL SPECIFICATIONS

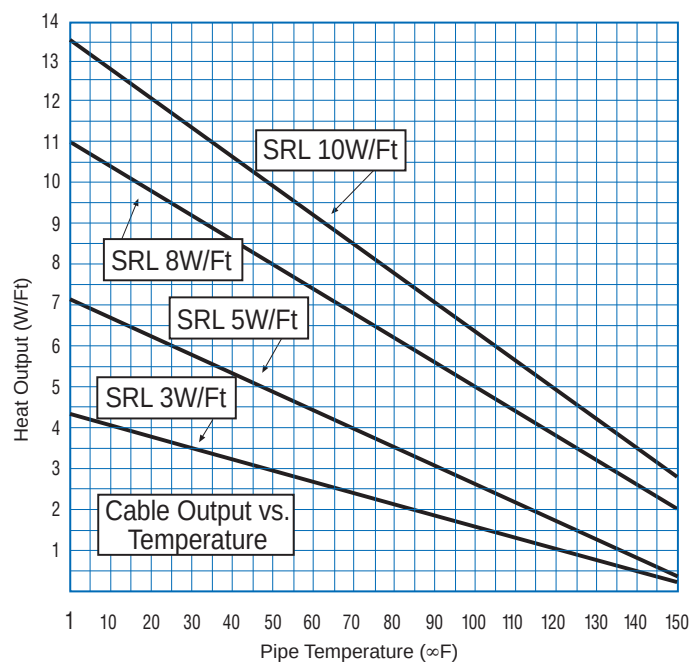
SRL Rating	Percent Output Operated At		
	208V	220V	277V

SRL Rating	Max. Circuit Length	SRL Rating	Max. Circuit Length
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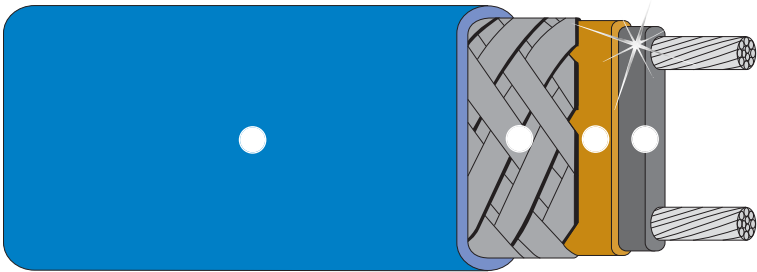
Watts /Ft.	Volts	Temperature °F		
		-20	0	+50

CIRCUIT BREAKER SELECTION



THIRD PARTY APPROVALS

1-800-872-4328®
1-800-USA-HEAT

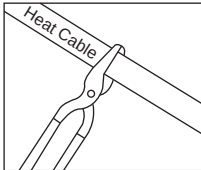


APPLICATIONS

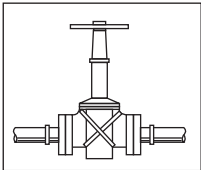
Standard Construction (refer to lettered callouts in drawing).

- A. Buss wires. Twin 14 AWG copper buss wires provide reliable current capability.
- B. Matrix. The electrical resistance of this semi-conductive polymer core varies with temperature. When process temperature drops, the core's heat output increases; conversely, as process temperature rises, heat output decreases.
- C. Jacket. This flame retardant fluoropolymer insulation insulates buss wires and is highly corrosion resistant.
- D. Metallic Braid ("C"). Provides a positive ground path and additional mechanical protection.
- E. Optional Overjacket ("-CT"). Fluoropolymer jacket over-braid provides protection for the braid from most aqueous and chemically corrosive solutions as well as abrasion and impact damage. Add suffix "-CT" to model number.

FEATURES



Cut to Length in Field



Can be Overlapped

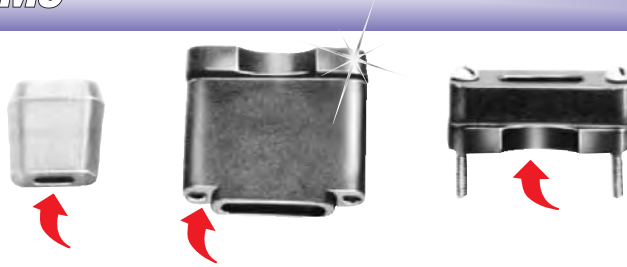
APPROVALS

To Order (Specify Model Number)

Output at Rated Voltage @ 10°C (50°F)		TYPE SRM					
		Metallic Braid (-C)			Fluoropolymer Overcoat (-CT)		
Watts/Ft.	Volts	Model No.	Price/Ft.	Wt./1000lb (kg)'	Model No.	Price/Ft.	Wt./1000' lb (kg)

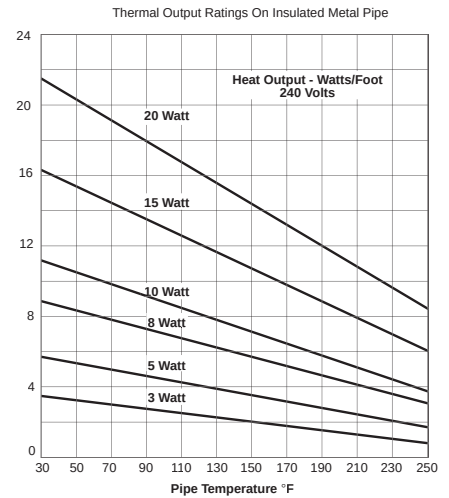
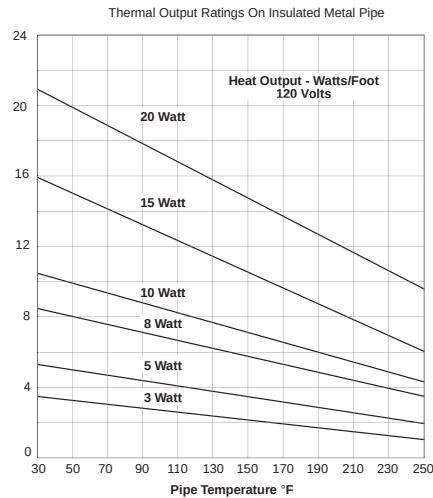
HEATING CABLE SYSTEMS

GENERAL SPECIFICATIONS



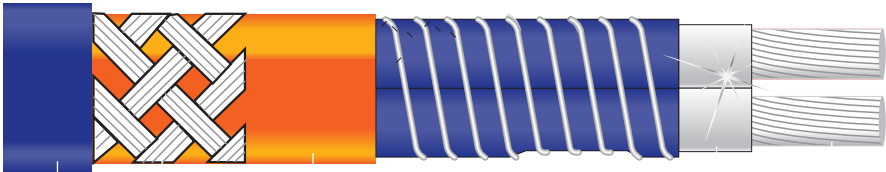
THIRD PARTY APPROVALS

CIRCUIT BREAKER SELECTION



Circuit Breaker Selection		Maximum Circuit Lengths (feet)														
Cable Rating	Circuit Breaker :	50°F Start-Up					0°F Start-Up					-20°F Start-Up				
		15A	20A	30A	40A	50A	15A	20A	30A	40A	50A	15A	20A	30A	40A	50A

Approval	Cable: SRF	SRL3	SRL5	SRL8	SRL10	SRM/E3	SRM/E5	SRM/E8	SRM/E10	CWM/4	CWM/8	CWM/12
----------	------------	------	------	------	-------	--------	--------	--------	---------	-------	-------	--------



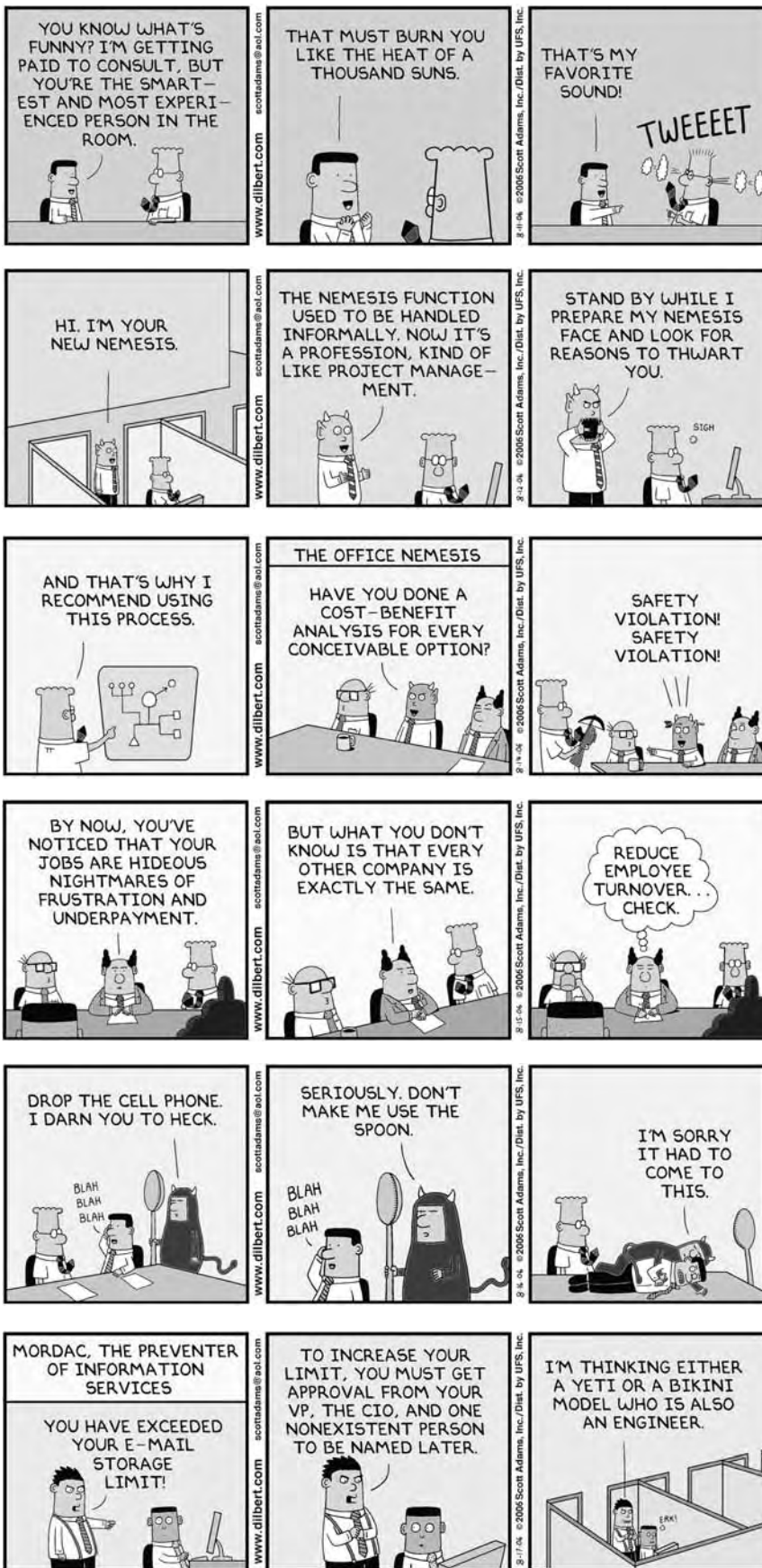
Standard Construction

- A. Bus Wires.** Twin 12 AWG copper bus wires provide reliable, consistent electrical current.
- B. Bus Wire Insulation.** 11 mil FEP jacket protects and electrically insulates bus wires.
- C. Inner Sheath.** This insulation jacket holds the 2 bus wires together and provides the wrapping surface for the nichrome heating wire.
- D. Nichrome Wire.** The nichrome resistance heating wire is the heating component of the cable.
- E. Jacket.** Flame-retardant insulation jacket is made from FEP material, which protects heating cable and ensures long service life. This material is also highly corrosion resistant.
- F. Metal Braid.** Plated copper braid covering the jacket provides a positive ground path.
- G. Optional Fluoropolymer Overjacket.** FEP jacket provides protection from most aqueous and chemically corrosive solutions. Add suffix “-CT” to model number.

SPECIFICATIONS



To Order (Specify Model Number)									
Output		Tinned Copper Braid (-C)			FEP Overcoat (-CT) and Tinned Copper Overbraid			Module Length mm (in)	Max Circuit Length m (ft)
Watts/ Foot	Volts	Model Number	Price/ft	Weight kg (lb)/ 1000'	Model Number	Price/ft	Weight kg (lb)/ 1000'		



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Sales: FAX (Toll-Free)
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To Order (Specify Model Number)

Model No.	Price	Description
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To Order (Specify Model Number)

Model No.	Price	Description
-----------	-------	-------------

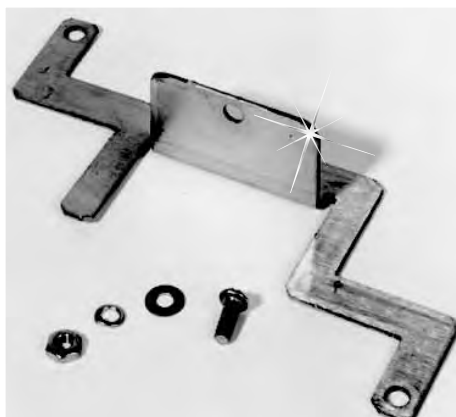
HEATING CABLE SYSTEMS



Technician installing RTST splice and tee box.

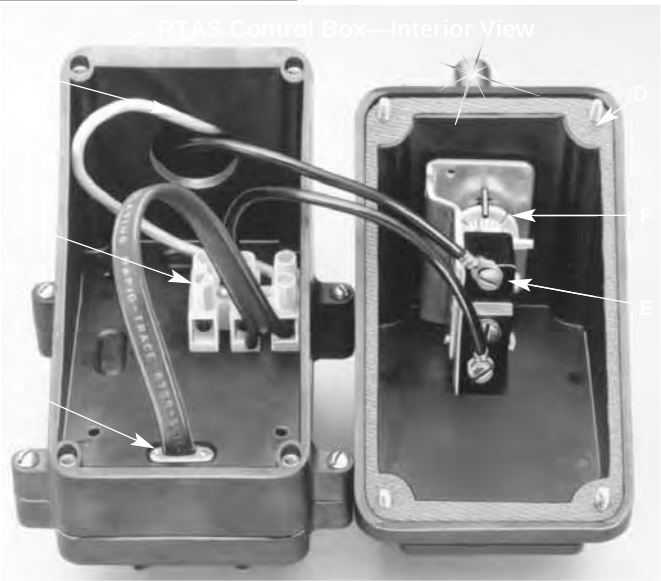
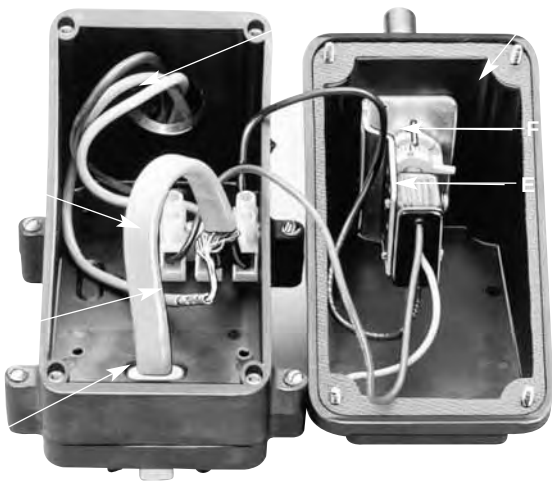


OMEGALUX® heat cable shown installed on piping and valves. Heating cable is held in place by FT-2 fiberglass tape.



To Order (Specify Model Number)

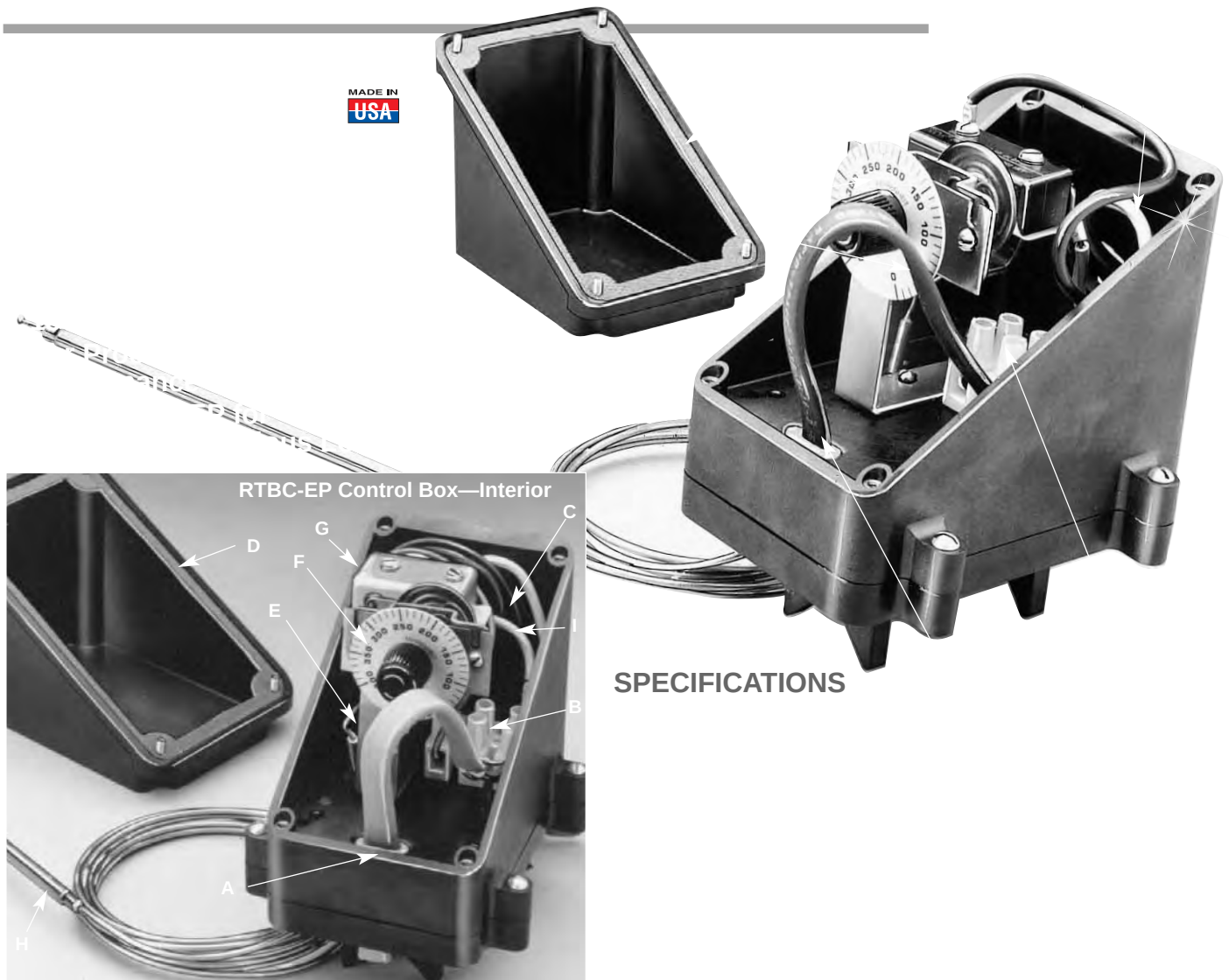
Model No.	Price	Description
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SPECIFICATIONS

To Order (Specify Model Number)		
Model No.	Price	Description

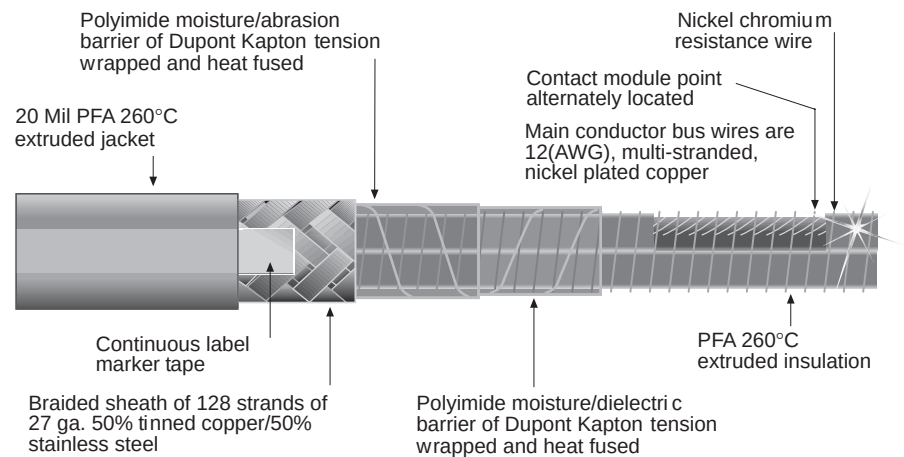
Used with	Max. No. of Power Conn.
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SPECIFICATIONS

To Order (Specify Model Number)

Model Number	Price	Description
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APPLICATIONS

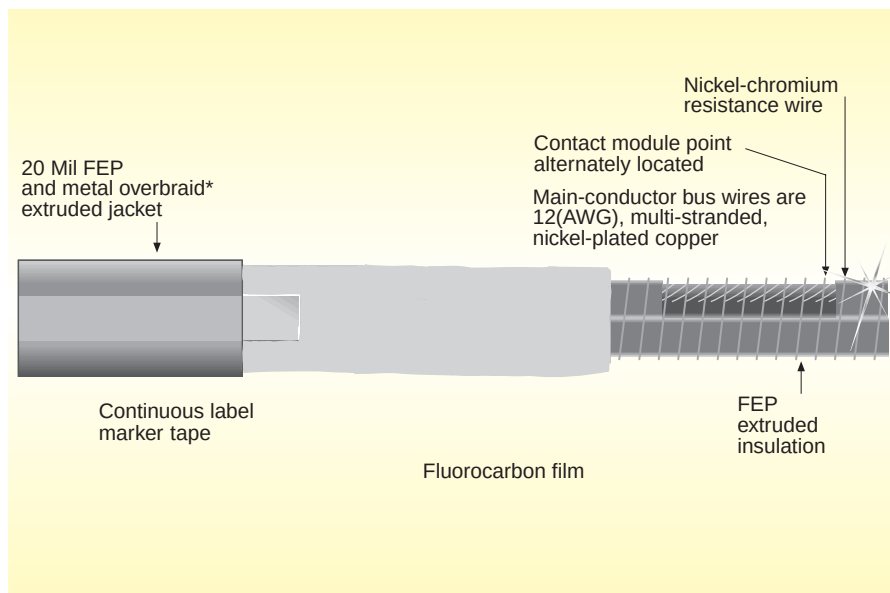
SPECIFICATIONS

Power	120V	208V	240V	277V	480V
-------	------	------	------	------	------

To Order (Specify Model Number)

4 Watts/ft			8 Watts/ft			12 Watts/ft		
Volts	Model No.	Price*	Volts	Model No.	Price*	Volts	Model No.	Price

HEATING CABLE SYSTEMS



SPECIFICATIONS

APPROVALS

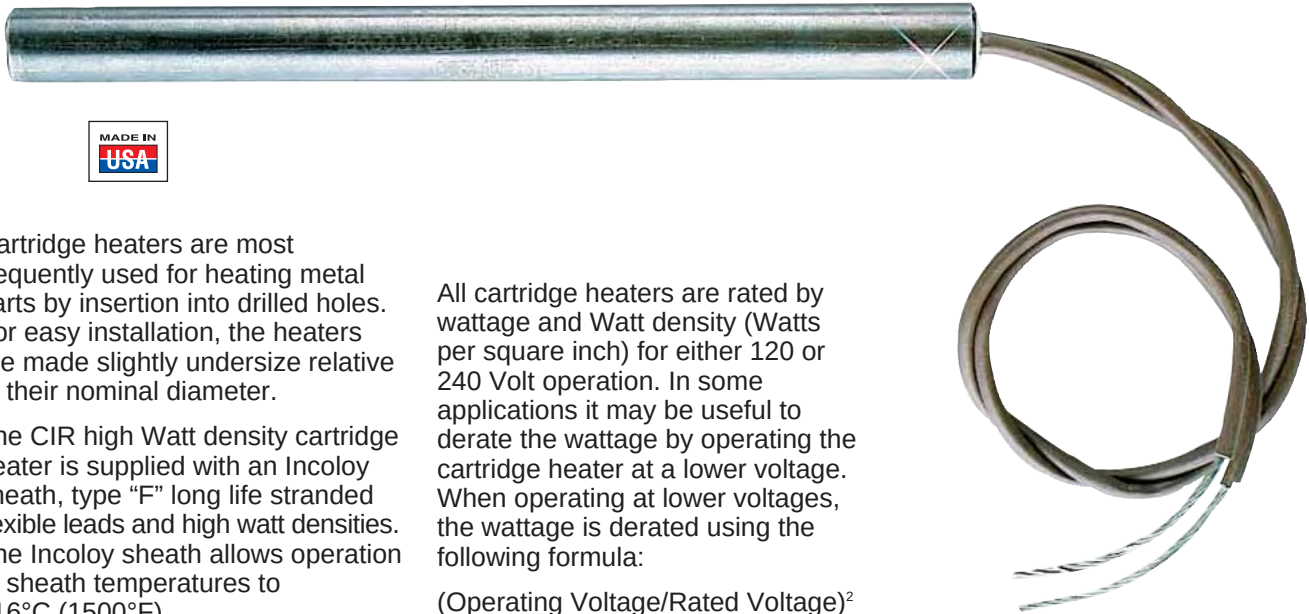
To Order (Specify Model No.)

Watts/ft.	Volts	Module* Length (ft)	Max** Length (ft)	Model No.	Price/ft***
-----------	-------	------------------------	----------------------	-----------	-------------



OMEGALUX® HIGH/MEDIUM WATT DENSITY CARTRIDGE HEATERS

With 300 Stainless Steel Sheathing OMEGALUX® Cartridge Heater Selection Guide



Cartridge heaters are most frequently used for heating metal parts by insertion into drilled holes. For easy installation, the heaters are made slightly undersize relative to their nominal diameter.

The CIR high Watt density cartridge heater is supplied with an Incoloy sheath, type "F" long life stranded flexible leads and high watt densities. The Incoloy sheath allows operation at sheath temperatures to 816°C (1500°F).

The CIR series cartridge heaters feature a high temperature Incoloy sheath and swaged construction, which allows for higher Watt densities and maximum life at higher operating temperatures. The maximum sheath temperature for the CIR series is 816°C (1500°F).

The CSH series cartridge heaters also feature a swaged construction for higher Watt densities and efficient heat transfer from the nichrome resistance wire to the surface of the heater. The maximum operating temperature for the 300 series stainless steel sheath is 677°C (1250°F).

The CSS series cartridge heaters are constructed of coiled resistance wire which is wound through ceramic cores, and a 300 series stainless steel sheath. They are available in lower Watt densities and in diameters as small as 1/8". The maximum temperature for the 300 series stainless steel sheath is 677°C (1250°F).

All cartridge heaters are rated by wattage and Watt density (Watts per square inch) for either 120 or 240 Volt operation. In some applications it may be useful to derate the wattage by operating the cartridge heater at a lower voltage. When operating at lower voltages, the wattage is derated using the following formula:

$$\left(\frac{\text{Operating Voltage}}{\text{Rated Voltage}} \right)^2 \times \text{Wattage at Rated Voltage} = \text{Derated Wattage}$$

Example: The CIR-1027/240 cartridge heater is rated at 200 Watts and 128 Watts per square inch at 240 Volts. To determine the derated wattage when operating on 120 Volts:

$$\left(\frac{120 \text{ Volts}}{240 \text{ Volts}} \right)^2 \times 200 \text{ Watts} = 50 \text{ Watts}$$

When operating on 120 Volts, the Watt density of this heater would also be reduced by a factor of 4 from 128 Watts per square inch to 32 Watts per square inch.

The tightly compacted refractory insulation provides excellent heat transfer to the heavy wall stainless steel sheath. This means the resistance wire runs at a lower temperature than competitive units with loose-fill insulation. The result is much longer life. This heavy-duty construction also provides high dielectric strength as well as shock and vibration resistance required for many industrial applications.

CSH SERIES

Sheath Material: Series 300 SS
Maximum Sheath Temperature:

676°C (1250°F)

Leads: Fiberglass insulated, maximum temperature 250°C (482°F)

Lead Length: 6"

Diameters: 1/4" to 3/4"

Lengths: 1" to 12"

CSS SERIES

Sheath Material: Series 300 SS

Maximum Sheath Temperature:
676°C (1250°F)

Leads:

1/8" to 1/4" diameter: PFA insulated leads, maximum temperature 200°C (392°F)

3/8" to 3/4" diameter: Fiberglass leads, maximum temperature 250°C (482°F)

Lead Length: 6"

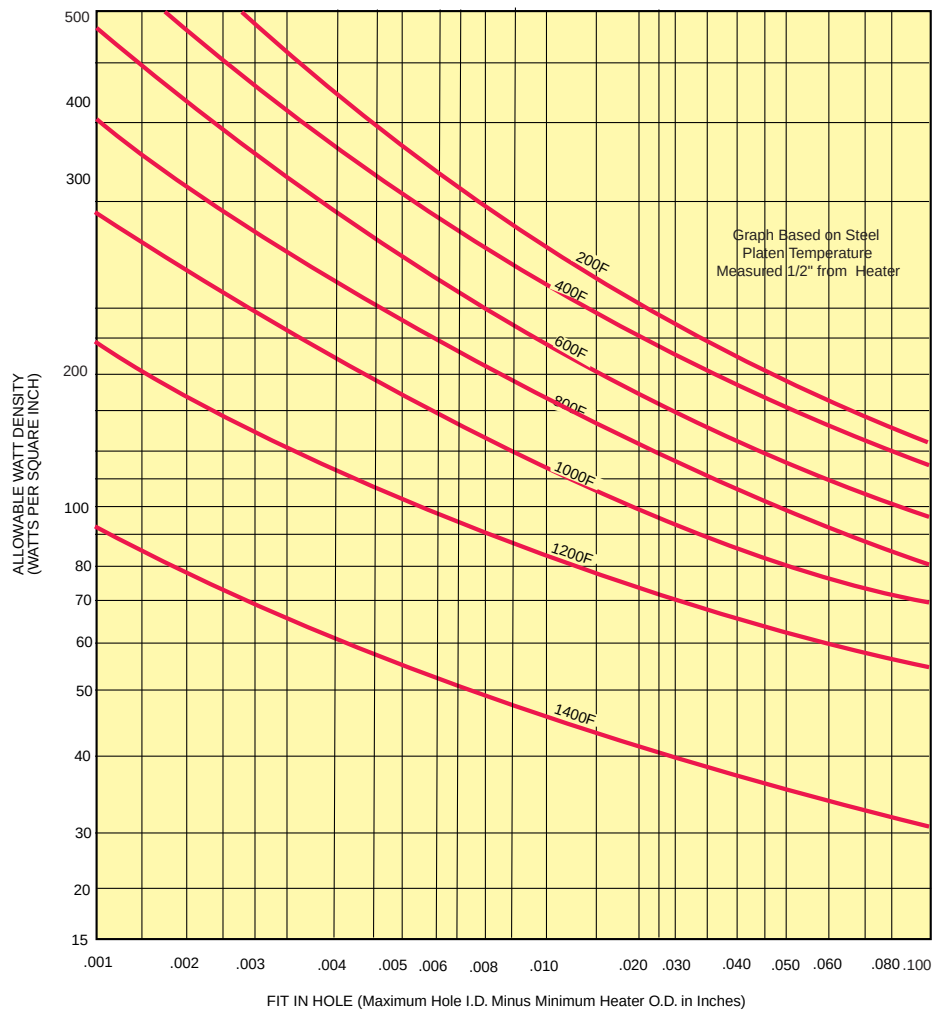
Diameters: 1/8" to 3/4"

Lengths: 1" to 12"

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CIR SERIES HIGH WATT DENSITY CARTRIDGE HEATERS—WITH INCOLOY SHEATHING

- ✓ **Type F Flexible Leads**
- ✓ **1/4, 3/8, 1/2, 5/8 and 3/4 Inches in Diameter**
- ✓ **120 and 240V**
- ✓ **UL Component Recognized and CSA Certified**
- ✓ **Patented Design**

FEATURES

Type F leads, standard on CIR series, consist of standard, flexible manganese nickel wire insulated with impregnated fiberglass to approximately 480°C (842°F). The leads can be bent at a sharp angle where they emerge through the flush terminal block, without exposing bare conductors.

When leads longer than 10" (25 cm) are needed, additional lengths of high-temperature wire can be spliced on stock heaters, either at the factory or by the user. Specially fabricated CIR series heaters can be supplied with unspliced leads up to 32" (81 cm) in length.

Sheath material. OMEGALUX® CIR series cartridge heaters are made with a high-temperature Incoloy sheath material.

Higher temperatures, faster production rates. The CIR series patented construction and high-Watt-density capability let you put more heat in less space.

Welded end disc seals end opposite leads from contamination.

Black oxide sheath. Black transfers heat better than shiny surfaces. OMEGALUX heaters go to work immediately when energized and operate at cooler sheath temperatures. Shiny heaters begin operating at higher temperatures, shortening life expectancy while they slowly oxidized and turn black.

Shock and vibration resistant. Tightly compacted refractory insulation for severe application.

Lead length. CIR series heaters are stocked with Type F leads 10" (24 cm) long, $\pm 3/8$ " (1cm). Longer lead lengths can be readily spliced on.

Eliminating operational problems, the manganese nickel electrical leads are stranded, not solid. They remain continuously covered with fiberglass insulation even when bent sharply where they emerge from the heater. The construction is covered by issued and pending patents.

Cartridge heater performance

depends upon adherence to basic heat transfer principles. In the resistance winding inside the cartridge, electrical energy is converted to heat energy with 100% efficiency. CIR units are designed and constructed to maximize heat energy flow and thus keep resistance wire temperature relatively low.

Even temperature throughout the heater's length is produced by the uniform winding of the wire on the smooth supporting core. Close and even spacing between wire and inside of sheath is maintained for good heat transfer. Tight spacing between turns permits use of largest gage resistance wire.

CAUTION AND WARNING!

Fire and electrical shock may result if products are used improperly or installed or used by non-qualified personnel. See inside back cover for additional warnings.

Excellent oxidation and corrosion resistance is provided by special OMEGALUX® alloy sheath. Thermal expansion characteristics of sheath and refractory are closely matched.



Highest quality nickel-chromium resistance wire is used for the resistance winding. Long life and consistent performance from one unit to the next are assured.

Heavy-gage end disc, securely welded, seals out contaminants. This rugged construction and oxidation resistance of sheath facilitate heater removal.

Terminal block is flush with end of sheath, adding strength and protection from breakage..

Refractory Insulation between resistance wire and sheath is specially formulated and rigidly controlled to maintain high-temperature characteristics. Through special processes it is densely compacted to improve its thermal conductivity and dielectric strength.

Patented connector eliminates any chance of overheating where stranded lead is attached to resistance wire. Highly reliable, the connector eliminates life-shortening stress on the wire.



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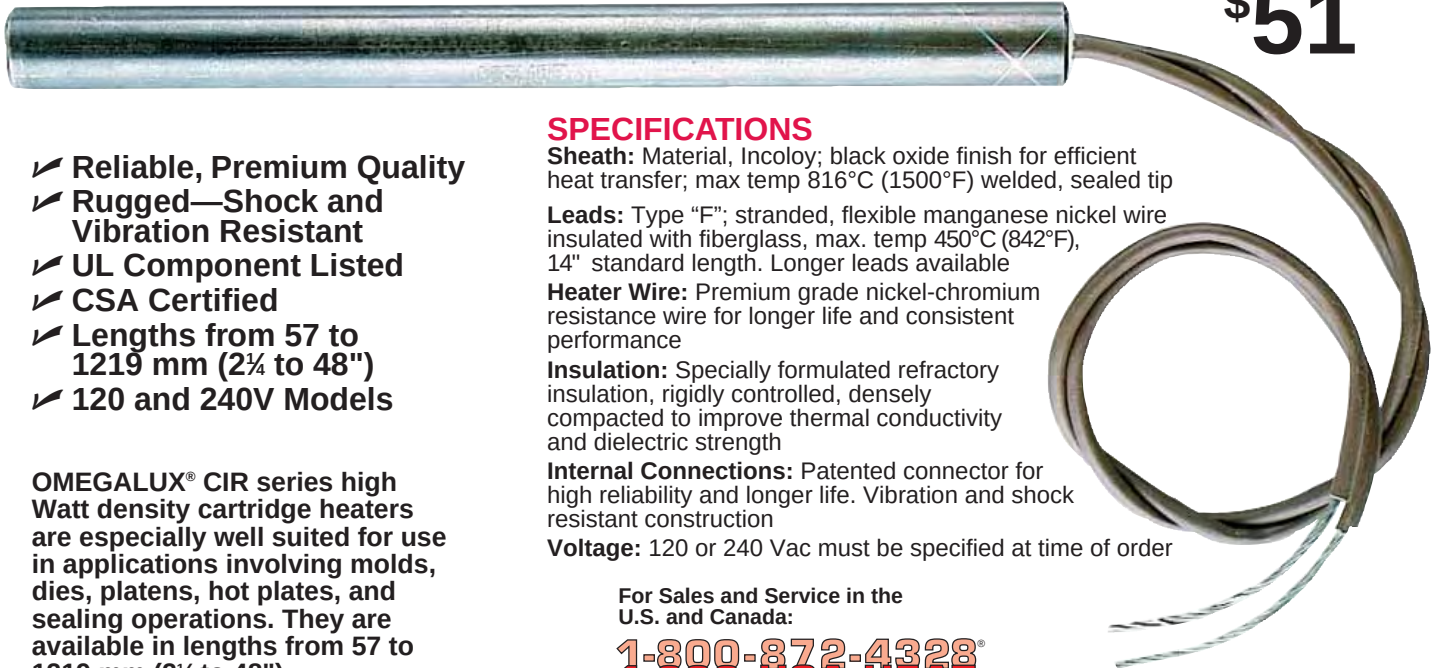
HIGH WATT DENSITY CARTRIDGE HEATERS— $\frac{3}{4}$ " Diameter

With Incoloy Sheath



CIR Series
Starts at

\$51



- ✓ Reliable, Premium Quality
- ✓ Rugged—Shock and Vibration Resistant
- ✓ UL Component Listed
- ✓ CSA Certified
- ✓ Lengths from 57 to 1219 mm ($2\frac{1}{4}$ to 48")
- ✓ 120 and 240V Models

OMEGALUX® CIR series high Watt density cartridge heaters are especially well suited for use in applications involving molds, dies, platens, hot plates, and sealing operations. They are available in lengths from 57 to 1219 mm ($2\frac{1}{4}$ to 48")

SPECIFICATIONS

Sheath: Material, Incoloy; black oxide finish for efficient heat transfer; max temp 816°C (1500°F) welded, sealed tip

Leads: Type "F"; stranded, flexible manganese nickel wire insulated with fiberglass, max. temp 450°C (842°F), 14" standard length. Longer leads available

Heater Wire: Premium grade nickel-chromium resistance wire for longer life and consistent performance

Insulation: Specially formulated refractory insulation, rigidly controlled, densely compacted to improve thermal conductivity and dielectric strength

Internal Connections: Patented connector for high reliability and longer life. Vibration and shock resistant construction

Voltage: 120 or 240 Vac must be specified at time of order

For Sales and Service in the
U.S. and Canada:

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1-800-USA-HEAT

$\frac{3}{4}$ " Nominal Diameter CIR Series
(Actual Dia. & Tolerance: 0.747" $\pm$.005)

MOST POPULAR MODELS HIGHLIGHTED!

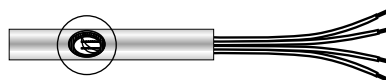
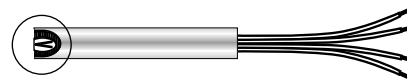
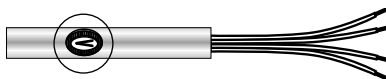
To Order (Specify Model Number)

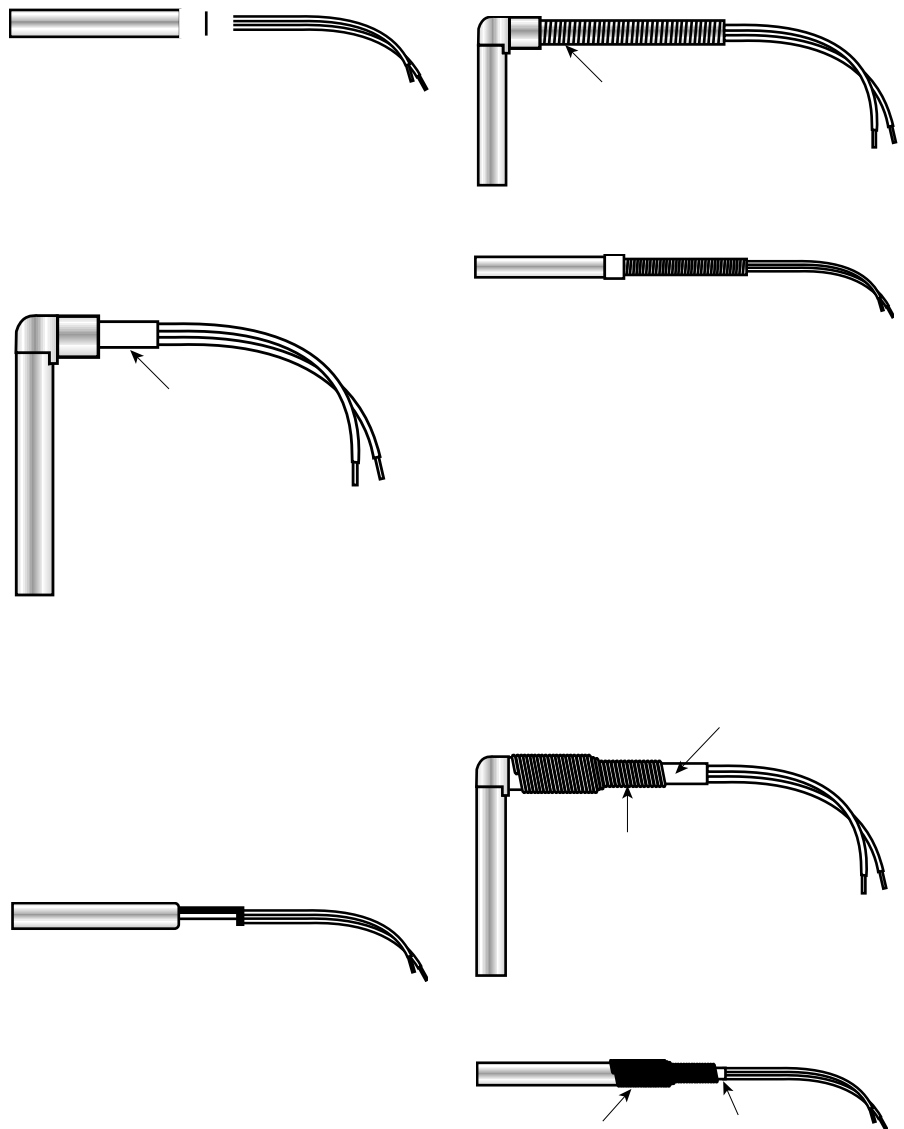
Shth. Lgth.	Watts	W/ in ²	Model Number	Price	Wt. lbs.	Shth. Lgth.	Watts	W/ in ²	Model Number	Price	Wt. lbs.	Shth. Lgth.	Watts	W/ in ²	Model Number	Price	Wt. lbs.
2 $\frac{1}{4}$	200	49	CIR-5022/120	\$51	.18	7 $\frac{1}{2}$	450	27	CIR-5077/240	\$93	.61	15	1500	44	CIR-5150/240	\$136	1.15
2 $\frac{1}{2}$	200	45	CIR-5023/*	51	.19	7 $\frac{1}{2}$	1300	78	CIR-5076/*	93	.61	16	1800	49	CIR-5162/240	142	1.23
3	250	43	CIR-5031/120	54	.23	8	500	28	CIR-5085/*	95	.64	16	4700	128	CIR-5165/240	142	1.23
3	500	85	CIR-5030/*	54	.23	8	1000	57	CIR-5080/240	95	.64	17 $\frac{1}{4}$	850	21	CIR-5177/240	152	1.36
3 $\frac{1}{4}$	250	39	CIR-5033/*	55	.26	8	1500	85	CIR-5081/240	95	.64	18	1500	36	CIR-5180/240	154	1.38
3 $\frac{3}{4}$	650	101	CIR-5032/*	55	.26	8	2000	113	CIR-5082/240	95	.64	18	2000	48	CIR-5182/240	154	1.38
4	250	31	CIR-5042/120	59	.32	9 $\frac{1}{2}$	500	25	CIR-5091/240	102	.73	18	5000	122	CIR-5185/240	154	1.38
4	500	61	CIR-5040/240	59	.32	10	1000	45	CIR-5100/240	107	.79	20	1150	25	CIR-5202/240	166	1.53
4	1000	122	CIR-5041/240	59	.32	10	2000	90	CIR-5102/240	107	.79	20	2000	44	CIR-5201/240	166	1.53
4 $\frac{3}{4}$	350	35	CIR-5047/240	76	.38	10 $\frac{1}{2}$	550	23	CIR-5106/240	110	.83	20	2250	49	CIR-5203/240	166	1.53
5	300	28	CIR-5052/120	77	.39	10 $\frac{1}{2}$	2000	85	CIR-5105/*	110	.83	20	3850	84	CIR-5200/240	166	1.53
5	500	47	CIR-5051/240	77	.39	11 $\frac{1}{2}$	600	22	CIR-5118/240	118	.91	20	5000	110	CIR-5205/240	166	1.53
5	1000	95	CIR-5050/*	77	.39	12	1000	37	CIR-5120/240	119	.92	24	2500	42	CIR-5241/240	189	1.84
6	350	27	CIR-5061/240	83	.48	12	2000	74	CIR-5121/240	119	.92	24	1375	25	CIR-5243/240	189	1.84
6	500	39	CIR-5065/*	83	.48	12	3000	111	CIR-5122/240	119	.92	24	2500	42	CIR-5242/240	189	1.84
6	750	58	CIR-5062/240	83	.48	12	4000	148	CIR-5124/240	119	.92	24	2750	50	CIR-5244/240	189	1.84
6	1000	78	CIR-5067/240	83	.48	13 $\frac{1}{2}$	650	21	CIR-5135/240	127	1.02	24	4600	83	CIR-5240/240	189	1.84
6	1100	85	CIR-5060/*	83	.48	13 $\frac{1}{2}$	2500	83	CIR-5134/240	127	1.02	24	5000	85	CIR-5245/240	189	1.84
6	1500	117	CIR-5068/240	83	.48	14	1250	40	CIR-5141/240	130	1.07	30	4800	69	CIR-5300/240	224	2.30
6	2000	155	CIR-5069/240	83	.48	14	2500	80	CIR-5142/240	130	1.07	36	2500	30	CIR-5362/240	260	2.75
7	500	33	CIR-5075/*	89	.57	14	4500	142	CIR-5144/240	130	1.07	36	4900	59	CIR-5360/240	260	2.75
7	1000	66	CIR-5072/240	89	.57	14 $\frac{1}{2}$	750	22	CIR-5148/240	136	1.14	48	5000	45	CIR-5480/240	330	3.70

*Specify voltage. Insert "120" for 120 Vac or "240" for 240 Vac. Those model numbers that contain 120 or 240 are only available in that voltage.

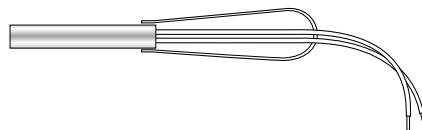
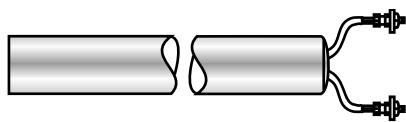
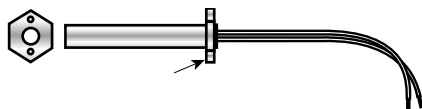
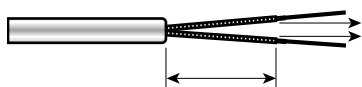
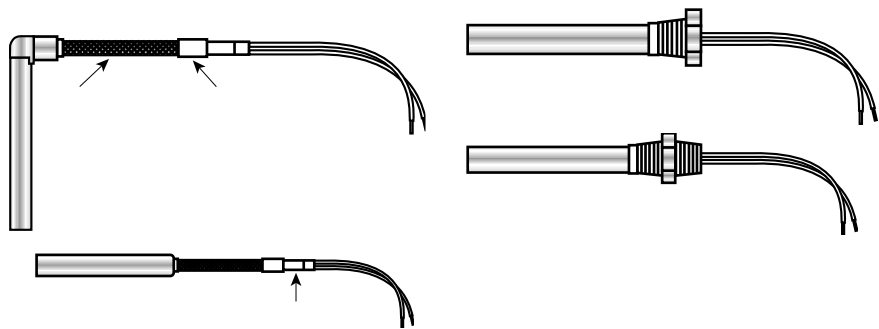
Note: $\frac{3}{4}$ " diameter CIR series cartridge heaters use 10 AWG stranded lead wire.

Ordering Example: CIR-5023/240, cartridge heater with 2 $\frac{1}{2}$ " sheath, 200 watts, 45 W/in² and 240 Vac, \$51.





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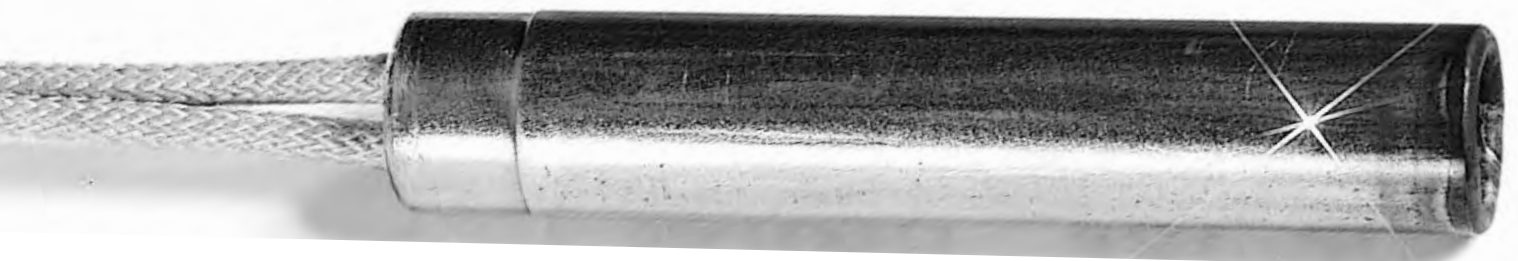
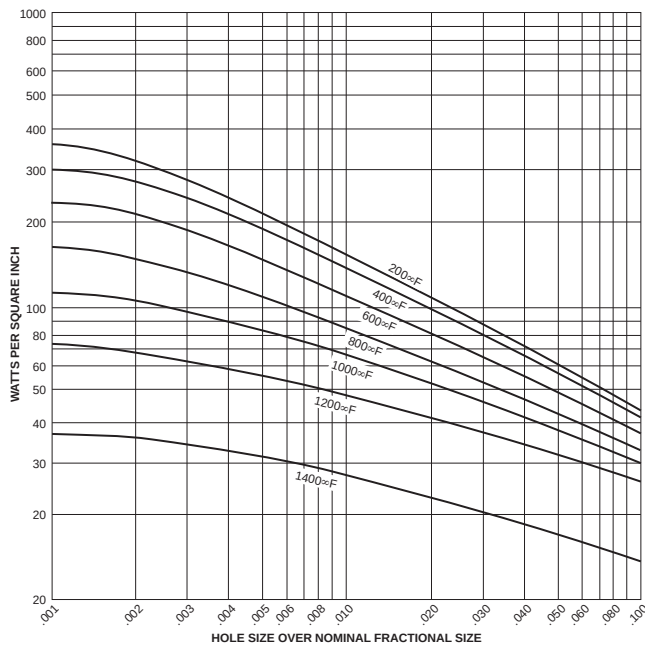
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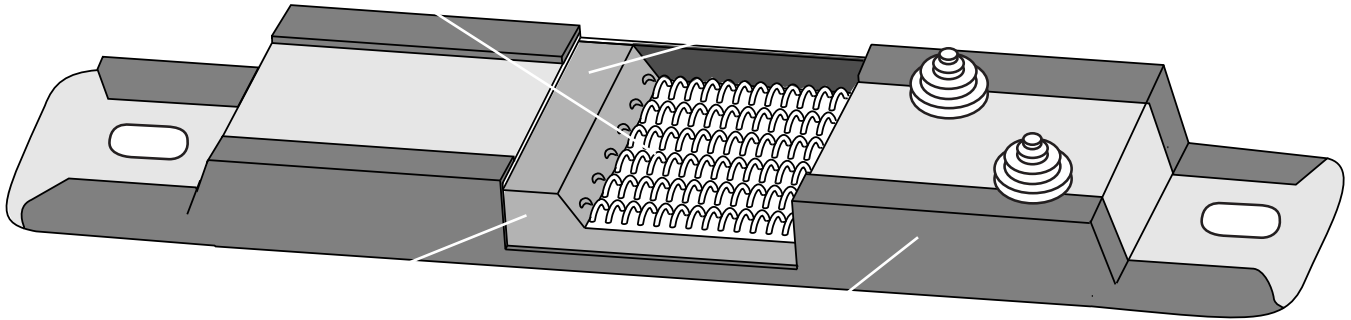


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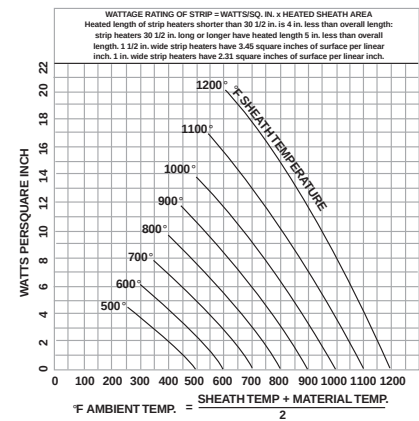




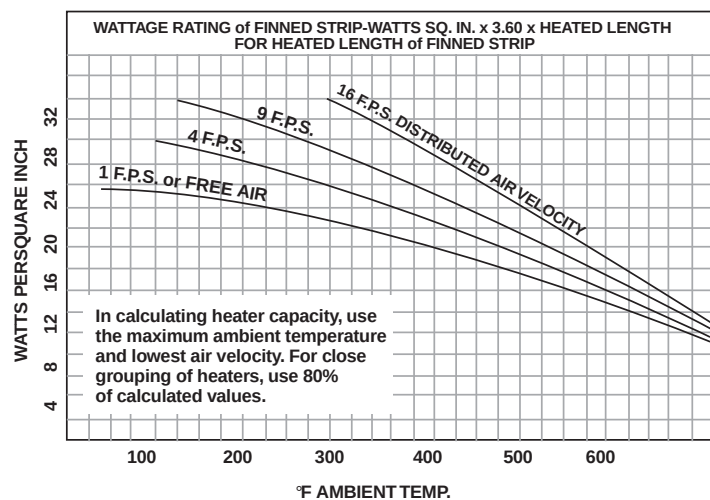
STRIP HEATERS



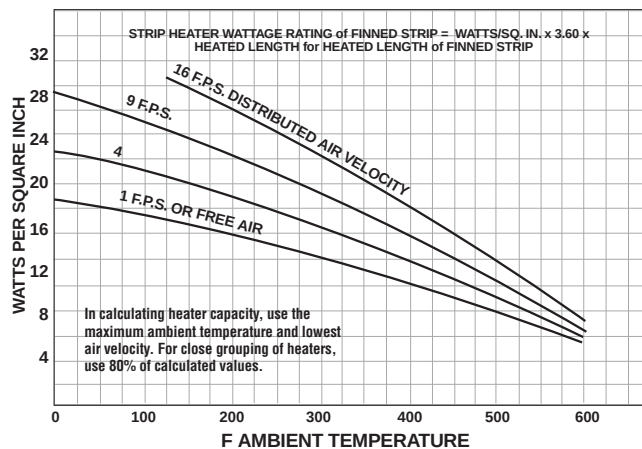
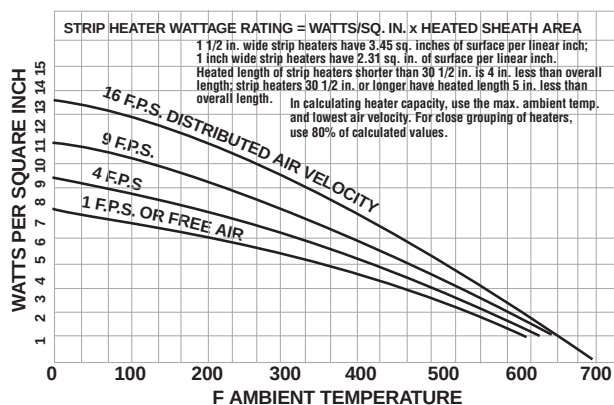
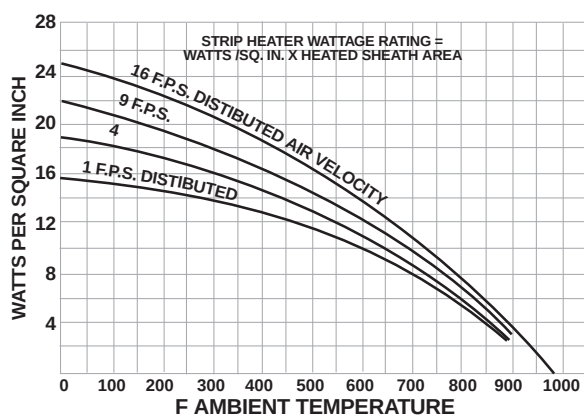
To Order, Call **1-800-872-4328** or Shop Online at ***omega.com***SM



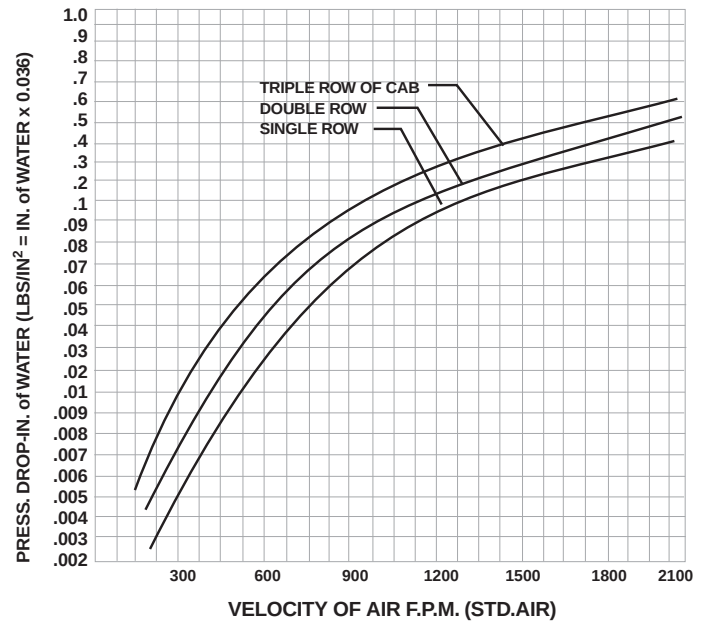
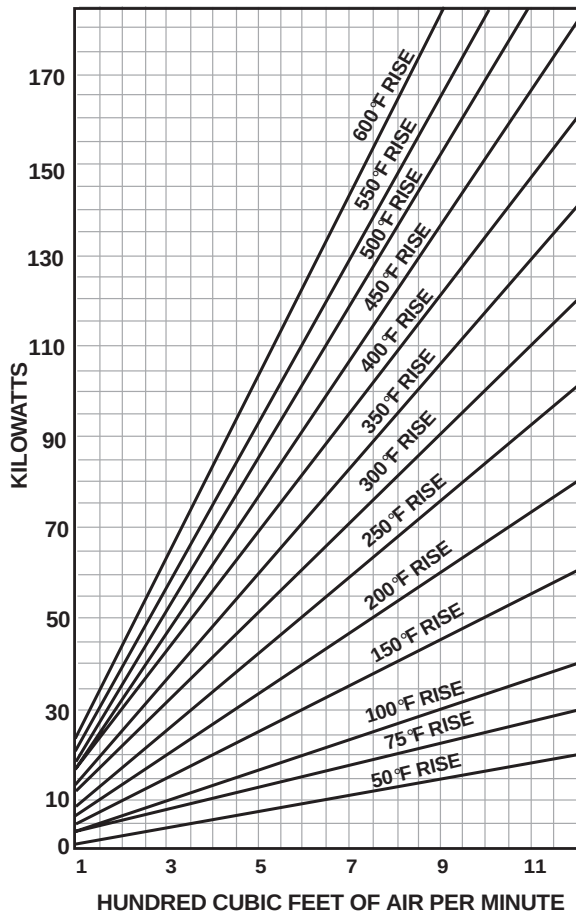
STRIP HEATERS



To Order, Call **1-800-872-4328** or Shop Online at **omega.comSM**



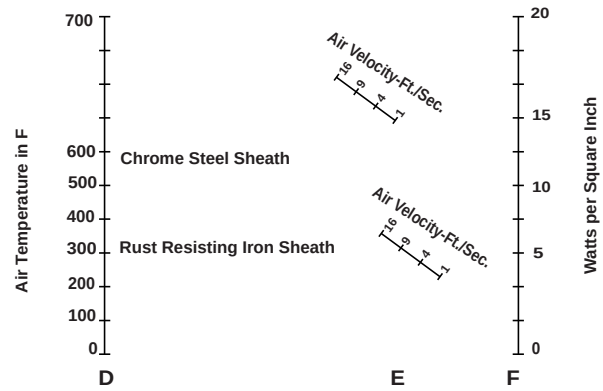
STRIP HEATERS



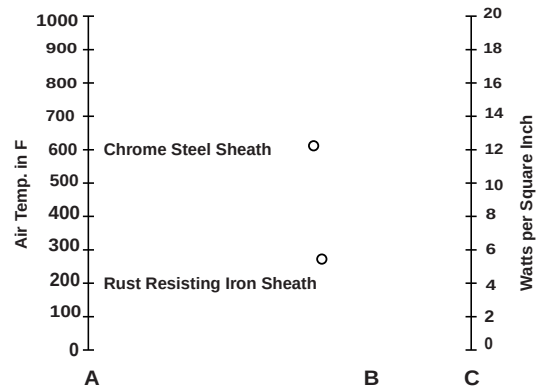
OTF-102 finned strip heater, \$68, shown smaller than actual size. See page 90 for details.

To Order, Call **1-800-872-4328** or Shop Online at **omega.comSM**

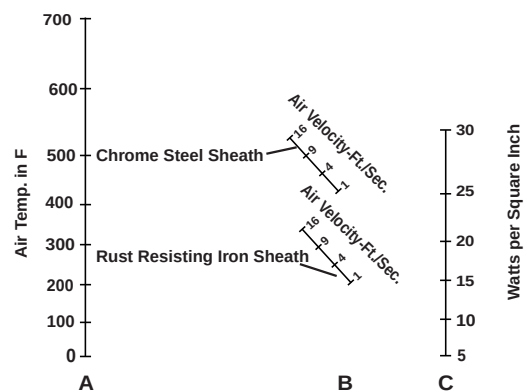
Selection of Strip Heaters for Air Heating



Selection of Strip Heaters for Clamp-On Applications



Selection of Watt Density for Finned Strips



CERAMIC-INSULATED STRIP HEATERS

HCS Series
Starts at
\$37



HCS-080-120V, \$38, shown smaller than actual size.



APPLICATIONS

- ✓ Dies
- ✓ Molds
- ✓ Plastic Forming and Sealing
- ✓ Tank and Kettle Heating

(For specific applications, correctly rated elements should be used to prevent overheating and to ensure long life)

FEATURES

The HCS Series stainless steel strip heaters provide clean, dependable heat with sheath temperatures up to 649°C (1200°F) and watt densities up to 40 W per square inch. Because of the seamless stainless steel sheath, these ceramic-insulated strip heaters are dimensionally stable in milled slots.

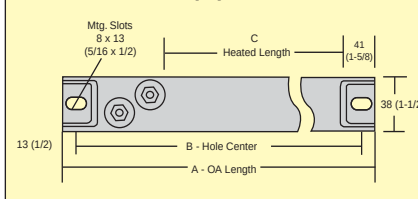
Formula for Determination of Watt Density

$$\text{Watts/sq. in.} = \frac{\text{Total wattage}}{C (\text{heated length}) \times 3}$$

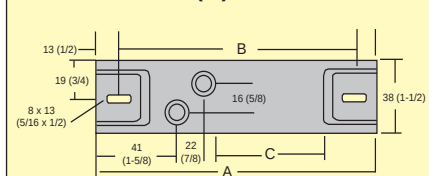
Standard Termination

Offset at one end

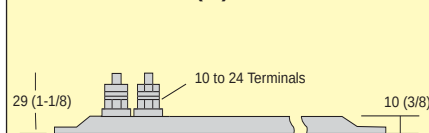
Dimensions: mm (in)



Dimensions: mm (in)



Dimensions: mm (in)



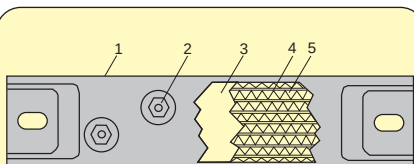
MOST POPULAR MODELS HIGHLIGHTED!

To Order (Specify Model Number)

Model No.	Price	Description	Watts	Dimensions: cm (in)		
				A	B	C
HCS-055-120V	\$37	Strip heater	150	13 (5)	10 (4)	3 (1)
HCS-055-240V	37	Strip heater	150	13 (5)	10 (4)	3 (1)
HCS-080-120V	37	Strip heater	250	20 (8)	18 (7)	5 (2)
HCS-080-240V	38	Strip heater	250	20 (8)	18 (7)	5 (2)
HCS-081-120V	38	Strip heater	330	20 (8)	18 (7)	5 (2)
HCS-081-240V	38	Strip heater	330	20 (8)	18 (7)	5 (2)
HCS-105-120V	38	Strip heater	300	25 (10)	23 (9)	13 (5)
HCS-105-240V	38	Strip heater	300	25 (10)	23 (9)	13 (5)
HCS-120-120V	42	Strip heater	500	30 (12)	28 (11)	18 (7)
HCS-120-240V	42	Strip heater	500	30 (12)	28 (11)	18 (7)
HCS-121-120V	42	Strip heater	750	30 (12)	28 (11)	18 (7)
HCS-121-240V	42	Strip heater	750	30 (12)	28 (11)	18 (7)
HCS-152-120V	44	Strip heater	500	38 (15)	36 (14)	25 (10)
HCS-152-240V	44	Strip heater	500	38 (15)	36 (14)	25 (10)
HCS-180-120V	47	Strip heater	750	46 (18)	43 (17)	30 (12)
HCS-180-240V	47	Strip heater	750	38 (15)	36 (14)	25 (10)
HCS-181-120V	47	Strip heater	1250	46 (18)	43 (17)	30 (12)
HCS-181-240V	47	Strip heater	1250	38 (15)	36 (14)	25 (10)
HCS-237-240V	54	Strip heater	1000	58 (23)	56 (22)	46 (18)
HCS-300-240V	62	Strip heater	2000	76 (30)	74 (29)	61 (24)
HCS-357-240V	70	Strip heater	2500	35 (89)	86 (34)	76 (30)
PE-1010	94	Reference Book: Engineering Design Process				

Comes with complete operator's manual.

Ordering Example: HCS-080-120V, strip heater, 250 W, \$38.



CONSTRUCTION

1. Seamless stainless steel sheath
2. Post terminals
3. Ceramic element support
4. Element wire situated close to outside surface for maximum heat transfer and minimum internal temperature while preserving good dielectric qualities
5. Magnesium oxide packing

Tolerances

Width: 1.500" ±.010"

Length:

Up to 24": ±1/16"

24" and Over: ±1/8"

Thickness: 0.375" ±0.005"

Wattage Tolerances:

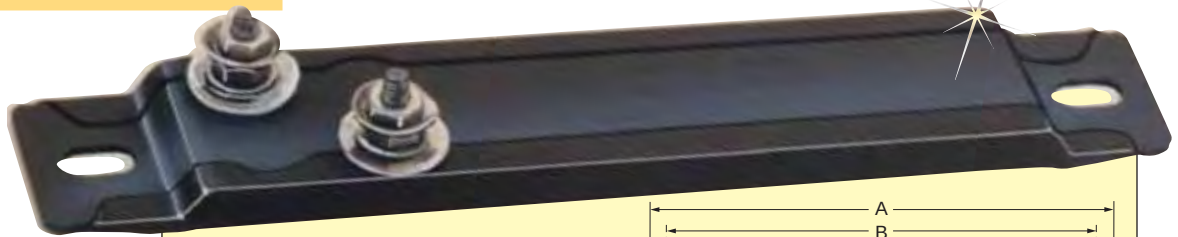
-10 to 5% at rated voltage

STRIP HEATER

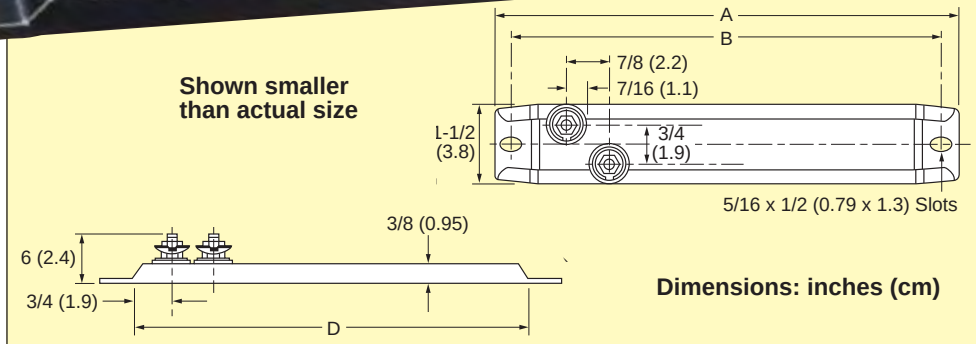


OT Series
Starts at

\$42



- ✓ 1½" (1 cm) Wide
- ✓ 2 Offset Bolt Terminals at One End
- ✓ Rugged, Reliable, Premium Quality
- ✓ UL Component Recognized and CSA Certified



MOST POPULAR MODELS HIGHLIGHTED!

OMEGALUX® strip heaters are used principally for convection-type air heating and clamp-on installations. When selecting strip heaters for either, two important factors must be considered:

1. The proper sheath material for resisting any rusting and oxidizing inherent in the process or environment and for withstanding the sheath temperature required.
2. The watt density of the element, or watts per square inch of heated area. This should be low for heating asphalt, molasses and other thick substances with low heat transferability; it can be higher for heating air, metals and other heat-conducting materials.

SPECIFICATIONS

Max Sheath Temperature:
Iron: 399°C (750°F)

Chrome Steel: 649°C (1200°F)

Sheath Material:
Iron or chrome steel

Wattage Power: Iron sheath,
150 to 1250 watts; Chrome steel
sheath, 200 to 2250 watts

Power Voltage: 120 or 240 Vac

To Order (Specify Model Number)

Dimensions: In (cm)			Rust-Resisting Iron Sheath				Chrome Steel Sheath				
A	B	D	Watts	W/In ²	Model No.	Price	Watts	W/In ²	Model No.	Price	Wt. lb (kg)
7½ (19)	6½ (17)	6 (15)	150	11	OT-715/*	\$42	200	15	OT-702/*	\$54	0.5 (.2)
8 (20)	7 (18)	6½ (17)	150	10	OT-815/*	43	250	17	OT-802/*	55	0.56 (.25)
8 (20)	7 (18)	6½ (17)	175	12	OT-817/*	54	400	27	OT-804/*	55	0.56 (.25)
10½ (27)	9½ (24)	9 (23)	250	10	OT-1025/*	44	350	15	OT-1003/*	59	0.75 (.34)
10½ (27)	9½ (24)	9 (23)	—	—	—	—	400	17	OT-1004/*	60	0.88 (.40)
12 (30)	11 (28)	10½ (27)	250	8	OT-1225/*	44	250	8	OT-1202/*	60	0.88 (.40)
12 (30)	11 (28)	10½ (27)	—	—	—	—	350	14	OT-1203/*	60	0.88 (.40)
12 (30)	11 (28)	10½ (27)	—	—	—	—	500	17	OT-1205/*	60	0.88 (.40)
14 (36)	13 (33)	12½ (32)	300	8	OT-1430/*	47	500	14	OT-1405/*	63	1.0 (.45)
15½ (39)	14½ (36)	13½ (35)	325	8	OT-1532/*	50	500	12	OT-1505/*	64	1.13 (.51)
17½ (45)	16½ (43)	16½ (42)	350	6.5	OT-1835/*	50	500	10	OT-1805/*	69	1.38 (.63)
17½ (45)	16½ (43)	16½ (42)	375	7	OT-1837/*	50	750	15	OT-1807/*	69	1.38 (.63)
17½ (45)	16½ (43)	16½ (42)	500	10	OT-1850/*	50	1000	19	OT-1801/*	69	1.38 (.63)
19½ (50)	18½ (47)	18 (46)	350	6	OT-1935/*	50	500	9	OT-1905/*	72	1.5 (.68)
19½ (50)	18½ (47)	18 (46)	500	8	OT-1950/*	50	750	13.5	OT-1907/*	72	1.5 (.68)
19½ (50)	18½ (47)	18 (46)	—	—	—	—	1000	18	OT-1901/*	72	1.5 (.68)
21 (53)	20 (51)	19½ (50)	500	8	OT-2150/*	52	750	12	OT-2107/*	75	1.63 (.74)
23¼ (60)	22¼ (58)	22¼ (57)	500	7	OT-2450/*	54	500	7	OT-2405/*	79	1.81 (.82)
23¼ (60)	22¼ (58)	22¼ (57)	750	10	OT-2475/*	54	750	10	OT-2407/*	79	1.81 (.82)
23¼ (60)	22¼ (58)	22¼ (57)	—	—	—	—	1000	14	OT-2401/*	79	1.81 (.82)
23¼ (60)	22¼ (58)	22¼ (57)	—	—	—	—	1500	19	OT-2415/*	79	1.81 (.82)
25½ (65)	24½ (62)	24 (61)	500	6	OT-2550/*	55	750	9	OT-2507/*	80	2.06 (.93)
25½ (65)	24½ (62)	24 (61)	750	9	OT-2575/*	55	1000	13	OT-2501/*	80	2.0 (.91)
26¾ (68)	25¾ (65)	25¾ (64)	700	8	OT-2670/*	59	1000	12	OT-2601/*	82	2.19 (.99)
26¾ (68)	25¾ (65)	25¾ (64)	750	9	OT-2675/*	59	—	—	—	—	—
30¾ (77)	29¾ (75)	28 (71)	750	8	OT-3075/*	65	750	8	OT-3007/*	88	2.38 (1.1)
30¾ (77)	29¾ (75)	28 (71)	—	—	—	—	1000	11	OT-3001/*	88	2.38 (1.1)
30¾ (77)	29¾ (75)	28 (71)	—	—	—	—	1250	13	OT-30012/240	88	2.38 (1.1)
33¾ (85)	32¾ (82)	31 (79)	750	7	OT-3375/*	71	750	7	OT-3307/*	95	2.69 (1.2)
35¾ (91)	34¾ (88)	33½ (85)	1000	9	OT-3610/*	74	1500	13	OT-3601/*	102	2.88 (1.3)
38¾ (98)	37¾ (95)	36 (92)	800	6	OT-3880/*	81	1000	8	OT-3801/*	106	3.19 (1.4)
38¾ (98)	37¾ (95)	36 (92)	1000	8	OT-3810/*	81	1500	12	OT-3815/*	106	3.19 (1.4)
42¾ (108)	41¾ (105)	40 (102)	1250	9	OT-4312/*	89	1500	11	OT-4315/*	117	3.38 (1.5)
47¾ (122)	46¾ (119)	45¾ (115)	—	—	—	—	1350	9	OT-4813/240	158	3.75 (1.7)
47¾ (122)	46¾ (119)	45¾ (115)	—	—	—	—	2250	14	OT-4822/240	158	3.75 (1.7)

* Designate voltage, i.e., 120 or 240 Vac. Insert "120" for 120 Vac, "240" for 240 Vac. Model numbers containing /240 are only available in that voltage. Additional strip heater models available with other widths and bolt configurations.

† To determine maximum allowable watt density, see figures C-8 or C-9 (page 80).

Ordering Example: OT-815/120 strip heater with rust resisting iron sheath, 150 W, \$43.

STRIP HEATERS—ONE TERMINAL AT EACH END

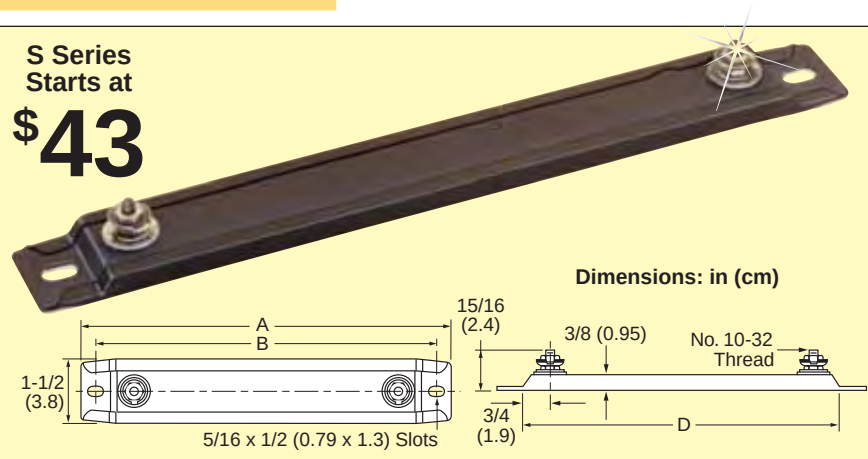


- ✓ 1½" Wide
- ✓ Rugged, Reliable, Premium Quality
- ✓ 150 to 2250 Watt
- ✓ UL Component Recognized and CSA Certified

OMEGALUX® "S" Series strip heaters are supplied with either a rust-resisting iron or chrome steel sheath to a width of 1½". Selecting the sheath material depends upon the process and environment that the heaters would be exposed to. The "S" series features one terminal on each end conforming in many applications. See Introduction Pages for additional strip heater application guidelines.

S Series
Starts at

\$43



SPECIFICATIONS

Sheath Material: Rust resisting iron and chrome steel
Max Sheath Temp: Iron 399°C (750°F), chrome steel 649°C (1200°F)
Power: 120 Vac or 240 Vac

CAUTION AND WARNING

Fire and electrical shock may result if products are used improperly or installed or used by non-qualified personnel. See inside back cover for additional warnings.

MOST POPULAR MODELS HIGHLIGHTED!

To Order (Specify Model Number)

Dimensions—Inches (cm)			Rust-Resisting Iron Sheath				Chrome Steel Sheath				
A	B	D	Watts	W/in ² †	Model No.	Price	Watts	W/in ² †	Model No.	Price	Wt. Lb (kg)
8 (20)	7 (18)	6½ (17)	150	10	S-815/*	\$43	250	17	S-802/*	\$65	.63 (.16)
9½ (24)	8½ (22)	8 (20)	200	10	S-920/*	45	300	15	S-903/*	57	.75 (.34)
12 (30)	11 (28)	10½ (27)	250	9	S-1225/*	47	250	9	S-1202/*	61	.94 (.43)
12 (30)	11 (28)	10½ (27)	—	—	—	—	500	17	S-1205/*	61	.94 (.43)
14 (36)	13 (33)	12½ (32)	300	8	S-1430/*	47	500	14	S-1405/*	65	1.06 (.48)
15½ (39)	14½ (36)	13½ (35)	325	8	S-1532/*	51	500	12	S-1505/*	66	1.19 (.54)
17½ (45)	16½ (43)	16½ (42)	375	8	S-1837/*	51	500	10	S-1805/*	71	1.44 (.65)
17½ (45)	16½ (43)	16½ (42)	500	10	S-1850/*	51	750	15	S-1807/*	71	1.44 (.65)
17½ (45)	16½ (43)	16½ (42)	—	—	—	—	1000	20	S-1801/*	71	1.44 (.65)
19½ (50)	18½ (47)	18 (46)	500	9	S-1950/*	51	500	9	S-1905/*	73	1.5 (.68)
19½ (50)	18½ (47)	18 (46)	—	—	—	—	750	13	S-1907/*	73	1.57 (.71)
19½ (50)	18½ (47)	18 (46)	—	—	—	—	1000	18	S-1901/*	73	1.57 (.71)
21 (53)	20 (51)	19½ (50)	500	8	S-2050/*	52	500	9	S-2005/*	74	1.75 (.79)
23½ (60)	22½ (58)	22¼ (57)	250	4	S-2425/*	53	500	7	S-2405/*	78	1.88 (.85)
23½ (60)	22½ (58)	22¼ (57)	500	7	S-2450/*	53	750	10	S-2407/*	78	1.88 (.85)
23½ (60)	22½ (58)	22¼ (57)	—	—	—	—	1000	14	S-2401/*	78	1.88 (.85)
23½ (60)	22½ (58)	22¼ (57)	—	—	—	—	1500	21	S-2415/*	78	1.88 (.85)
25½ (65)	24½ (62)	24 (61)	750	10	S-2575/*	57	1000	12	S-2501/*	80	2.01 (.91)
26½ (68)	25½ (65)	25¼ (64)	700	8	S-2670/*	58	750	9	S-2607/*	82	2.13 (.97)
30½ (77)	29½ (75)	28 (71)	750	8	S-3075/*	68	750	8	S-3007/*	91	2.13 (.97)
33½ (85)	32½ (82)	31 (79)	750	7	S-3375/*	74	1000	10	S-3301/*	98	2.63 (1.2)
35½ (91)	34½ (88)	33½ (85)	1000	7	S-3610/*	77	1000	9	S-3601/*	105	2.83 (1.3)
38½ (98)	37½ (95)	36 (91)	1000	8	S-3810/*	88	1000	8	S-3801/*	111	3.0 (1.4)
42½ (108)	41½ (105)	40 (102)	1250	9	S-4312/*	91	1000	11	S-4301/*	121	3.38 (1.5)

* Designate voltage, i.e.; insert "120" or "240" for voltage. Additional strip heater models available with other widths and configurations. Contact OMEGALUX 1-800-USA-HEAT.

† To determine maximum allowable watt density, see Figures C-8 or C-9 (page 80).

Ordering Example: S-1405/120, 120 Vac, strip heater with chrome steel sheath and one terminal at each end, \$65.

STRIP HEATERS—3 TERMINALS/3 HEAT

TH and STTH Series
Starts at

\$88



- ✓ 1½" (3.8 cm) Wide
- ✓ Rugged, Reliable Premium Quality
- ✓ 400 to 3000 Watt
- ✓ CSA Certified

Three terminals split the total rated wattage into two equal circuits. By using a three-heat switch ¼, ½ or full wattage may be obtained. Use the two equal circuits in parallel to obtain full wattage.

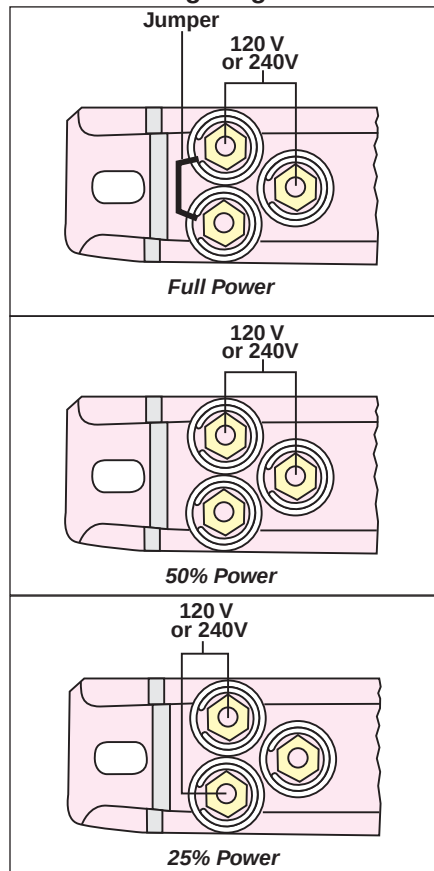
SPECIFICATION

Sheath Material: Chrome Steel

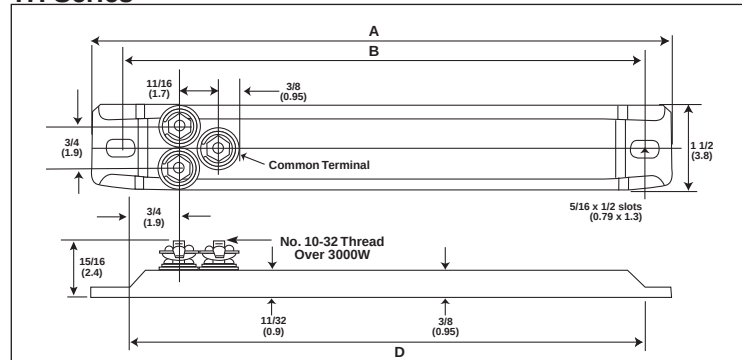
Max Sheath Temp: 649°C (1200°F)

Power: 120 Vac or 240 Vac

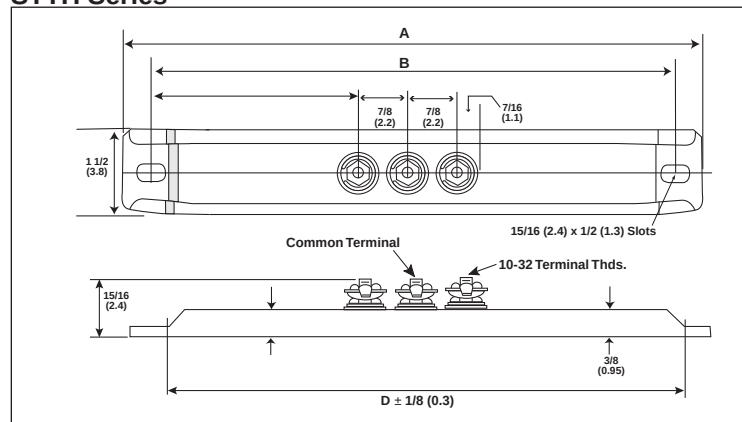
Wiring Diagrams



TH Series



STTH Series



Dimensions: inches (cm)

MOST POPULAR MODELS HIGHLIGHTED!

To Order (Specify Model Number)

Dimensions-Inches (cm)							
A	B	D	Watts	W/In ²	Model No.	Price	Wt. (Lb.)
TH Series							
10½ (27)	9½ (24)	9 (23)	400	17	TH-10/120	\$88	.75 (0.3)
12 (30)	11 (28)	10½ (27)	500	17	TH-12/*	90	.88 (0.4)
15¼ (39)	14½ (37)	13¾ (35)	750	18	TH-15/*	92	1.13 (0.5)
17½ (45)	16¾ (43)	16¾ (42)	1000	20	TH-18/*	98	1.38 (0.6)
23¾ (60)	22¾ (60)	22¾ (57)	1250	17	TH-24/*	108	1.38 (0.6)
30¾ (77)	29¾ (75)	28 (71)	1500	16	TH-30/*	148	2.38 (1.08)
35¾ (91)	34¾ (88)	33¾ (85)	1750	15	TH-36/*	162	2.88 (1.3)
42¾ (108)	41¾ (105)	40 (102)	1500	11	TH-43/*	179	3.38 (1.5)
42¾ (108)	41¾ (106)	40 (102)	2000	15	TH-431/*	179	3.38 (1.5)
47¾ (122)	46¾ (119)	45¾ (115)	1700	11	TH-48/*	205	3.70 (1.7)
47¾ (122)	46¾ (119)	45¾ (115)	2250	14	TH-481/*	205	3.70 (1.7)
53¾ (137)	52¾ (134)	51¾ (130)	2000	11	TH-54/*	222	4.12 (1.9)
53¾ (137)	52¾ (134)	51¾ (130)	2500	14	TH-541/*	222	4.12 (1.9)
63¾ (162)	62¾ (160)	61¾ (156)	2250	10	TH-64/*	251	4.85 (2.2)
63¾ (162)	62¾ (160)	61¾ (156)	3000	13	TH-641/*	251	4.85 (2.2)
71¾ (183)	70¾ (180)	69¾ (176)	2500	10	TH-72/*	281	5.65 (2.6)
71¾ (183)	70¾ (180)	69¾ (176)	3000	13	TH-721/240	281	5.65 (2.6)
Type STTH							
23 (58)	22 (56)	21½ (55)	750	12	STTH-2307	130	1.38 (0.6)
23¾ (60)	22¾ (60)	22¾ (57)	1000	15	STTH-2401	130	1.38 (0.6)

* Designate voltage, i.e.; insert "120" for 120 Vac or "240" for 240 Vac. Those model numbers containing /120 or /240 are only available in that voltage.

† To determine maximum allowable watt density, see Figures C-8 or C-9 (page 80).

Ordering Example: TH-36/120, 3 Terminal 120 Vac, strip heater, \$162.

STRIP HEATERS

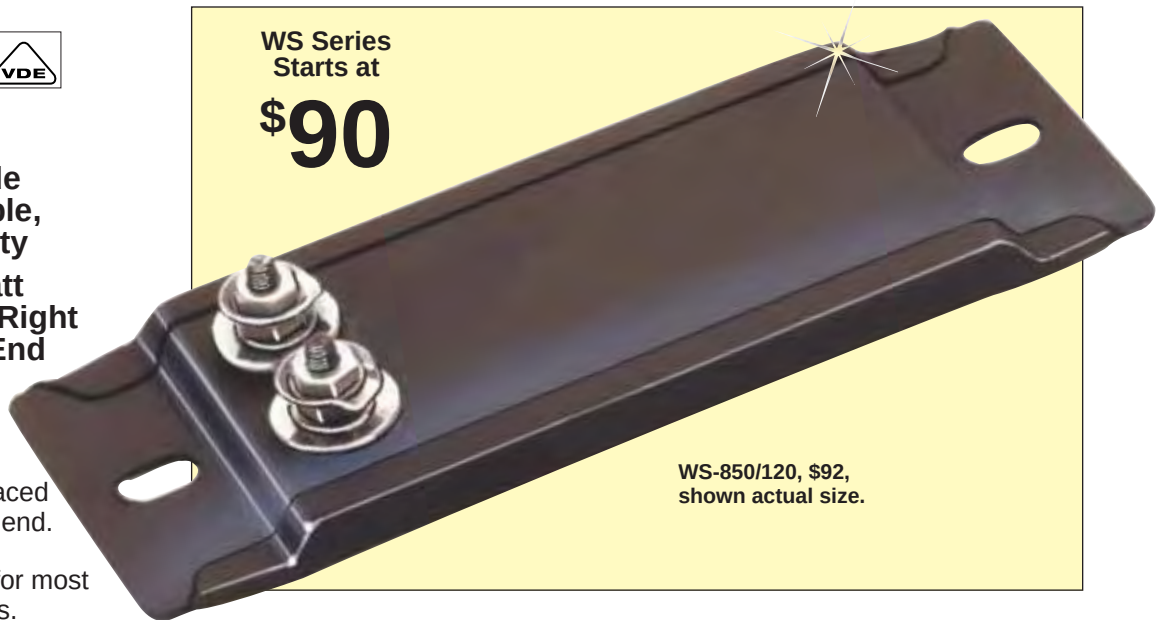


- ✓ 2½" (6 cm) Wide
- ✓ Rugged, Reliable, Premium Quality
- ✓ 400 to 1500 Watt
- ✓ 2 Terminals at Right Angle At One End
- ✓ CSA Certified

The OMEGALUX® WS series strip heater features 2 terminals placed at a right angle on one end. A standard width of 2½" makes them ideal for most strip heater applications.

WS Series Starts at

\$90



WS-850/120, \$92, shown actual size.

SPECIFICATIONS

Sheath Material:

Iron or Chrome Steel

Max. Sheath Temp:

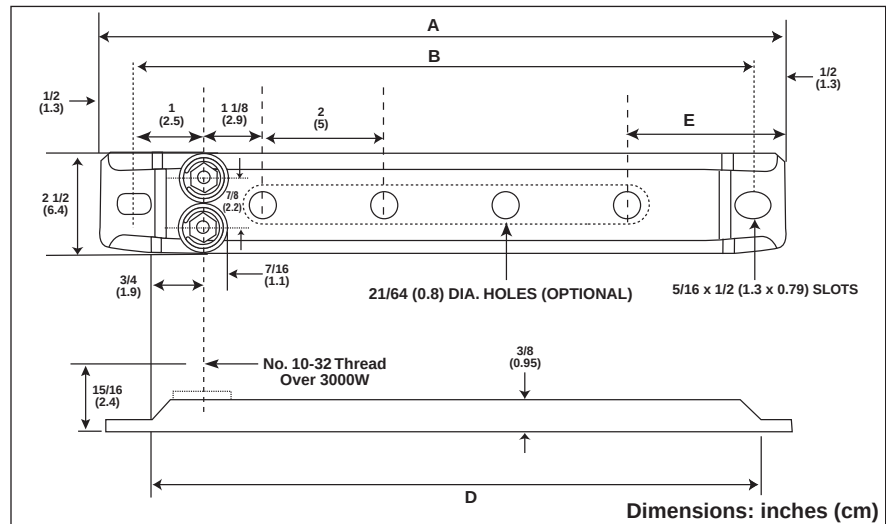
Iron: 399°C (750°F)

Chrome Steel: 649°C (1200°F)

Power: 120 Vac or 240 Vac

CAUTION AND WARNING

Fire and electrical shock may result if products are used improperly or installed or used by non-qualified personnel. See inside back cover for additional warnings.



MOST POPULAR MODELS HIGHLIGHTED!

To Order (Specify Model Number)

Dimensions—Inches (cm)				Rust-Resisting Sheath				Chrome Steel Sheath					
A	B	D	E	No of Mtg** Hole	Watts	W/ln2†	Model No.	Price	Watts	W/ln2†	Model No.	Price	Weight lb (kg)
6½ (17)	5½ (14)	5 (13)	1½ (5)	2	400	14	WS-640/*	\$90	500	25	WS-605/*	\$120	.75 (0.3)
8½ (22)	7½ (19)	7 (18)	1½ (5)	3	500	16	WS-850/*	92	600	19	WS-806/*	125	1.0 (0.4)
12 (30)	11 (28)	10½ (27)	3¾ (9)	4	600	12	WS-1260/*	98	800	16	WS-1208/*	135	1.40 (0.6)
15¾ (39)	14¾ (36)	13¾ (35)	2¾ (7)	6	750	11	WS-1575/*	102	1000	14	WS-1501/*	146	1.88 (0.9)
21 (53)	20 (51)	19½ (50)	2¾ (6)	9	850	8	WS-2185/*	113	1250	12	WS-2101/*	193	2.28 (1)
25½ (65)	24½ (62)	24 (61)	2¾ (7)	11	1000	8	WS-2510/*	125	1500	12	WS-2515/*	204	2.63 (1.2)

Note: If terminal housing is required with a WS strip heater, use a type SE-AC-1 mounted sideways. Ceramic post terminal insulators can also be used.

*Designate voltage, i.e., insert "120" for 120 Vac or "240" for 240 Vac.

**2½" diameter holes optional. Standard heaters have two mounting holes.

† To determine maximum allowable watt density, see Figures C-8 or C-9 (page 80).

Ordering Example: WS-1575/240, 2½" wide, 240 Vac strip heater, \$102.

STRIP HEATERS

SN and SNH Series
Starts at

\$57



- ✓ 1.9 and 2.54 cm (3/4 and 1") Wide
- ✓ Rugged, Reliable Premium Quality
- ✓ 100 to 1500 Watts
- ✓ 2 Terminals at One End
- ✓ CSA Certified
- ✓ SN Series: 3/4" Width
SNH Series: 1" Width



SPECIFICATIONS

Sheath Material:

Iron or Chrome Steel

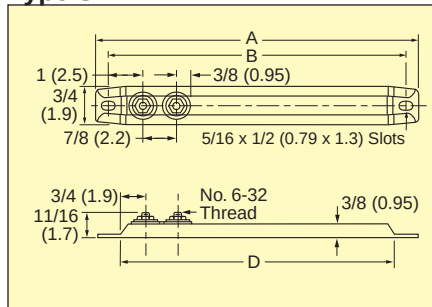
Max Sheath Temp:

Iron: 399°C (750°F)

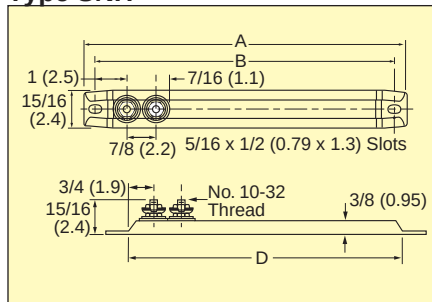
Chrome Steel: 649°C (1200°F)

Power: 120 Vac or 240 Vac

Type SN



Type SNH



CAUTION AND WARNING

Fire and electrical shock may result if products are used improperly or used by non-qualified personnel. See inside back cover for additional warning.

MOST POPULAR MODELS HIGHLIGHTED!

To Order (Specify Model Number)

Dimension: Inches (cm)			Rust-Resisting Iron Sheath		Chrome Steel Sheath		Model No.		Price		Wt. Lb (kg)	
A	B	D	Watts	W/In ²	Model No.	Price	Model No.	Price	Model No.	Price	Wt. Lb (kg)	Wt. Lb (kg)
8 (20)	7 (18)	6 1/2 (17)	250	24	—	—	SNH-08/120	\$59	—	—	.36 (.16)	.36 (.16)
9 1/2 (24)	8 1/2 (22)	8 (20)	100	8	SN-910/120	\$57	—	—	—	—	.38 (.17)	.38 (.17)
9 1/2 (24)	8 1/2 (22)	8 (20)	300	21	—	—	SNH-09/120	60	—	—	.38 (.17)	.38 (.17)
10 1/2 (27)	9 1/2 (24)	9 (23)	150	11	SN-1015/120	60	—	—	—	—	.5 (.2)	.5 (.2)
11 (28)	10 (25)	9 1/2 (24)	350	19	—	—	SNH-11/120	62	—	—	.5 (.2)	.5 (.2)
12 (30)	11 (28)	10 1/2 (27)	150	9	SN-1215/120	60	—	—	—	—	.63 (.29)	.63 (.29)
12 (30)	11 (28)	10 1/2 (27)	400	19	—	—	SNH-12/*	65	—	—	.63 (.29)	.63 (.29)
14 (36)	13 (33)	12 1/2 (32)	450	17	—	—	SNH-14/*	68	—	—	.70 (.32)	.70 (.32)
15 1/2 (39)	14 1/2 (36)	13 1/2 (35)	200	8	SN-1520/*	63	—	—	—	—	.75 (.34)	.75 (.34)
15 1/2 (39)	14 1/2 (36)	13 1/2 (35)	500	17	—	—	SNH-15/	69	—	—	.75 (.34)	.75 (.34)
17 1/2 (45)	16 1/2 (43)	16 1/2 (42)	250	8	SN-1825/*	68	—	—	—	—	.85 (.39)	.85 (.39)
17 1/2 (45)	16 1/2 (43)	16 1/2 (42)	600	17	—	—	SNH-18/*	74	—	—	.85 (.39)	.85 (.39)
19 1/2 (50)	18 1/2 (47)	18 (46)	600	15	—	—	SNH-19/*	103	—	—	.96 (.44)	.96 (.44)
21 (53)	20 (53)	19 1/2 (50)	750	17	—	—	SNH-21/*	104	—	—	1.0 (.45)	1.0 (.45)
22 1/2 (57)	21 1/2 (55)	21 (53)	750	16	—	—	SNH-22/*	105	—	—	1.0 (.45)	1.0 (.45)
23 1/2 (60)	22 1/2 (58)	22 1/2 (57)	300	7	SN-2430/*	75	—	—	—	—	1.0 (.45)	1.0 (.45)
23 1/2 (60)	22 1/2 (58)	22 1/2 (57)	800	16	—	—	SNH-24/*	114	—	—	1.0 (.45)	1.0 (.45)
25 1/2 (65)	24 1/2 (62)	24 (61)	900	16	—	—	SNH-25/*	114	—	—	1.1 (.50)	1.1 (.50)
27 1/2 (70)	26 1/2 (67)	26 (66)	900	14	—	—	SNH-27/*	116	—	—	1.1 (.50)	1.1 (.50)
28 1/2 (73)	27 1/2 (70)	27 1/2 (69)	1000	16	—	—	SNH-28/*	117	—	—	1.25 (.57)	1.25 (.57)
30 1/2 (77)	29 1/2 (75)	28 1/2 (73)	450	8	SN-3045/*	83	—	—	—	—	1.25 (.57)	1.25 (.57)
30 1/2 (77)	29 1/2 (75)	28 (71)	1000	15	—	—	SNH-30/*	133	—	—	1.25 (.57)	1.25 (.57)
33 1/2 (85)	32 1/2 (82)	31 (79)	1000	14	—	—	SNH-33/*	141	—	—	1.4 (.64)	1.4 (.64)
35 1/2 (91)	34 1/2 (88)	34 1/2 (87)	600	9	SN-3660/*	98	—	—	—	—	1.5 (.68)	1.5 (.68)
35 1/2 (91)	34 1/2 (88)	33 1/2 (85)	1000	13	—	—	SNH-36/*	148	—	—	1.5 (.68)	1.5 (.68)
38 1/2 (98)	37 1/2 (95)	36 (91)	1250	15	—	—	SNH-38/*	152	—	—	1.60 (.73)	1.60 (.73)
39 1/2 (101)	38 1/2 (98)	37 1/2 (95)	1250	14	—	—	SNH-40/*	156	—	—	1.60 (.73)	1.60 (.73)
42 1/2 (108)	41 1/2 (106)	40 (102)	1250	13	—	—	SNH-43/*	162	—	—	1.80 (.82)	1.80 (.82)
43 1/2 (111)	42 1/2 (108)	41 1/2 (105)	1250	13	—	—	SNH-44/*	180	—	—	1.80 (.82)	1.80 (.82)
45 1/2 (117)	44 1/2 (114)	43 1/2 (110)	1500	14	—	—	SNH-46/*	183	—	—	1.94 (.88)	1.94 (.88)
47 1/2 (122)	46 1/2 (119)	45 1/2 (115)	1500	14	—	—	SNH-48/*	183	—	—	2.0 (.91)	2.0 (.91)
50 1/2 (129)	49 1/2 (126)	48 1/2 (123)	1500	13	—	—	SNH-51/	211	—	—	2.13 (.97)	2.13 (.97)
53 1/2 (136)	52 1/2 (134)	51 1/2 (130)	1500	12	—	—	SNH-54/	212	—	—	2.25 (1.0)	2.25 (1.0)

* Designate voltage, i.e., insert "120" for 120 Vac or "240" for 240 Vac. Model numbers containing /120 or /240 are only available in that voltage.

† To determine maximum allowable watt density, see Figures C-10 (page 80).

Ordering Example: SNH-08/120, 1" wide strip heater with chrome steel sheath and two terminals at one end, \$59.

SEAMLESS INCOLOY SHEATH STRIP HEATERS

NS and NSL Series
Starts at

\$86



- ✓ ¾" (1.9 cm) Wide, High Temperature
- ✓ Rugged, Reliable, Premium Quality
- ✓ 500 to 3000 Watt
- ✓ 2 Terminals at One End Seamless Construction

FEATURES

Strip-heater advantages for higher-temperature applications are offered by NS series. The heater design, materials and construction give long life for given power densities. The Incoloy sheath encloses nickel-chromium resistance wire embedded in a densely compacted refractory material selected for dielectric insulation value and good heat conduction to the sheath. The small cross-section is often an advantage where space is a factor.

Clamp-on Temperatures to 1200°F

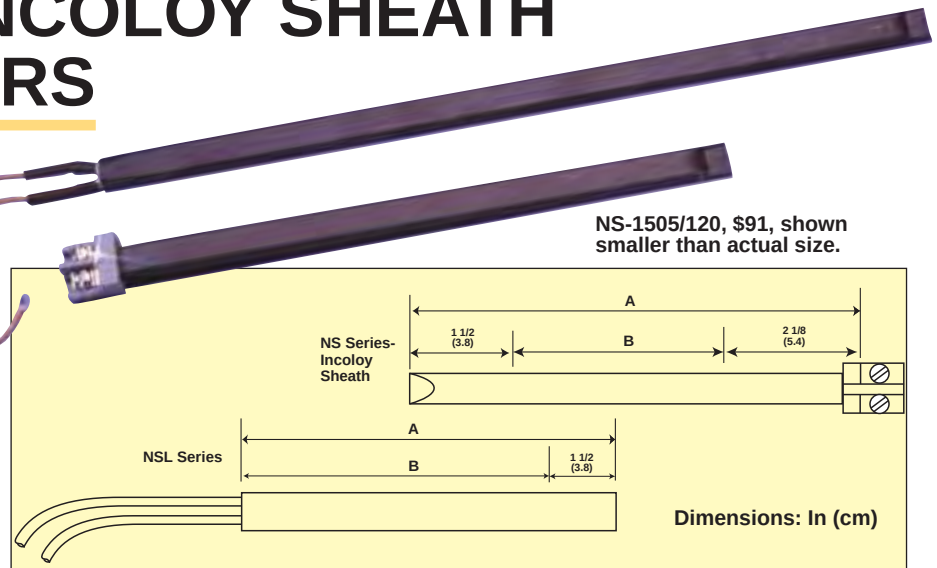
Maximum work temperature depends on the watt density of the heater. Table 1 (above right) gives a few examples of work temperatures at different watt densities.

Mounting

The flat top and bottom surfaces may be flush mounted or sandwiched between two heat-conducting metal parts. Straight heaters can be mounted on surfaces curved to 6" (15 cm) inside radius or larger. The heater may be field bent to minimum 3" (8 cm) inside radius. Standard strip heater clamps and clamping bands may be used for mounting.

In Free or Forced Air, Sheath Temperature to 1500°F

Maximum work temperature depends on the watt density of



the heater. Table 1 (below) gives a few examples of work temperatures at different watt densities.

Optional Features Available

Terminal end bend of 15°—for clearing terminal block when mounted on a flat surface, **\$15**. Add suffix **“-TERMINAL BEND”** to model number.

Seal welding end opposite terminals.

Max Work Temperature °F

Application	30 w/in ²	20 w/in ²	10 w/in ²
Clamp-on	300	750	950
Convection			
Air Heating	950	1200	1350

SPECIFICATIONS

Sheath Material: Incoloy
Max Sheath Temp: 399°C (1500°F)
Power: 120, 240 or 480 Vac
Minimum Inside Bend Radius: 3"

MOST POPULAR MODELS HIGHLIGHTED!

To Order (Specify Model Number)

Dimension: Inches (cm)		NS Series-Incoloy Sheath				NSL Series-10" Wire Type Leads		
A	B	Watts	W/in ²	Model No.	Price	Model No.	Price	Wt. (lb) kg
12½ (32)	8½ (23)	500	32	NS-1205/**	\$86	NSL-1205/**	\$106	.63 (.28)
13¾ (35)	10½ (26)	500	28	NS-1405/**	86	NSL-1405/**	112	.68 (.30)
15½ (39)	11½ (30)	500	24	NS-1505/**	91	NSL-1505/**	113	.73 (.33)
17½ (45)	14½ (36)	750	30	NS-1807/**	97	NSL-1807/**	119	.90 (.40)
18½ (47)	14½ (38)	1000	38	NS-1801/**	97	NSL-1801/*	119	.93 (.42)
19½ (49)	15¼ (40)	1000	36	NS-1901/*	103	NSL-1901/*	125	1.0 (.45)
21½ (54)	17½ (45)	1100	35	NS-2001/**	108	NSL-2001/*	129	1.1 (.49)
23¾ (60)	20½ (51)	1200	34	NS-2401/*	109	NSL-2401/*	133	1.2 (.54)
25¾ (64)	21½ (55)	1300	34	NS-2501/*	116	NSL-2501/*	134	1.25 (.56)
26½ (68)	23½ (59)	1400	34	NS-2601/**	118	NSL-2601/*	137	1.30 (.59)
30½ (77)	26½ (67)	1500	32	NS-3015/*	127	NSL-3015/*	147	1.52 (.68)
33½ (86)	30½ (77)	1500	28	NS-3301/**	138	NSL-3301/*	158	1.68 (.76)
36½ (92)	32¼ (83)	1850	32	NS-3601/*	148	NSL-3601/*	168	1.85 (.83)
39 (99)	35½ (90)	2000	32	NS-3802/*	152	NSL-3802/*	173	2.00 (.90)
40¾ (104)	37¾ (94)	2100	32	NS-4302/*	162	NSL-4302/*	187	2.13 (.96)
51½ (130)	47¾ (121)	2700	32	NS-4827/**	228	NSL-4827/*	250	2.7 (.12)
54 (138)	50¾ (128)	3000	34	NS-5403/**	256	NSL-5403/**	278	2.75 (.12)

* Designate voltage, i.e.; insert "120" for 120 or "240" or 480 voltage required.

** 120 or 240 Vac only. *** 240 or 480 Vac only.

† To determine maximum allowable watt density, see Figures C-8 to C-10 (page 80).

Ordering Example: NS-2601/240, seamless Incoloy sheath, \$118.

DP63700-AC
Starts at
\$317



Digital Panel Meters for AC True RMS Voltage and Current

DP63800-E
Starts at
\$243



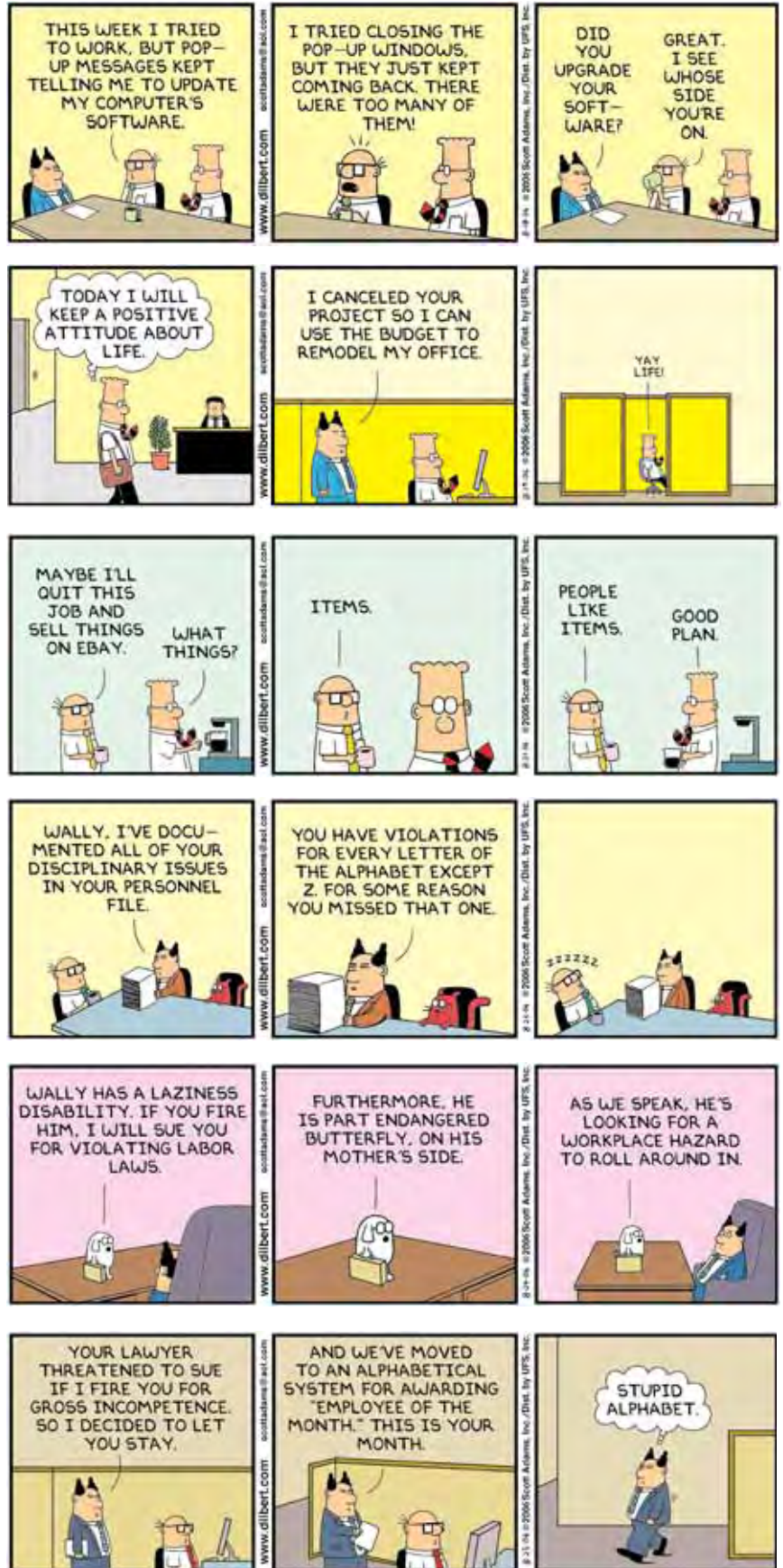
Digital Panel Meters for Process Inputs

DP7000 Series
\$55
All Models



Temperature Meter with Alarm or On/Off Control Output with Audible Buzzer

**Please search omega.com
for more details on these
featured products!**



SEAMLESS STRIP HEATERS WITHOUT MOUNTING TABS



SSE, SSEM and
SSNHM Series
Starts at

\$73

✓ 1¹¹/₁₆" or 1¹/₂"
(4 or 2.9 cm) Wide

✓ Rugged, Reliable,
Premium Quality

✓ 200 to 2550 Watts

✓ 2 Terminals One End

✓ Seamless Construction

✓ Select Rust Resisting
Iron or Monel Sheath

Seamless strip elements are supplied without mounting tabs as standard. Overall length (dimension A) is with mounting tab; dimension D is length without mounting tabs.

SPECIFICATIONS

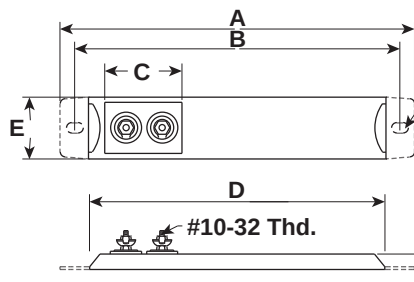
Sheath Material: Iron or Monel
(SSNHM available only with Monel)

Max Sheath Temp:

Iron: 399°C (750°F)

Monel: 510°C (950°F)

Power: 120 or 240 Vac



5/16 x 1/2"
Slot

C = Terminal Base
1¹/₂ for SSE and SSEM
1¹/₂ for SSNHM

E = Width
1¹/₂ for SSE and SSEM
1¹/₂ or SSNHM

Dimensions: inches

**MOST POPULAR
MODELS HIGHLIGHTED!**

To Order (Specify Model Number)

Dimension: Inches (cm)					Monel Sheath		
A	B	D	Watts	W/In ²	Model No.	Price	Wt. Lb (kg)
8 ⁷ / ₁₆ (21)	7 ¹ / ₁₆ (19)	6 ¹ / ₁₆ (17)	200	19	SSNHM-08/120	\$121	.36 (.16)
9 ¹ / ₁₆ (24)	8 ¹ / ₁₆ (23)	8 ¹ / ₁₆ (21)	275	19	SSNHM-09/120	126	.38 (.17)
11 ¹ / ₁₆ (28)	10 ¹ / ₁₆ (26)	9 ¹ / ₁₆ (24)	300	16	SSNHM-11/120	127	.50 (.22)
12 ¹ / ₁₆ (31)	11 ¹ / ₁₆ (29)	10 ¹ / ₁₆ (27)	320	16	SSNHM-12/*	130	.63 (.29)
14 ¹ / ₁₆ (36)	13 ¹ / ₁₆ (34)	12 ¹ / ₁₆ (32)	375	14	SSNHM-14/*	134	.70 (.32)
15 ¹ / ₁₆ (40)	14 ¹ / ₁₆ (37)	13 ¹ / ₁₆ (35)	415	14	SSNHM-15/*	136	.75 (.34)
18 (46)	17 ¹ / ₁₆ (44)	16 ¹ / ₁₆ (42)	495	13	SSNHM-18/*	139	1.40 (.64)
19 ¹ / ₁₆ (50)	18 ¹ / ₁₆ (48)	18 ¹ / ₁₆ (46)	550	13	SSNHM-19/*	144	1.40 (.64)
21 ¹ / ₁₆ (54)	20 ¹ / ₁₆ (52)	19 ¹ / ₁₆ (50)	600	13	SSNHM-21/*	146	1.63 (.74)
22 ¹ / ₁₆ (57)	21 ¹ / ₁₆ (56)	22 ¹ / ₁₆ (56)	625	13	SSNHM-22/*	150	1.79 (.81)
23 ¹ / ₁₆ (61)	23 ¹ / ₁₆ (59)	22 ¹ / ₁₆ (57)	675	13	SSNHM-24/*	153	1.81 (.82)
25 ¹ / ₁₆ (65)	24 ¹ / ₁₆ (63)	24 ¹ / ₁₆ (62)	725	13	SSNHM-25/*	167	2.06 (.93)
27 ¹ / ₁₆ (70)	26 ¹ / ₁₆ (68)	26 ¹ / ₁₆ (66)	800	13	SSNHM-27/*	172	2.25 (.10)

* Designate voltage, i.e.; insert "120" for 120 Vac or "240" for 240 Vac. Model numbers containing /120 or /240 are only available in that voltage. For mounting tab specify "with mounting tabs" as suffix and add \$8.35 to price. **Ordering Example:** SSNHM-14/120, seamless strip heater without mounting tabs, 120 Vac, Monel sheath, \$134.

To Order (Specify Model Number)

Dimension: Inches (cm)			Rust-Resisting Iron Sheath				Monel Sheath		
A	B	D	Watts	W/In ²	Model No.	Price	Model No.	Price	Weight lb (kg)
8 ⁷ / ₁₆ (21)	7 ¹ / ₁₆ (19)	6 ¹ / ₁₆ (17)	200	13	SSE-820/120	\$73	SSEM-820/120	\$131	.65 (.29)
10 ¹ / ₁₆ (27)	9 ¹ / ₁₆ (25)	9 ¹ / ₁₆ (23)	275	11	SSE-1027/*	74	SSEM-1027/*	134	.76 (.34)
12 ¹ / ₁₆ (31)	11 ¹ / ₁₆ (29)	10 ¹ / ₁₆ (27)	320	11	SSE-1232/*	77	SSEM-1232/*	135	.88 (.40)
14 ¹ / ₁₆ (36)	13 ¹ / ₁₆ (34)	12 ¹ / ₁₆ (32)	375	10	SSE-1437/*	78	SSEM-1437/*	139	1.0 (.45)
15 ¹ / ₁₆ (39)	14 ¹ / ₁₆ (37)	13 ¹ / ₁₆ (35)	415	10	SSE-1541/*	79	SSEM-1541/*	139	1.14 (.51)
18 (46)	17 ¹ / ₁₆ (44)	16 ¹ / ₁₆ (42)	500	10	SSE-1849/*	81	SSEM-1849/*	146	1.40 (.64)
19 ¹ / ₁₆ (50)	18 ¹ / ₁₆ (48)	18 ¹ / ₁₆ (46)	550	10	SSE-1955/*	84	SSEM-1955/*	152	1.50 (.68)
21 ¹ / ₁₆ (54)	20 ¹ / ₁₆ (52)	19 ¹ / ₁₆ (50)	625	10	SSE-2060/*	86	SSEM-2060/*	155	1.63 (.74)
23 ¹ / ₁₆ (61)	23 ¹ / ₁₆ (59)	22 ¹ / ₁₆ (57)	750	10	SSE-2467/*	89	SSEM-2467/*	158	1.81 (.82)
25 ¹ / ₁₆ (65)	24 ¹ / ₁₆ (63)	24 ¹ / ₁₆ (61)	800	10	SSE-2572/*	92	SSEM-2572/*	166	2.06 (.93)
30 ¹ / ₁₆ (78)	29 ¹ / ₁₆ (45)	28 ¹ / ₁₆ (71)	1000	10	SSE-3085/*	105	SSEM-3085/*	188	2.38 (.11)
33 ¹ / ₁₆ (85)	32 ¹ / ₁₆ (82)	31 ¹ / ₁₆ (79)	1250	12	SSE-3392/*	111	SSEM-3392/*	197	2.69 (.12)
36 (86)	34 ¹ / ₁₆ (89)	33 ¹ / ₁₆ (85)	1500	13	SSE-3611/*	123	SSEM-3611/*	220	2.90 (.13)
38 ¹ / ₁₆ (98)	37 ¹ / ₁₆ (95)	36 ¹ / ₁₆ (93)	1500	12	SSE-3817/*	133	SSEM-3817/*	237	3.20 (.15)
42 ¹ / ₁₆ (108)	41 ¹ / ₁₆ (105)	40 ¹ / ₁₆ (102)	1500	11	SSE-4315/*	152	SSEM-4315/*	275	3.40 (.15)
48 (122)	46 ¹ / ₁₆ (119)	45 ¹ / ₁₆ (116)	1650	10	SSE-4816/*	173	SSEM-4816/*	313	3.80 (.17)
54 (137)	52 ¹ / ₁₆ (133)	51 ¹ / ₁₆ (131)	1875	10	SSE-5418/*	201	SSEM-5418/*	373	4.20 (.19)
64 (163)	62 ¹ / ₁₆ (160)	61 ¹ / ₁₆ (156)	2250	10	SSE-6422/240	251	SSEM-6422/240	457	5.12 (.23)
72 (183)	70 ¹ / ₁₆ (180)	69 ¹ / ₁₆ (177)	2550	10	SSE-7225/240	291	SSEM-7225/240	528	5.75 (.26)

* Designate voltage, i.e.; insert "120" for 120 Vac or "240" for 240 Vac. Model numbers containing /120 or /240 are only available in that voltage.

† To determine maximum allowable watt density, see Figures C-8 and C-9 (page 80). For mounting tab specify "with mounting tabs" as suffix and add \$8.35 to price. **Ordering Example:** SSEM-3392/120, seamless strip heater without mounting tabs, 120 Vac, Monel sheath \$197.

FINNED STRIP HEATERS

For Fast Heat Transfer

OTF Series
Starts at
\$72



- ✓ Rugged, Reliable, Premium Quality
- ✓ 250 to 4150 W
- ✓ 1½" (3.8 cm) Strip [with Fins 2" (5 cm) Wide]
- ✓ Maximum Work Temperature from 225° to 565°F
- ✓ Available with Either Rust-Resisting Iron or Chrome Steel Sheath

FEATURES

Durability is assured by rugged OMEGALUX® strip heater with lock-on aluminized steel fins

Fast heat transfer to air from large finned area.

Large selection of lengths, wattage and watt densities.

UL Component Recognized

Finned elements (exclusive construction). High-quality, coiled nickel-chrome resistor wire is uniformly spaced over the width and length of the finned strip element, then embedded in high-grade refractory material which both insulates the wire and transfers heat rapidly. The refractory is then compressed to rock hardness and maximum density under tremendous hydraulic pressure to improve heat transfer from coil to sheath. Elements are oven baked at high temperatures to semi-vitrify and mature the refractory. Sheath material is either rust-resisting iron or chrome steel. Fins of aluminized steel are provided to improve that transfer to the air. Elements are individually replaceable.



APPLICATION

- ✓ For mounting across air stream within forced air ducts
- ✓ For use in dryers, ovens and other process air heating equipment
- ✓ For comfort heating applications, principally ducts, load banks and humidity controls

- ✓ A wide range of air blast and convection requirements can be accommodated by the wide range of lengths, wattages and watt densities available

MOST POPULAR MODELS HIGHLIGHTED!

To Order (Specify Model Number)

Rust-Resisting Iron Sheath for Sheath Temperatures to 750°F Max.

Watts	W/In ²	Dimension: Inches (cm)			Model No.	Price	Weight lb (kg)
		A	B	F			
250	10	10½ (27)	9½ (24)	6 (15)	OTF-102/*	\$72	2 (.9)
350	15	10½ (27)	9½ (24)	6 (15)	OTF-103/*	72	2 (.9)
600	25	10½ (27)	9½ (24)	6 (15)	OTF-106/*	72	2 (.9)
500	17	12 (30)	11 (28)	7½ (19)	OTF-125/*	81	2 (.9)
750	25	12 (30)	11 (28)	7½ (19)	OTF-127/*	81	2 (.9)
250	8	12 (30)	11 (28)	7½ (19)	OTF-122/240	81	2 (.9)
900	25	14 (36)	13 (33)	9½ (24)	OTF-149/*	90	2 (.9)
500	15	14 (36)	13 (33)	9½ (24)	OTF-145/240	90	2 (.9)
325	8	15½ (39)	14½ (36)	10½ (27)	OTF-153/120	95	3 (1.4)
1000	25	15½ (39)	14½ (36)	10½ (27)	OTF-151/*	95	3 (1.4)
500	10	17½ (46)	16½ (43)	13¾ (34)	OTF-185/*	106	3 (1.4)
1000	19	17½ (46)	16½ (43)	13¾ (34)	OTF-181/*	106	3 (1.4)
1300	25	17½ (46)	16½ (43)	13¾ (34)	OTF-182/*	106	3 (1.4)
1000	18	19½ (50)	18½ (47)	15 (38)	OTF-191/240	116	3 (1.4)
1500	25	19½ (50)	18½ (47)	15 (38)	OTF-192/*	116	3 (1.4)
1000	16	21 (53)	20 (51)	16½ (12)	OTF-211/240	120	3 (1.4)
1550	25	21 (53)	20 (51)	16½ (12)	OTF-212/240	120	3 (1.4)
750	10	23¾ (60)	22¾ (58)	19¾ (49)	OTF-247/240	135	4 (1.8)
1000	14	23¾ (60)	22¾ (58)	19¾ (49)	OTF-241/240	135	4 (1.8)
1800	25	23¾ (60)	22¾ (58)	19¾ (49)	OTF-242/240	135	4 (1.8)
1250	16	25½ (65)	24½ (62)	21 (53)	OTF-251/240	141	4 (1.8)
2000	26	25½ (65)	24½ (62)	21 (53)	OTF-252/240	141	4 (1.8)
700	9	26¾ (68)	25¾ (65)	22½ (57)	OTF-267/*	148	4 (1.8)
1350	17	26¾ (68)	25¾ (65)	22½ (57)	OTF-261/240	148	4 (1.8)
2000	24	26¾ (68)	25¾ (65)	22½ (57)	OTF-262/240	148	4 (1.8)
1500	17	30¾ (77)	29¾ (75)	25 (64)	OTF-301/240	166	4 (1.8)
2350	26	30¾ (77)	29¾ (75)	25 (64)	OTF-302/240	166	4 (1.8)
1000	9	35¾ (91)	34¾ (89)	30¾ (77)	OTF-361/240	191	5 (2.3)
1800	16	35¾ (91)	34¾ (89)	30¾ (77)	OTF-363/240	191	5 (2.3)
2850	26	35¾ (91)	34¾ (89)	30¾ (77)	OTF-362/240	191	5 (2.3)
2000	17	38¾ (98)	37¾ (89)	33 (84)	OTF-382/240	201	5 (2.3)
3100	26	38¾ (98)	37¾ (89)	33 (84)	OTF-383/*	201	5 (2.3)
3400	26	42¾ (108)	41¾ (106)	37 (94)	OTF-43/240	217	6 (2.7)

* Specify voltage, insert "120" for 120 Vac or 240 for "240" Vac. Model numbers containing /120 or /240 are only available in that voltage. † To determine maximum allowable watt density, see Figure C-10 (page 80).

Ordering Example: OTF-127/120, finned strip heater 120 Vac, \$81.

STRIP HEATERS

Maximum work temperature

Finned strip elements can generally be used in the following applications at maximum temperatures shown without exceeding their capability if properly installed according to instructions packed with heaters.

Free air

Iron sheath 225°F
Chrome steel sheath 315°F

Moving Air—air velocity, at 16fps

Iron sheath 460°F
Chrome steel sheath 565°F

The above maximum temperatures are based on 15 watts per sq. in. density for iron sheath and 20 watts per sq. in. density for chrome steel sheath. If elements have a lower watt density, work temperature may be increased; if watt density is higher, work temperature should be lower.

Wiring. Alloy wire or bus bar is used for power connections. See wire section.

Thermostatic control and overheat protection. See Section P for a selection of controllers.

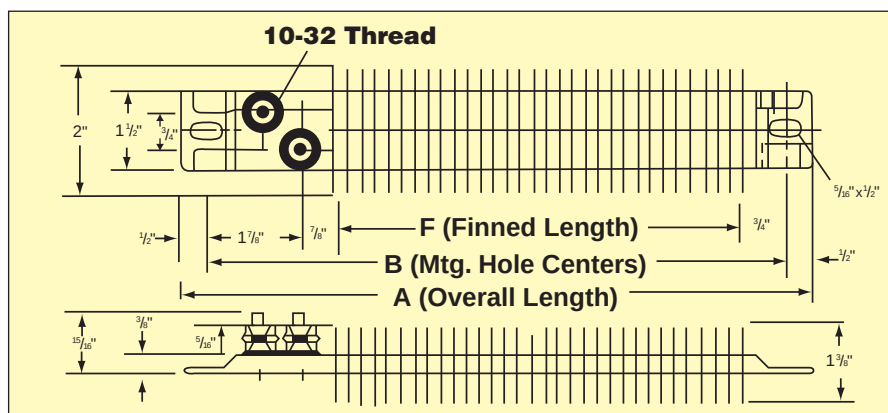
Removable terminal covers—shipped unassembled. Order separately. OTF cover—Model No. OT-AC-1, Price **\$16.25**.

Secondary Insulation Bushings are needed at each end of finned strip elements when connected in series on line voltages above 300V. To accommodate bushings, $\frac{1}{32}$ " x $\frac{1}{16}$ " Dia. mounting hole in tabs should be specified for elements.

To order secondary insulation bushings, add suffix **"/PCN255716"** to Model no. and add **\$10.50** to price.

CAUTION AND WARNING

Fire and electrical shock may result if products are used improperly or used by non-qualified personnel. See inside back cover for additional warning.



MOST POPULAR MODELS HIGHLIGHTED!

To Order (Specify Model Number)

Chrome Steel Sheath—for Sheath Temperatures to 950°F max.

Watts	W/in ² †	Dimensions: Inches (cm)			Model No.	Price	Weight. lb (kg)
		A	B	F			
475	23	10½ (27)	9½ (24)	6 (15)	OTF-1004/*	\$86	2 (.9)
725	35	10½ (27)	9½ (24)	6 (15)	OTF-1007/*	86	2 (.9)
350	17	10½ (27)	9½ (24)	6 (15)	OTF-1003/240	86	2 (.9)
700	27	12 (30)	11 (28)	7½ (19)	OTF-1207/*	92	2 (.9)
900	34	12 (30)	11 (28)	7½ (19)	OTF-1209/*	92	2 (.9)
750	21	14 (36)	11 (28)	7½ (19)	OTF-1407/*	105	2 (.9)
1100	33	14 (36)	13 (33)	9½ (24)	OTF-1401/*	105	2 (.9)
850	21	15¼ (39)	14¼ (36)	10¼ (27)	OTF-1508/240	113	3 (1.4)
1250	33	15¼ (39)	14¼ (36)	10¼ (27)	OTF-1501/240	113	3 (1.4)
750	16	17½ (45)	16½ (43)	13¾ (34)	OTF-1807/240	128	3 (1.4)
1000	21	17½ (45)	16½ (43)	13¾ (34)	OTF-1801/240	128	3 (1.4)
1550	33	17½ (45)	16½ (43)	13¾ (34)	OTF-1802/240	128	3 (1.4)
1000	19	19½ (50)	18½ (22)	15 (38)	OTF-1901/240	132	3 (1.4)
1250	24	19½ (50)	18½ (22)	15 (38)	OTF-1902/240	132	3 (1.4)
1700	32	19½ (50)	18½ (22)	15 (38)	OTF-1903/240	132	3 (1.4)
1250	21	21 (53)	20 (51)	16½ (42)	OTF-2101/240	137	3 (1.4)
750	13	21 (53)	20 (51)	16½ (42)	OTF-2107/240	137	3 (1.4)
1900	32	21 (53)	20 (51)	16½ (42)	OTF-2102/240	137	3 (1.4)
2200	32	23¼ (60)	22¼ (58)	19¼ (49)	OTF-2402/240	150	4 (1.8)
1000	15	23¼ (60)	22¼ (58)	19¼ (49)	OTF-2401/240	150	4 (1.8)
1450	21	23¼ (60)	22¼ (58)	19¼ (49)	OTF-2403/240	150	4 (1.8)
1500	20	25½ (65)	24½ (62)	21 (53)	OTF-2501/240	155	4 (1.8)
2400	32	25½ (65)	24½ (62)	21 (53)	OTF-2502/240	155	4 (1.8)
1600	20	26¾ (68)	25¾ (65)	22¼ (57)	OTF-2601/240	159	4 (1.8)
2500	32	26¾ (68)	25¾ (65)	22¼ (57)	OTF-2602/240	159	4 (1.8)
1800	20	30½ (77)	29½ (75)	25 (64)	OTF-3001/240	179	4 (1.8)
2800	31	30½ (77)	29½ (75)	25 (64)	OTF-3002/240	179	4 (1.8)
2100	20	33¾ (85)	32¾ (82)	28 (70)	OTF-3302/240	179	5 (2.3)
3150	31	33¾ (85)	32¾ (82)	28 (70)	OTF-3303/*	192	5 (2.3)
1500	14	35¾ (96)	34¾ (89)	30¾ (76)	OTF-3601/240	203	5 (2.3)
2300	21	35¾ (96)	34¾ (89)	30¾ (76)	OTF-3602/240	203	5 (2.3)
3450	31	35¾ (96)	34¾ (89)	30¾ (76)	OTF-3603/240	203	5 (2.3)
2450	21	38¾ (98)	37¾ (96)	33 (84)	OTF-3802/240	212	5 (2.3)
3600	31	38¾ (98)	37¾ (96)	33 (84)	OTF-3803/240	212	5 (2.3)
4150	31	42¾ (108)	41¾ (106)	37 (94)	OTF-430/240	232	6 (2.7)
2250	14	48 (122)	47 (119)	37 (94)	OTF-480/240	252	8 (3.6)

* Specify voltage, insert "120" for 120 Vac or "240" for 240 Vac.

Model numbers containing /120 or /240 are only available in that voltage.

† To determine maximum allowable watt density, see Figure C-10 (page 80).

Ordering Example: OTF-3303/120, finned strip heater with chrome steel sheath 120 Vac, \$192.

CERAMIC-INSULATED FINNED STRIP HEATERS

FSH Series Starts at

\$58



For Fast Heat Transfer!



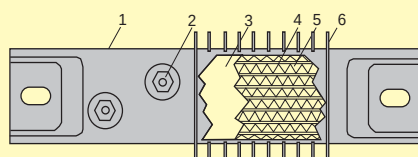
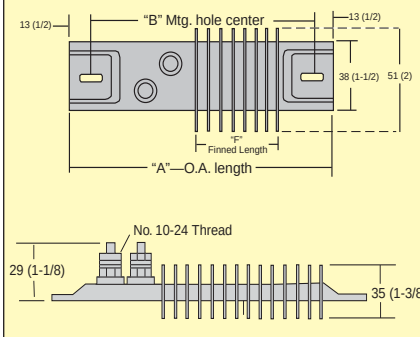
FSH-080-120V, \$58, shown smaller than actual size.

- ✓ Excellent for Use in Air Heating, Air Ovens, and Load Banks
- ✓ Seamless Stainless Steel Sheath
- ✓ Post Terminals
- ✓ Ceramic Element Support
- ✓ Magnesium Oxide Packing

Formula for Determination of Watt Density

$$\text{Watts/sq. in.} = \frac{\text{Total unit wattage}}{F (\text{finned length}) \times 3}$$

Dimensions: mm (in)



CONSTRUCTION

1. Seamless stainless steel sheath
2. Post terminals
3. Ceramic element support
4. Element wire situated close to outside surface for maximum heat transfer and minimum internal temperature while preserving good dielectric qualities
5. Magnesium oxide packing
6. Aluminum fins offering maximum radiating surface and providing for rapid heat transfer to the surrounding medium. Stainless steel fins are available for corrosive environments. Aluminum fins are standard.

Tolerances

Length: Up to 610 mm (24"), ±1.6 mm (1/16"); 610 mm (24") and over, ±3.2 mm (1/8")
Wattage: -10 to 5% at rated voltage

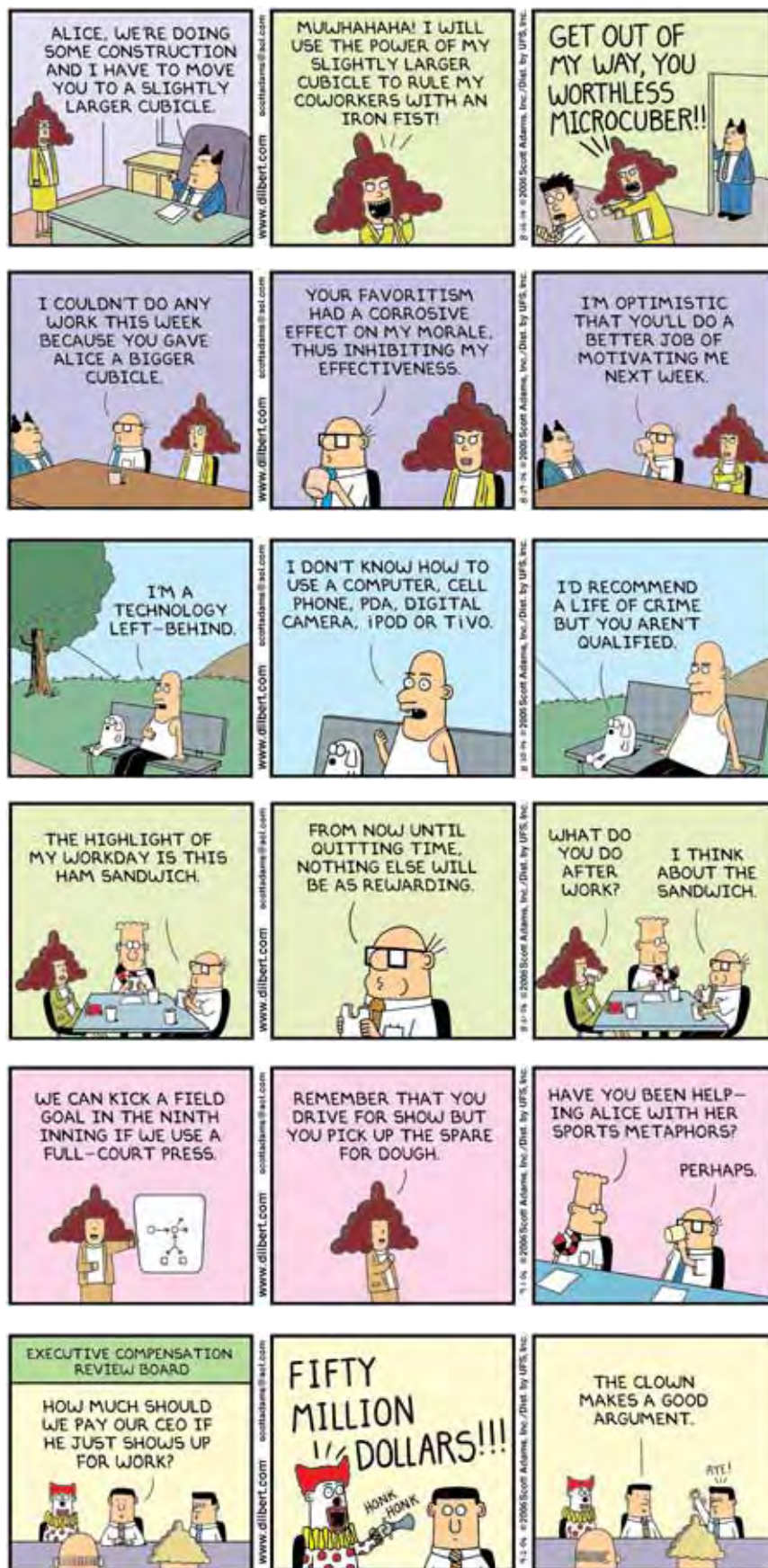
Type of Air	Ft./min.	°C (°F)	Max. Watts/Sq. In.
Still	—	Up to 149 (300)	20
Still	—	149 to 315 (300 to 600)	16
Still	—	315 to 427 (600 to 800)	10
Moving	600	Up to 93 (200)	40
Moving	600	93 to 204 (200 to 400)	30
Moving	600	204 to 315 (400 to 600)	20
Moving	1200	Up to 93 (200)	50
Moving	1200	93 to 204 (200 to 400)	35
Moving	1200	204 to 315 (400 to 600)	25

MOST POPULAR MODELS HIGHLIGHTED!

To Order (Specify Model Number)

Model No.	Price	Description	Watts	Dimensions: cm (in)		
				A	B	F
FSH-080-120V	\$58	Finned strip heater	400	20 (8)	18 (7)	8 (3)
FSH-080-240V	58	Finned strip heater	400	20 (8)	18 (7)	8 (3)
FSH-105-120V	60	Finned strip heater	300	27 (10.5)	24 (10)	15 (6)
FSH-105-240V	60	Finned strip heater	300	27 (10.5)	24 (10)	15 (6)
FSH-120-120V	63	Finned strip heater	500	30 (12)	28 (11)	20 (8)
FSH-120-240V	63	Finned strip heater	500	30 (12)	28 (11)	20 (8)
FSH-121-120V	63	Finned strip heater	750	30 (12)	28 (11)	20 (8)
FSH-121-240V	63	Finned strip heater	750	30 (12)	28 (11)	20 (8)
FSH-150-120V	69	Finned strip heater	500	39 (15)	36 (14)	27 (11)
FSH-150-240V	69	Finned strip heater	500	39 (15)	36 (14)	27 (11)
FSH-180-120V	77	Finned strip heater	750	46 (18)	43 (17)	34 (13)
FSH-180-240V	77	Finned strip heater	750	46 (18)	43 (17)	34 (13)
FSH-181-120V	77	Finned strip heater	1250	46 (18)	43 (17)	34 (13)
FSH-181-240V	77	Finned strip heater	1250	46 (18)	43 (17)	34 (13)
FSH-237-120V	90	Finned strip heater	1000	60 (24)	58 (23)	48 (19)
FSH-237-240V	90	Finned strip heater	1000	60 (24)	58 (23)	48 (19)
FSH-357-240V	126	Finned strip heater	2500	91 (36)	58 (23)	48 (19)
PE-1010	94	Reference Book: Engineering Design Process				





CT6100 Series
Starts at
\$1450

Microprocessor-Based Circular Chart Recorder

CTXL Series
\$795
All Models



Microprocessor-Based Portable Universal Circular Chart SUPRERECORDER™

CTH200 Series
Starts at
\$400



Temperature/Relative Humidity Chart Recorder

Please search omega.com for more details on these featured products!



SCREW PLUG IMMERSION HEATERS CLEAN WATER APPLICATIONS

MT Series
Starts at

\$123



- ✓ 1 NPT Brass Screw Plug
- ✓ Copper Sheath Element
- ✓ High Watt Density (64 to 86 W/in²)
- ✓ 0.75 to 3 kW
- ✓ Without Thermostat
- ✓ 120 and 240V, 1 Phase
- ✓ General Purpose or Moisture-Resistant/Explosion-Resistant Terminal Enclosure

Note: This immersion heater should be used with an approved temperature control device to assure safe operation.

SPECIFICATIONS

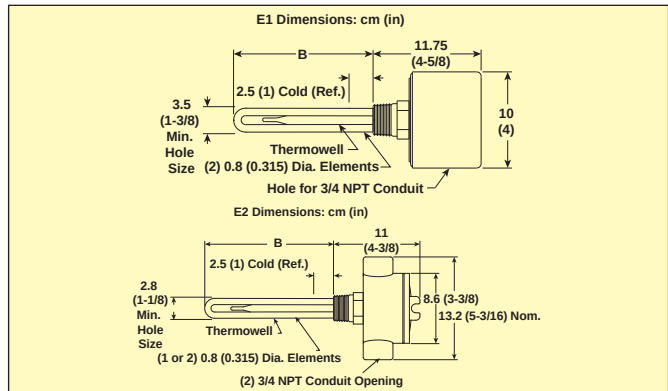
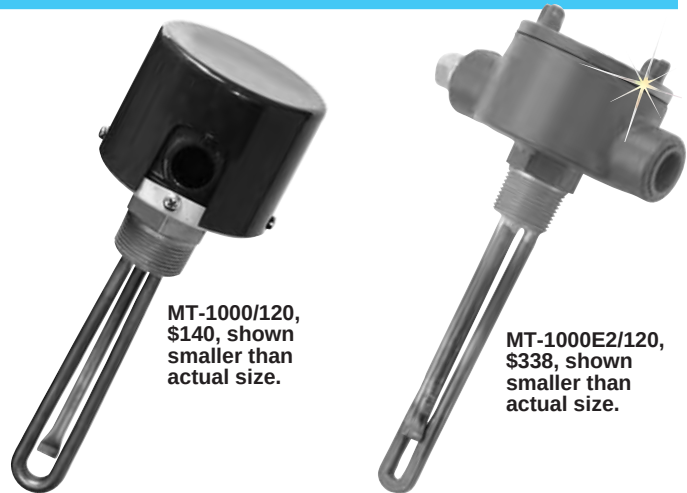
Wattage: 0.75 to 3 kW

Power: 120 or 240V, 1 phase

Watt Density: 64 to 86 W/in²

Screw Plug: 1 NPT brass screw plug

Enclosures: E1 general purpose, NEMA 1 rated, or type E2 moisture-resistant/explosion-resistant enclosure.²



MOST POPULAR MODELS HIGHLIGHTED!

To Order (Specify Model Number)

kW	Volts	W/in ²	No. Htg. Elem.	E1 General Purpose Enclosure ¹				E2 Moisture Resis/Explosion Resis. ²		
				Dim. B cm (in)	Model No.	Price	Wt. kg (lb)	Model No.	Price	Wt. kg (lb)
0.75	120	64	1	16 (6 ⁵ / ₁₆)	MT-750/*	\$123	0.9 (2)	MT-750E2/*	\$342	2.3 (5)
0.75	240	64	1	16 (6 ⁵ / ₁₆)	MT-750/*	123	0.9 (2)	MT-750E2/*	342	2.3 (5)
1	120	85	1	16 (6 ⁵ / ₁₆)	MT-1000/*	130	0.9 (2)	MT-1000E2/*	349	2.3 (5)
1	240	85	1	16 (6 ⁵ / ₁₆)	MT-1000/*	130	0.9 (2)	MT-1000E2/*	349	2.3 (5)
1.25	120	83	1	20 (8 ¹ / ₁₆)	MT-1250/*	139	0.9 (2)	MT-1250E2/*	358	2.3 (5)
1.25	240	83	1	20 (8 ¹ / ₁₆)	MT-1250/*	139	0.9 (2)	MT-1250E2/*	358	2.3 (5)
1.5	120	86	1	23.5 (9 ³ / ₄)	MT-1500/*	147	0.9 (2)	MT-1500E2/*	366	2.3 (5)
1.5	240	86	1	23.5 (9 ³ / ₄)	MT-1500/*	147	0.9 (2)	MT-1500E2/*	366	2.3 (5)
2	120	83	1	31 (12 ³ / ₄)	MT-2000/*	165	0.9 (2)	MT-2000E2/*	384	2.3 (5)
2	240	83	1	31 (12 ³ / ₄)	MT-2000/*	165	0.9 (2)	MT-2000E2/*	384	2.3 (5)
2.5	120	79	1	41 (16 ³ / ₄)	MT-2500/*	184	0.9 (2)	MT-2500E2/*	402	2.3 (5)
2.5	240	79	1	41 (16 ³ / ₄)	MT-2500/*	184	0.9 (2)	MT-2500E2/*	402	2.3 (5)
3	120	78	1	50 (19 ⁷ / ₈)	MT-3000/*	202	1.4 (3)	MT-3000E2/*	420	2.7 (6)
3	240	78	1	50 (19 ⁷ / ₈)	MT-3000/*	202	1.4 (3)	MT-3000E2/*	420	2.7 (6)

* Designate voltage, i.e., "120" for 120 Vac or "240" for 240 Vac.

¹ Heaters with general purpose enclosures are UL Listed and CSA certified.

² Heaters with moisture-resistant/explosion-resistant enclosures are CSA NRTL/C certified and are not intended for use in hazardous areas.

Ordering Example: MT-750/240, 0.75 kW heater powered by 240 Vac, \$123.

SCREW PLUG IMMERSION HEATERS PROCESS WATER APPLICATIONS

MTS Series
Starts at

\$416



NRTL/C

- ✓ 1 NPT Stainless Steel Passivated Screw Plug
- ✓ Stainless Steel Passivated Elements
- ✓ High Watt Density (64 to 86 W/in²)
- ✓ 0.75 to 3 kW
- ✓ Without Thermostat
- ✓ 120 and 240V, 1 Phase
- ✓ General Purpose or Moisture-Resistant/Explosion-Resistant Terminal Enclosure

Note: This immersion heater should be used with an approved temperature control device to assure safe operation.

SPECIFICATIONS

Wattage: 0.75 to 3 kW

Power: 120 and 240V, 1 phase

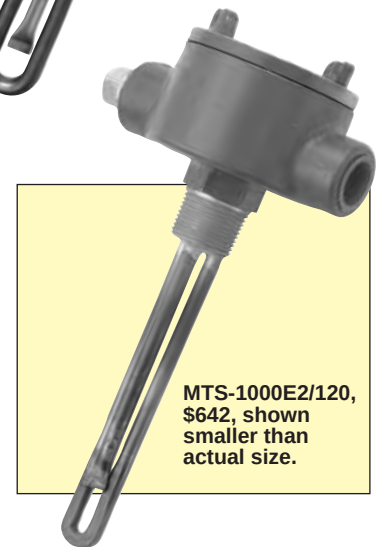
Watt Density: 64 to 86 W/in²

Screw Plug: 1 NPT stainless steel passivated screw plug

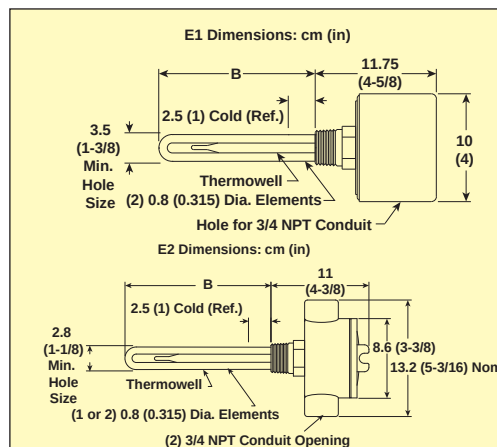
Enclosures: E1 general purpose, NEMA 1 (IP00) rated, or type E2 moisture-resistant/ explosion-resistant enclosure.²



MTS-1000/120, \$423, shown smaller than actual size.



MTS-1000E2/120, \$642, shown smaller than actual size.



MOST POPULAR MODELS HIGHLIGHTED!

To Order (Specify Model Number)

kW	Volts	W/in²	No. Htg. Elem.	E1 General Purpose Enclosure¹				E2 Moisture Resis/Explosion Resis.²		
				Dim. B cm (in)	Model No.	Price	Wt. kg (lb)	Model No.	Price	Wt. kg (lb)
0.75	120	64	1	16 (6 ¹ / ₁₆)	MTS-750/*	\$416	0.9 (2)	MTS-750E2/*	\$635	2.3 (5)
0.75	240	64	1	16 (6 ¹ / ₁₆)	MTS-750/*	416	0.9 (2)	MTS-750E2/*	635	2.3 (5)
1	120	85	1	16 (6 ¹ / ₁₆)	MTS-1000/*	423	0.9 (2)	MTS-1000E2/*	642	2.3 (5)
1	240	85	1	16 (6 ¹ / ₁₆)	MTS-1000/*	423	0.9 (2)	MTS-1000E2/*	642	2.3 (5)
1.25	120	83	1	20 (8 ¹ / ₁₆)	MTS-1250/*	432	0.9 (2)	MTS-1250E2/*	651	2.3 (5)
1.25	240	83	1	20 (8 ¹ / ₁₆)	MTS-1250/*	432	0.9 (2)	MTS-1250E2/*	651	2.3 (5)
1.5	120	86	1	23.5 (9 ¹ / ₄)	MTS-1500/*	441	0.9 (2)	MTS-1500E2/*	659	2.3 (5)
1.5	240	86	1	23.5 (9 ¹ / ₄)	MTS-1500/*	441	0.9 (2)	MTS-1500E2/*	659	2.3 (5)
2	120	83	1	31 (12 ¹ / ₄)	MTS-2000/*	459	0.9 (2)	MTS-2000E2/*	677	2.3 (5)
2	240	83	1	31 (12 ¹ / ₄)	MTS-2000/*	459	0.9 (2)	MTS-2000E2/*	677	2.3 (5)
2.5	120	79	1	41 (16 ¹ / ₄)	MTS-2500/*	477	0.9 (2)	MTS-2500E2/*	696	2.3 (5)
2.5	240	79	1	41 (16 ¹ / ₄)	MTS-2500/*	477	0.9 (2)	MTS-2500E2/*	696	2.3 (5)
3	120	78	1	50 (19 ¹ / ₈)	MTS-3000/*	495	1.4 (3)	MTS-3000E2/*	714	2.7 (6)
3	240	78	1	50 (19 ¹ / ₈)	MTS-3000/*	495	1.4 (3)	MTS-3000E2/*	714	2.7 (6)

* Designate voltage, i.e., "120" for 120 Vac or "240" for 240 Vac.

¹ Heaters with general purpose enclosures are UL listed and CSA certified.

² Heaters with moisture-resistant/explosion-resistant enclosures are CSA NRTL/C certified and are not intended for use in hazardous areas.

Ordering Example: MTS-750/240, 0.75 kW heater powered by 240 Vac, \$416.



SCREW PLUG IMMERSION HEATERS PROCESS WATER APPLICATIONS

MTS-1 Series
Starts at

\$453

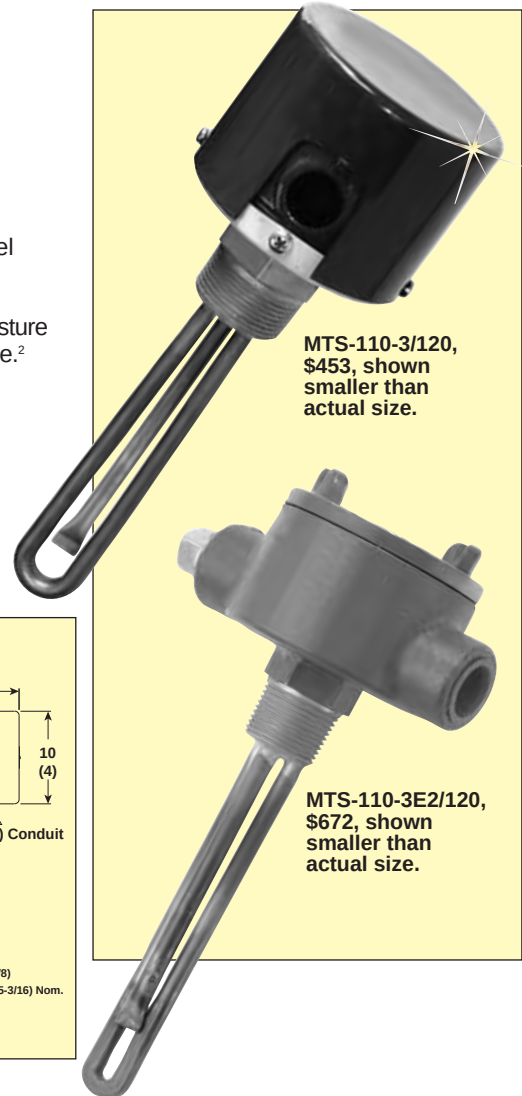
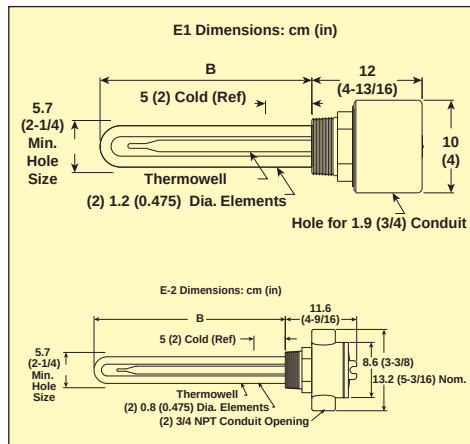


- ✓ 1½ NPT Stainless Steel Passivated Screw Plug
- ✓ Stainless Steel Passivated Elements
- ✓ High Watt Density (43 to 86 W/in²)
- ✓ 1 to 2 kW
- ✓ Without Thermostat
- ✓ 120 and 240V, 1 Phase
- ✓ General Purpose or Moisture-Resistant/Explosion-Resistant Terminal Enclosure

Note: This immersion heater should be used with an approved temperature control device to assure safe operation.

SPECIFICATIONS

Wattage: 1 to 2 kW
Power: 120 and 240V, 1 phase
Watt Density: 43 to 86 W/in²
Screw Plug: 1½ NPT stainless steel passivated screw plug
Enclosures: E1 general purpose, NEMA 1 (IP00) rated, or type E2 moisture resistant/explosion-resistant enclosure.²



MTS-110-3/120,
\$453, shown
smaller than
actual size.

MTS-110-3E2/120,
\$672, shown
smaller than
actual size.

MOST POPULAR MODEL HIGHLIGHTED!

To Order (Specify Model Number)

kW	Volts	W/in ²	No. Htg. Elem.	E1 General Purpose Enclosure ¹				E2 Moisture Resis/Explosion Resis. ²		
				Dim. B cm (in)	Model No.	Price	Wt. kg (lb)	Model No.	Price	Wt. kg (lb)
1	120	43	2	15.5 (6½)	MTS-110-3/*	\$453	0.9 (2)	MTS-110-3E2/*	672	2.3 (5)
1	240	43	2	15.5 (6½)	MTS-110-3/*	453	0.9 (2)	MTS-110-3E2/*	672	2.3 (5)
1.2	120	53	2	15.5 (6½)	MTS-112/*	459	0.9 (2)	MTS-112E2/*	677	2.3 (5)
1.2	240	53	2	15.5 (6½)	MTS-112/*	459	0.9 (2)	MTS-112E2/*	677	2.3 (5)
1.5	120	65	2	15.5 (6½)	MTS-115/*	467	0.9 (2)	MTS-115E2/*	686	2.3 (5)
1.5	240	65	2	15.5 (6½)	MTS-115/*	467	0.9 (2)	MTS-115E2/*	686	2.3 (5)
2	120	86	2	15.5 (6½)	MTS-120/*	482	0.9 (2)	MTS-120E2/*	700	2.3 (5)
2	240	86	2	15.5 (6½)	MTS-120/*	482	0.9 (2)	MTS-120E2/*	700	2.3 (5)

* Designate voltage, i.e., "120" for 120 Vac or "240" for 240 Vac.

¹ Heaters with general purpose enclosures are UL Listed and CSA certified.

² Heaters with moisture-resistant/explosion-resistant enclosures are CSA NRTL/C certified and are not intended for use in hazardous areas.

Ordering Example: MTS-120/240, 2 kW heater powered by 240 Vac, \$482.

SCREW PLUG IMMERSION HEATERS SOLUTION WATER APPLICATIONS

EMTI-3 Series
Starts at

\$637



- ✓ 2 NPT Stainless Steel Screw Plug
- ✓ Incoloy Sheath Elements
- ✓ High Watt Density (45 W/in²)
- ✓ 3 to 18 kW
- ✓ Without Thermostat
- ✓ 240 and 480V, 3 Phase
- ✓ General Purpose or Moisture-Resistant/
Explosion-Resistant Terminal Enclosure

SPECIFICATIONS

Wattage: 3 to 18 kW

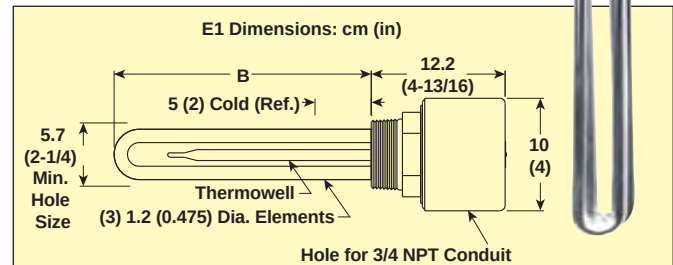
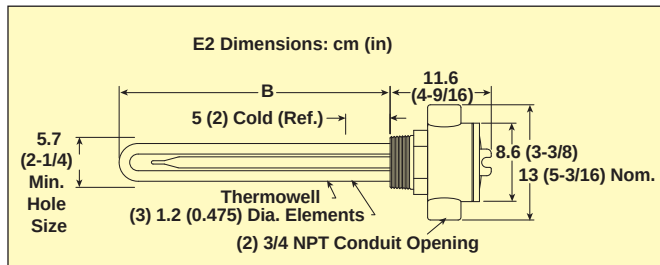
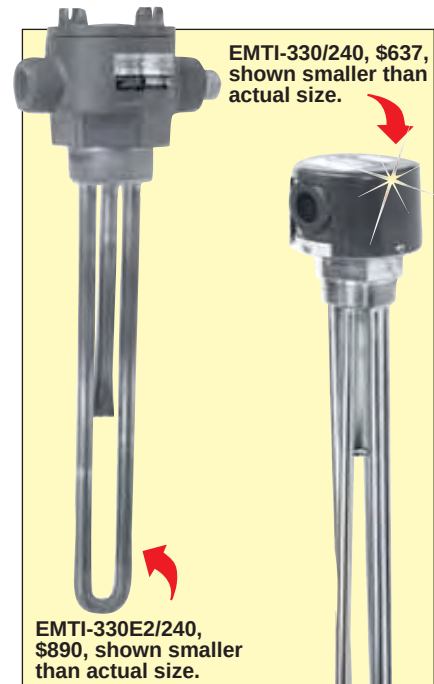
Power: 240 to 480V, 3 phase

Watt Density: 45 W/in²

Screw Plug: 2 NPT stainless steel

Enclosures: E1 general purpose, NEMA 1 (IP00) rated, or type E2 moisture-resistant/explosion-resistant enclosure.²

Note: This immersion heater should be used with an approved temperature control device to assure safe operation.



MOST POPULAR MODELS HIGHLIGHTED!

To Order (Specify Model Number)

kW	Volts	W/in ²	No. Htg. Elem.	E1 General Purpose Enclosure ¹				E2 Moisture Resis/Explosion Resis. ²		
				Dim. B cm (in)	Model No.	Price	Wt. kg (lb)	Model No.	Price	Wt. kg (lb)
3	240	45	3	19.7 (7¾)	EMTI-330/*	\$637	2.3 (5)	EMTI-330E2/*	\$890	3.6 (8)
3	480	45	3	19.7 (7¾)	EMTI-330/*	637	2.3 (5)	EMTI-330E2/*	890	3.6 (8)
6	240	45	3	45 (17¾)	EMTI-360/*	800	2.7 (6)	EMTI-360E2/*	1053	4.0 (9)
6	480	45	3	45 (17¾)	EMTI-360/*	800	2.7 (6)	EMTI-360E2/*	1053	4.0 (9)
9	240	45	3	63 (24¾)	EMTI-390/*	963	3.2 (7)	EMTI-390E2/*	1216	4.5 (10)
9	480	45	3	63 (24¾)	EMTI-390/*	963	3.2 (7)	EMTI-390E2/*	1216	4.5 (10)
12	240	45	3	82 (32¼)	EMTI-3120/*	1126	4.0 (9)	EMTI-3120E2/*	1379	5.4 (12)
12	480	45	3	82 (32¼)	EMTI-3120/*	1126	4.0 (9)	EMTI-3120E2/*	1379	5.4 (12)
15	240	45	3	103 (40¾)	EMTI-3150/*	1289	4.5 (10)	EMTI-3150E2/*	1543	6.0 (13)
15	480	45	3	103 (40¾)	EMTI-3150/*	1289	4.5 (10)	EMTI-3150E2/*	1543	6.0 (13)
18	240	45	3	122 (47¾)	EMTI-3180/*	1452	5.4 (12)	EMTI-3180E2/*	1706	6.8 (15)
18	480	45	3	122 (47¾)	EMTI-3180/*	1452	5.4 (12)	EMTI-3180E2/*	1706	6.8 (15)

* Designate voltage, i.e., "240" for 240 Vac or "480" for 480 Vac.

¹ Heaters with general purpose enclosures are UL listed and CSA certified.

² Heaters with moisture-resistant/explosion-resistant enclosures are CSA NRTL/C certified and are not intended for use in hazardous areas.

Ordering Example: EMTI-330/480, 3 kW heater powered by 480 Vac, \$637.



SCREW PLUG IMMERSION HEATERS MEDIUM WEIGHT OIL APPLICATIONS

EMTO-3 Series
Starts at

\$500



- ✓ 2 NPT Stainless Steel Screw Plug
- ✓ Steel Sheath Elements
- ✓ Watt Density: 15 W/in²
- ✓ 3 to 9 kW
- ✓ Without Thermostat
- ✓ 240 and 480V, 3 Phase
- ✓ General Purpose or Moisture-Resistant/Explosion-Resistant Terminal Enclosure

Note: This immersion heater should be used with an approved temperature control device to ensure safe operation. See Section P for our selection of process controllers.

SPECIFICATIONS

Wattage: 3 to 9 kW

Power: 240 to 480V, 3-phase

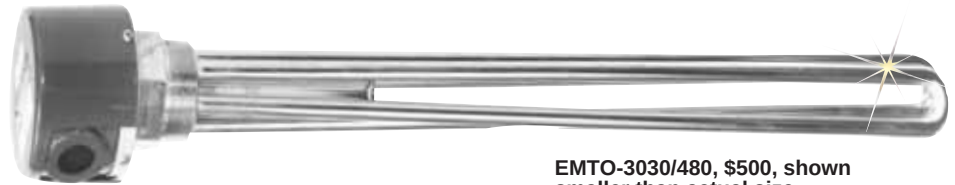
Watt Density: 15 W/in²

Screw Plug:

2 NPT stainless steel

Enclosures: E1 general purpose¹,

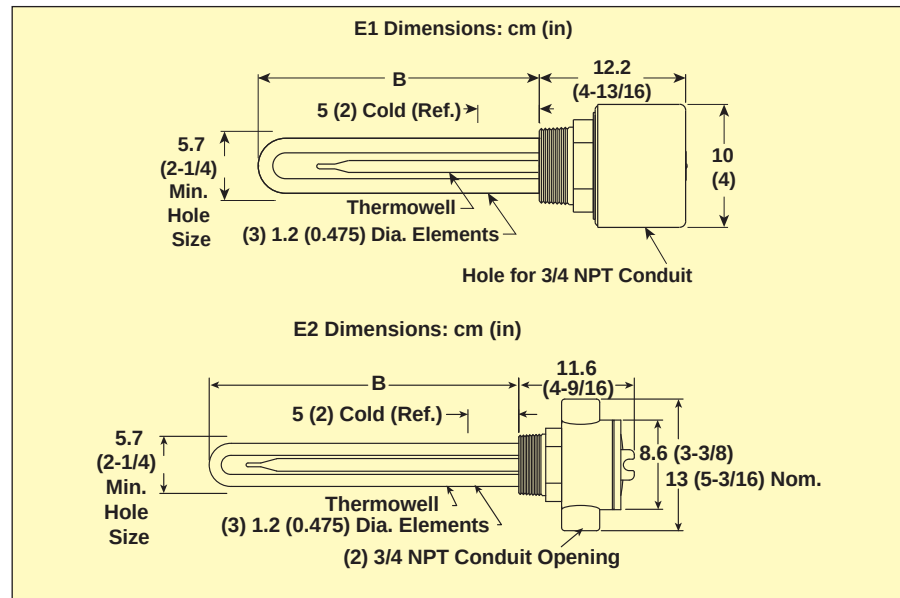
NEMA 1 (IP00) rated, or type E2 moisture-resistant/explosion-resistant enclosure.²



EMTO-3030/480, \$500, shown smaller than actual size.



EMTO-3030E2/480, \$753, shown smaller than actual size.



ALL MODELS AVAILABLE FOR FAST DELIVERY!

To Order (Specify Model Number)

kW	W/in ²	No. Htg. Elem.	E1 General Purpose Enclosure ¹				E2 Moisture/Explosion-Resis. Encl. ²		
			Dim. B cm (in)	Model No.	Price	Wt. kg (lb)	Model No.	Price	Wt. kg (lb)
3	15	3	63 (24 ³ / ₈)	EMTO-3030/*	\$500	3.2 (7)	EMTO-3030E2/*	\$753	4.5 (10)
4	15	3	82 (32 ¹ / ₂)	EMTO-3040/*	659	4.0 (9)	EMTO-3040E2/*	912	5.4 (12)
5	15	3	103 (40 ³ / ₈)	EMTO-3050/*	818	4.5 (10)	EMTO-3050E2/*	1072	6.0 (13)
6	15	3	122 (47 ¹ / ₈)	EMTO-3060/*	977	5.4 (12)	EMTO-3060E2/*	1231	6.8 (15)
9	15	3	172 (67 ³ / ₈)	EMTO-3090/*	1455	6.4 (14)	EMTO-3090E2/*	1708	7.7 (17)

* Designate voltage: insert "240" for 240 Vac or "480" for 480 Vac.

¹ Heaters with general purpose enclosures are UL listed and CSA certified.

² Heaters with moisture-resistant/explosion-resistant enclosures are CSA NRTL/C certified and are not intended for use in hazardous areas.

Ordering Example: EMTO-3030/480, 3 kW heater powered by 480 Vac, \$500.



CL540
Starts at
\$425

Thermocouple
Simulators



CL1000 Series
Starts at
\$990

Mini hot point®
Dry Block Probe Calibrator



CL309A
\$649

Milliamp Loop Calibrator

**Please search omega.com
for more details on these
featured products!**



FIELD ADJUSTABLE SCREW PLUG IMMERSION HEATER/CLEAN WATER AND OIL APPLICATIONS

VTS Series
Starts at

\$855

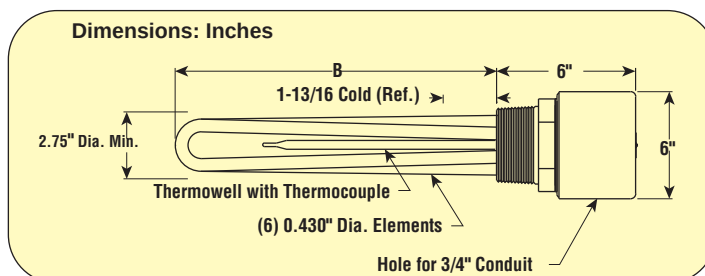


VTS-3240/240, \$855,
shown smaller than
actual size.



- ✓ 2½ NPT Steel Screw Plug
- ✓ Incoloy® Sheath Elements
- ✓ Field Adjustable kW and Voltage Ratings
- ✓ Integral Type J Thermocouple
- ✓ General Purpose Terminal Enclosure
- ✓ Process Temperature up to 148°C (300°F)

OMEGALUX® field adjustable screw plug immersion heaters can be applied to a variety of clean water and oil applications. The unique versatility of this design allows field adjustment of the rating by simple connections to the six elements of the heater. This simplifies selection and spare parts since each heater may be used in several different heating applications. See the application matrix for the many kW values available with different wiring styles and voltages.



SPECIFICATIONS

Wattage:

Water: 0.5 to 40 kW

Oil: 0.5 to 10 kW

Watt Density:

Water: 2 to 80 W/In²

Oil: 2 to 23 W/In²

Power:

1 Phase: 120, 208, 240 and 480V

3 Phase: 208, 240 and 480V

Sheath: 0.430" diameter Incoloy

Screw Plug: 2½" Steel

Enclosure: General purpose, NEMA 1 rated enclosure can be rotated 360° to match conduit connections

MOST POPULAR MODELS HIGHLIGHTED!

To Order (Specify Model Number)

Max kW	Max Volts	Dim (In) B	Model No.	Price	Weight kg (lb)
See Applications Matrix on next page for rating		20⅜	VTS-3180/240	\$855	5.5 (12)
		20⅜	VTS-3180/480	855	5.5 (12)
		30⅝	VTS-3200/240	1086	7 (15)
		20⅜	VTS-3240/240	855	5.5 (12)
		20⅜	VTS-3240/480	855	5.5 (12)
		30⅝	VTS-3400/480	1086	7 (15)

Note: 240 and 480 in model number indicates max voltage rating. Other voltages can be used. See application matrix for details.

Ordering Example: VTS-3240/240 is a field adjustable heater with 240 Vac maximum, \$855.

Selection Example: Light oil heating application, 2.75 kW 240V 3-phase capacity

1. Select oil application matrix
2. Locate 2.75 kW on chart. Use 3 kW as next higher rating. Confirm that 20 w/sq. in. is suitable for light oil.
3. Find column with 240 Volt 3-phase power
4. Intersection of row and column is model number VTS-3240/480. Confirm 3-phase and single-phase available. Note there is spare capacity for back up or for future increase in requirements.
5. Locate model number **VTS-3240/480** in the "To Order" table for price. When received, this heater will have instructions on wiring for the required rating. Contact Omega's Application Engineers with any questions.

Application Matrix—Oil

 **MOST POPULAR MODELS HIGHLIGHTED!**

Model No.					
kW	W/In ²	120 Volts 1 phase	208 Volts 1 or 3 phase	240 Volts 1 or 3 phase	480 Volts 1 or 3 phase
0.50	2			VTS-3240/480	
0.75	5	VTS-3240/480*	VTS-3240/480*		
1.50	5	VTS-3240/480	VTS-3240/480	VTS-3240/480	VTS-3180/480
2.25	15		VTS-3240/480*	VTS-3180/480*	
2.50	6	VTS-3400/480	VTS-3400/480	VTS-3400/480	
3.00	20	VTS-3240/240*	VTS-3240/240*	VTS-3240/480*	
4.50	15	VTS-3180/240	VTS-3240/480	VTS-3180/480	VTS-3180/480
5.00	11	VTS-3200/240	VTS-3200/240	VTS-3200/240	
6.00	20	VTS-3240/240	VTS-3240/240	VTS-3240/480	VTS-3240/480
10.00	21			VTS-3400/480	VTS-3400/480

Application Matrix—Water

Model No.					
kW	W/In ²	120 Volts 1 phase	208 Volts 1 or 3 phase	240 Volts 1 or 3 phase	480 Volts 1 or 3 phase
0.50	2			VTS-3240/480	
0.75	5	VTS-3240/480*	VTS-3240/480*		
1.50	5	VTS-3240/480	VTS-3240/480	VTS-3240/480	VTS-3180/480
2.25	15		VTS-3240/480*	VTS-3180/480*	
2.50	6	VTS-3400/480	VTS-3400/480	VTS-3400/480	
3.00	20	VTS-3240/240*	VTS-3240/240*	VTS-3240/480*	
4.50	15	VTS-3180/240	VTS-3240/480	VTS-3180/480	VTS-3180/480
5.00	11	VTS-3200/240	VTS-3200/240	VTS-3200/240	
6.00	20	VTS-3240/240	VTS-3240/240	VTS-3240/480	VTS-3240/480
9.00	59			VTS-3180/240*	VTS-3180/480*
10.00	21			VTS-3400/480	VTS-3400/480
12.00	78			VTS-3240/240*	VTS-3240/480*
18.00	59			VTS-3180/240	VTS-3180/480
20.00	80			VTS-3200/240	VTS-3400/480*
24.00	78			VTS-3240/240	VTS-3240/480
40.00	80				VTS-3400/480

Note: Shaded items are 3 phase only

*Items have 100% spare capacity

Ordering Example: VTS-3180/480, field adjustable heater with 480 Vac maximum



SCREW PLUG IMMERSION HEATERS

EMH Series
Starts at
\$51



- ✓ ½, ¾, and 1¼ NPT Screw Plugs
- ✓ 316 SS Sheath
- ✓ 400 to 1000 W
- ✓ 120 and 240V, 1-Phase
- ✓ Single Thread Pipe Construction

SPECIFICATIONS

Power: 120 and 240V, 1-phase

Watt Density:

½" Diameter: 37 W/in²

¾" Diameter: 38 W/in²

1¼" Diameter: 24 W/in²

Termination:

½, ¾" Diameter: 12" fiberglass leads rated to 250°C (482°F), epoxy potting rated to 130°C (266°F)

1¼" Diameter: 8-32 screw and nut terminals

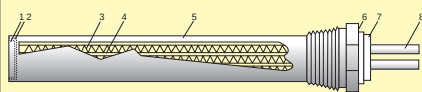
Sheath: 316 SS

Screw Plug and Threads: 316 SS

TOLERANCES

Wattage tolerances are held to 5 to 10% at rated voltage.

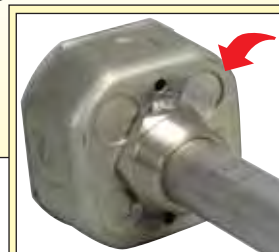
Length tolerances are ±2% with a ±⅛" minimum



CONSTRUCTION

1. Welded end
2. Mica
3. Magnesium oxide packing
4. Element wire situated close to outside surface for maximum heat transfer and minimum internal temperature while preserving good dielectric qualities
5. Series 316 SS sheath
6. Mounting bushing
7. Ceramic cap
8. Flexible, stranded, nickel-alloy insulated leads or rust-resistant post terminals

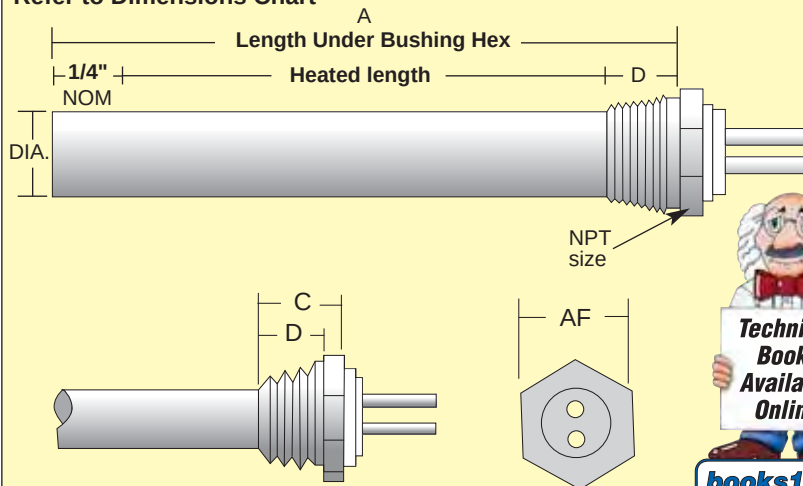
EMH-061-120V, \$63,
shown smaller than
actual size.



All models over
1¼" diameter
come standard
with box.

EMH-110-240V,
\$117, shown
smaller than
actual size.

Refer to Dimensions Chart



ALL MODELS AVAILABLE FOR FAST DELIVERY!

To Order (Specify Model Number)

Model No.	Price	Description	Watts*	Dimensions (in)			
				A	C	D	AF
EMH-060-120V	\$51	½" diameter, ½ NPT	400	6	¾	⅞	⅞
EMH-060-240V	51	½" diameter, ½ NPT	400	6	¾	⅞	⅞
EMH-061-120V	63	¾" diameter, ¾ NPT	500	6	⅞	⅞	1⅞
EMH-061-240V	63	¾" diameter, ¾ NPT	500	6	⅞	⅞	1⅞
EMH-110-120V	128	1¼" diameter, 1¼ NPT	1000	11	1⅞	⅞	3
EMH-110-240V	117	1¼" diameter, 1¼ NPT	1000	11	1⅞	⅞	3

*Wattages are based on a unit operating immersed in water.

Accessories

Model No.	Price	Description
PE-1010	\$94	Reference Book: Engineering Design Process

Comes with complete operator's manual.

Ordering Example: EMH-060-120V, ½" diameter, ½ NPT, \$51.



RUBE GOLDBERG

Rube Goldberg (rōob göld'berg), n. a comically involved, complicated invention, laboriously contrived to perform a simple operation — Webster's New World Dictionary

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SCREW PLUG IMMERSION HEATERS

For Small Tanks

RIN Series
Starts at

\$166



- ✓ ½ and ¾ NPT Brass or Steel Screw Plugs
- ✓ 100 to 1000 Watts
- ✓ 120 and 240V, 1 Phase
- ✓ Dual Pipe Thread Construction
- ✓ Premium Grade Incoloy or Stainless Steel Sheath

These screw plug immersion heaters feature dual pipe thread construction which allows easy installation into your process and quick connection of electrical conduit.

SPECIFICATIONS

Wattage: 100 to 1000 Watt

Power: 120, or 240V, 1 phase

Watt Density: 17-40 W/in²

Sheath:

Type RIN: 5/8" or 3/4" diameter Incoloy sheath

Type RINO: 5/8" or 3/4" diameter stainless steel sheath

Screw Plug:

Type RIN 1/2" or 3/4" NPT brass fitting.

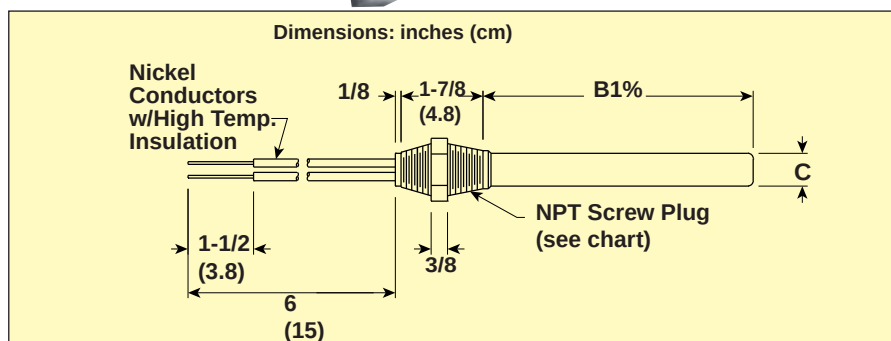
Type RINO 1/2" or 3/4" NPT steel fitting.

CAUTION AND WARNING!

Fire and electrical shock may result if products are used improperly or installed or used by non-qualified personnel. See inside back cover for additional warning.



RIN-150/120, \$213, shown smaller than actual size



MOST POPULAR MODELS HIGHLIGHTED!

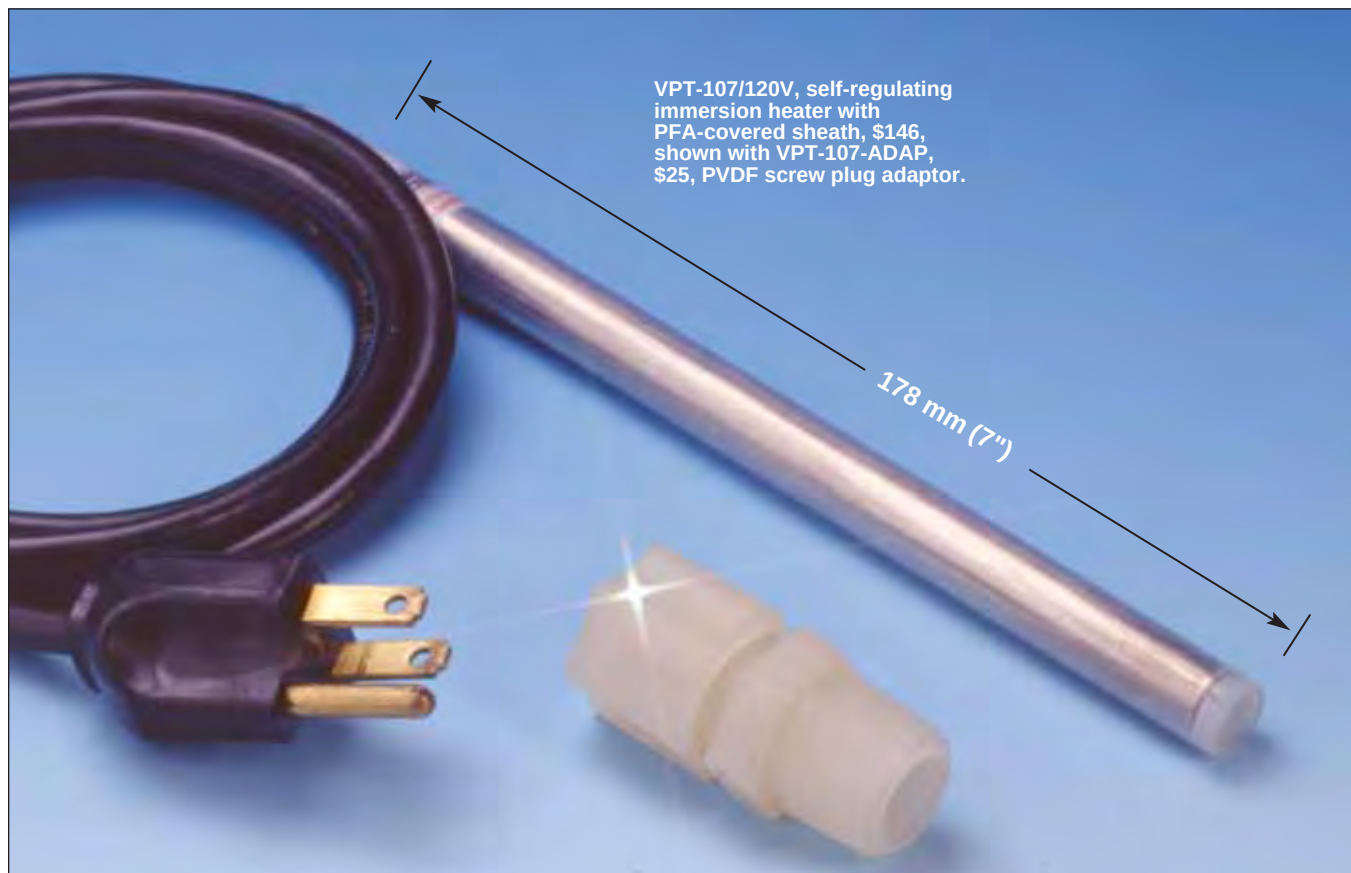
To Order (Specify Model Number)

Watts	Volts	Phase	W/in²	Dimensions In. (cm)		Pipe Thd.	Model No.	Price	Wt. lb (kg)
				B	C				
RIN series with Incoloy sheath—brass screw plug									
100	120	1	30	1¾(1)	¾(2)	½	RIN-10/120	\$166	3 (1)
250	120	1	35	3¾(10)	¾(2)	½	RIN-25/120	172	4.5 (2)
250	240	1	35	3¾(10)	¾(2)	½	RIN-25/120	172	4.5 (2)
500	120	1	40	8 (20)	¾(2)	½	RIN-50/120	195	10 (5)
500	240	1	40	8 (20)	¾(2)	½	RIN-50/240	195	10(5)
750	120	1	40	12 (30)	¾(2)	½	RIN-75/120	213	14 (6)
750	240	1	40	12 (30)	¾(2)	½	RIN-75/240	213	14(6)
300	120	1	25	5 (13)	¾(2)	¾	RIN-130/120	192	8 (3)
300	240	1	25	5 (13)	¾(2)	¾	RIN-130/240	192	8 (3)
500	120	1	30	6½(17)	¾(2)	¾	RIN-150/120	213	9 (4)
500	240	1	30	6½(17)	¾(2)	¾	RIN-150/240	213	9 (4)
750	120	1	30	10¾(27)	¾(2)	¾	RIN-175/120	246	13 (6)
750	240	1	30	10¾(27)	¾(2)	¾	RIN-175/240	246	13 (6)
1000	120	1	30	13¾(35)	¾(2)	¾	RIN-1100/120	280	15 (7)
1000	240	1	30	13¾(35)	¾(2)	¾	RIN-1100/240	280	15 (7)
RINO Series with stainless steel sheath — Steel screw plug									
150	120	1	20	3¾(10)	¾(2)	½	RINO-15/120	187	4 (2)
150	240	1	20	3¾(10)	¾(2)	½	RINO-15/240	188	4 (2)
300	120	1	25	8 (20)	¾(2)	½	RINO-30/120	197	10 (5)
300	240	1	25	8 (20)	¾(2)	½	RINO-30/240	197	10 (5)
500	120	1	25	12 (30)	¾(2)	½	RINO-50/120	231	14 (6)
500	240	1	25	12 (30)	¾(2)	½	RINO-50/240	231	14 (6)
200	120	1	17	5 (13)	¾(2)	¾	RINO-120/120	223	8 (3)
200	240	1	17	5 (13)	¾(2)	¾	RINO-120/240	223	8 (3)
300	120	1	18	6½(17)	¾(2)	¾	RINO-130/120	234	9 (4)
300	240	1	18	6½(17)	¾(2)	¾	RINO-130/240	234	9 (4)
500	120	1	20	10¾(27)	¾(2)	¾	RINO-150/120	253	13 (6)
500	240	1	20	10¾(27)	¾(2)	¾	RINO-150/240	253	13 (6)
600	120	1	18	13¾(35)	¾(2)	¾	RINO-160/120	277	15 (7)
600	240	1	18	13¾(35)	¾(2)	¾	RINO-160/240	277	15 (7)

Ordering Example: RIN-10/120 is a 100 Watt, 120V screw plug immersion heater, \$166.

SELF-REGULATING IMMERSION HEATERS

**With Stainless Steel or PFA-Covered
Stainless Steel Sheaths**



VP Series
Starts at

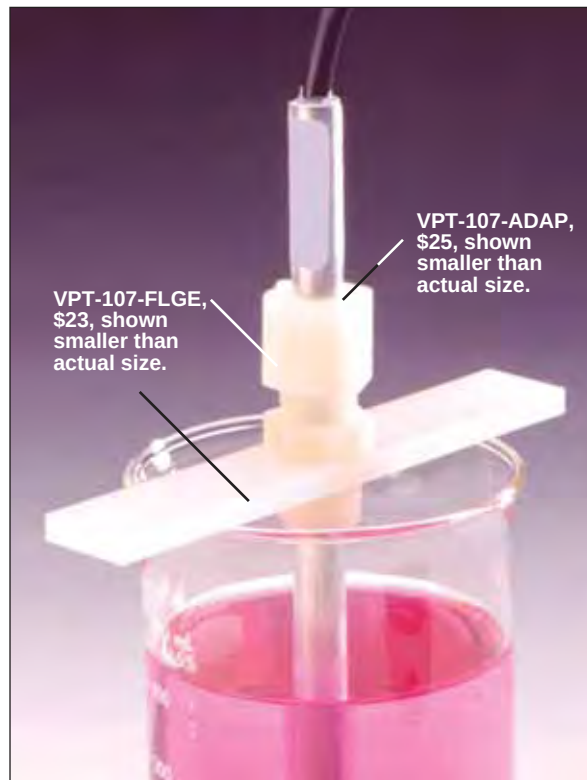
\$118



VP and VPT Series

- ✓ Self-Regulating, Fully Grounded
- ✓ Stainless Steel- or PFA-Covered Stainless Steel Sheaths
- ✓ Solid State Heating Element, Temperatures Up to 100°C (212°F)
- ✓ Auto-Stabilized Temperature Ensures Uniform Heating
- ✓ Lightweight, Easy to Handle, Rapid Heating

The OMEGA® VP and VPT Series self-regulating, fully grounded immersion heaters are ideal for insertion into small tanks, vessels, and appliances as well as into compressors, oils, fluids, and plating cells. Available in stainless steel or a PFA sheath for corrosive environments, both models are shatterproof; are grounded with a 3-wire, 1.2 m (4') long power cord; and have a solid state heating element. Best suited for applications in which heating, excess temperature-protection controls, and regulating components must be fitted in a small space, these heaters are lightweight, easy-to-handle, rapid-heating [maximum surface temperature is 100°C (212°F)] units designed not to overheat. Auto-stabilized temperature prevents hot spots, thereby ensuring uniform heating. Accessories include a ½ NPT PVDF screw plug adapter that holds the heater securely in place, and a polypropylene mounting flange that permits vertical suspension of the heater into small vessels.



Polypropylene mounting flange allows vertical suspension

MOST POPULAR MODELS HIGHLIGHTED!

SPECIFICATIONS

Wattage:

VP-107, VPT-107: 100
VP-311, VPT-311: 300

Voltage:

120 or 240 Vac

Power Leads:

VP-107, VPT-107: 1.2 m (4') power cord with 3-prong plug (no plug on 240V models);
VP-311, VPT-311: 0.9 m (3') flexible conduit and fitting with 3-conductor leads

Sheath Length:

VP-107, VPT-107: 179 mm (7")
VP-311, VPT-311: 279 mm (11")

Heated Length:

VP-107, VPT-107: last 76 mm (3")
VP-311, VPT-311: last 152 mm (6")

Diameter:

VP Series: 11 mm ($\frac{7}{16}$ ")
VPT Series: 13 mm ($\frac{1}{2}$ ")

Shipping Weight:

Approx. 453 g (1 lb)



To Order (Specify Model Number)

Single-Element Heater		
Model No.	Description	Price
VP-107/*	100 W stainless steel sheath immersion heater	\$118
VP-107-ADAP	$\frac{1}{2}$ NPT PVDF screw plug adaptor for VP-107/* immersion heater	25
VPT-107/*	100 W stainless steel sheath immersion heater with PFA covering	146
VPT-107-ADAP	$\frac{1}{2}$ NPT PVDF screw plug adaptor for VPT-107/* immersion heater	25
VPT-107-FLGE	Polypropylene mounting flange (used with VP-107-ADAP or VPT-107-ADAP)	23
Dual-Element Over-the-Side Small Tank Heater		
VP-311/*	300 W stainless steel sheath immersion heater	\$368
VPT-311/*	300 W stainless steel sheath immersion heater with PFA covering	390

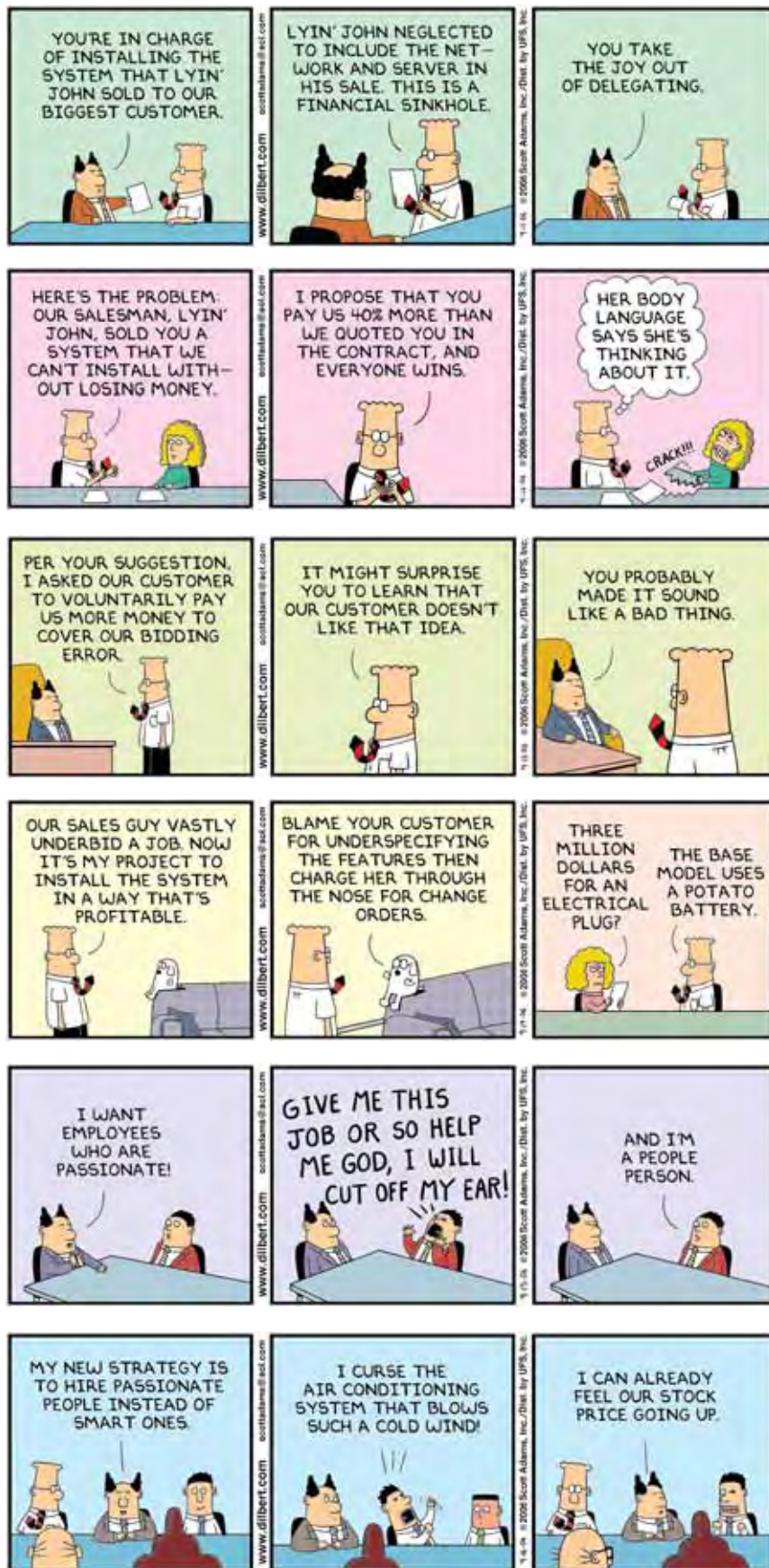
* Designate voltage (i.e., insert "120V" for 120 Vac or "240V" for 240 Vac).

Ordering Example: VPT-107/120V, 120 Vac, 100 W, PFA-covered immersion heater, \$146.

Accessory

Model No.	Price	Description
GE-1401	\$80	Reference Book: Instrumentation Process Measurement





SA1XL
Starts at
\$80
5-Pack

The "All-in-One"
Surface
Thermocouple



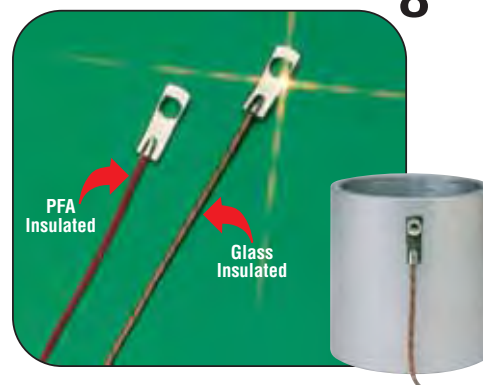
SA-2 Series
Starts at
\$30



Self-Adhesive
Thermocouples
Molded Silicone
Design for Curved
and Flat Surfaces

WT Series
Starts at
\$8

Bolt-On Washer
Thermocouple Assemblies



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PORTABLE TANK HEATER

CH-OTS Series
Starts at

\$678

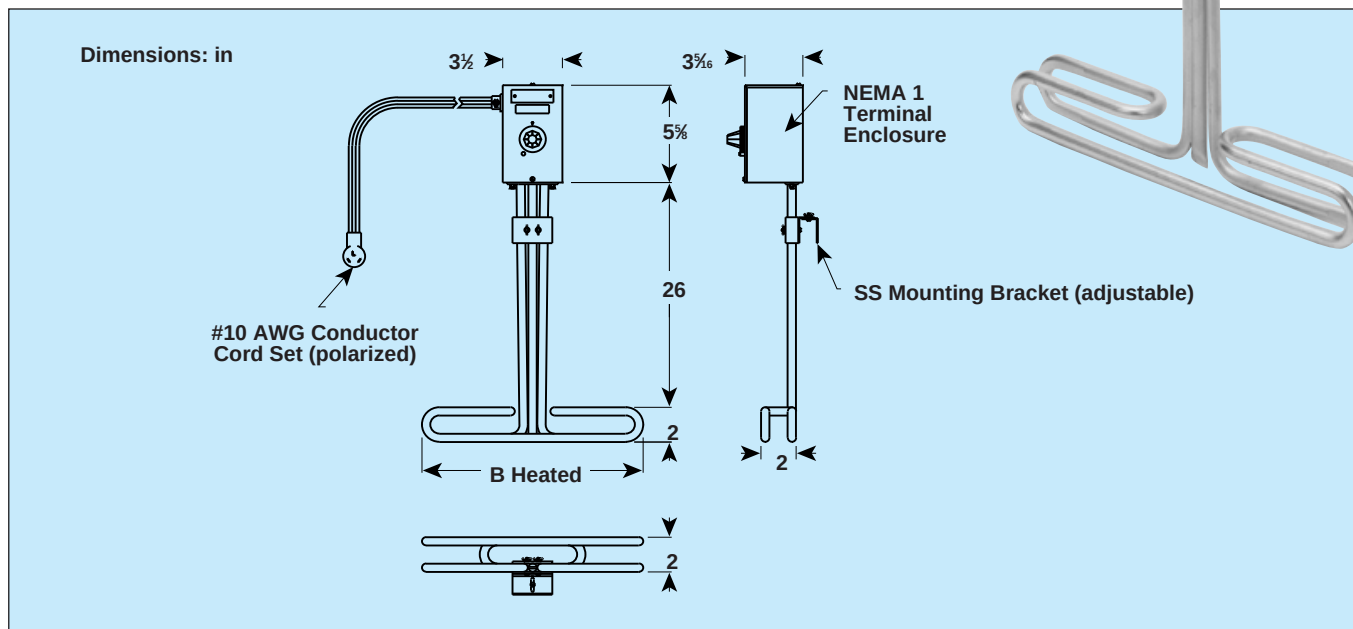


- ✓ Copper Sheath Nickel Plated Elements
- ✓ High Watt Density (49 - 58 W/in²)
- ✓ 4 and 6 kW
- ✓ 208 and 240 Volt, Single Phase

FEATURES

- ✓ 26" Riser (Unheated Section)
- ✓ Integral Control (60 - 250°F)
- ✓ Manual Reset Cutout (Set @ 50°F Above Temperature Setpoint)
- ✓ Built-in Pilot Light
- ✓ 36" Long Cord with 10 - 30P Plug

CH-OTS-404/240V, \$678, shown smaller than actual size.



MOST POPULAR MODEL HIGHLIGHTED!

To Order (Specify Model Number)

kW	Volts	W/in ²	Phase	DIM B (In.)	Copper		Wt. (Lb.)
					Model No.	Price	
4	240	49	1	14	CH-OTS-404/240V	\$678	10
6	208	58	1	17	CH-OTS-608/208V	678	10
6	240	58	1	17	CH-OTS-604/240V	678	10

Ordering Example: CH-OTS-608/208V, is a 208V, 6 kW, 1 Phase Portable Tank Heater, \$678.

HEAVY DUTY OVER-THE-SIDE IMMERSION HEATERS

TL and KTL Series
Starts at

\$166



FEATURES

- ✓ Copper Sheath and Riser (40 W/In²)
- ✓ Steel Sheath and Riser (20 W/In²)
- ✓ Stainless Steel Sheath and Riser (40 W/In²)
- ✓ Incoloy Sheath and Riser (40 W/In²)
- ✓ 36 and 48" Riser Heights
- ✓ Moisture Resistant Terminal Enclosure
- ✓ Thermowell
- ✓ 4" Sludge Legs
Increases A dimension
3½" Keeping Heated
Section off Bottom
of Tank

TLC & KTLC Series: Copper sheath heating elements for clean water.

TLS & KTLS Series: Stainless steel sheath heating elements for mild corrosive solutions.

TLI & KTLI Series: Incoloy sheath heating elements for corrosive fluids.

TLO & KTLO Series: Steel sheath heating elements for medium weight oils.

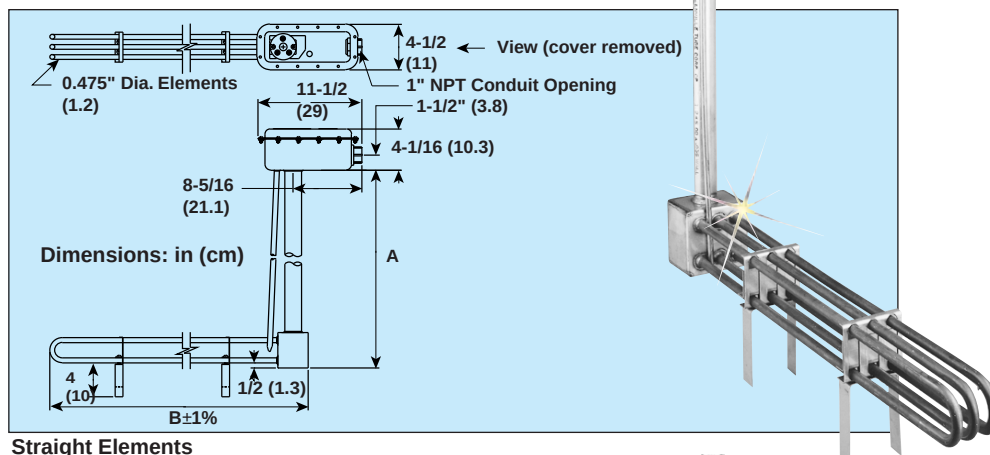
OPTIONAL THERMOSTAT KITS

AR-115-KIT-4 0-100°F \$166

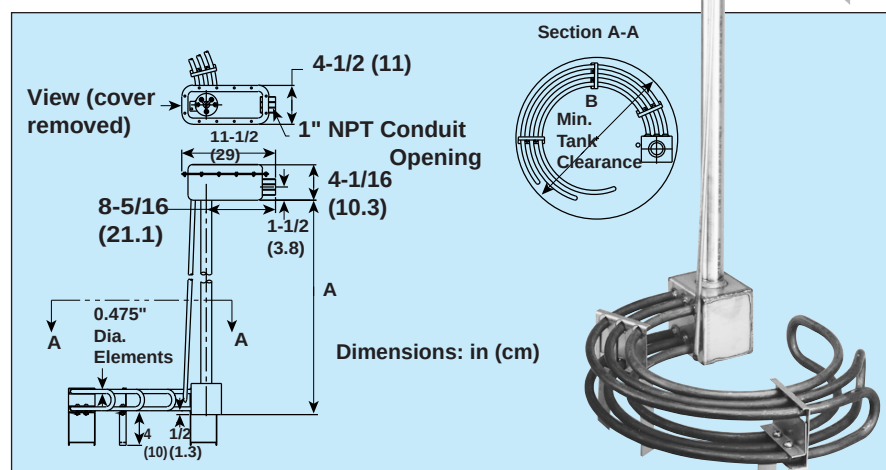
AR-219-KIT-4 60-250°F 166

AR-519-KIT-4* 200-550°F 166

* Note: Not UL Listed or CSA Certified with 200-550°F Thermostat Kit.



Straight Elements



Circular Elements

Optional Thermostat Kits:

Containing OMEGALUX® AR-type thermostat and mounting hardware are available to fit in heater terminal box.

Lightweight, portable, easy to install L-shape construction, puts the heat at the bottom of the tank and the terminal enclosure at the top of the tank. These heaters are convenient answers for many immersion. Heating applications capacities, dimensions and sheaths fit a wide range of heating applications. Easy to install and remove for cleaning with straight or circular element designs to fit many tank configurations.

Construction: All wetted parts of these immersions heaters are made of the same metal or alloy for optimum corrosion resistance.

All gasketed terminal boxes are steel, coated with acid resistant paint finish.

Corrosion Resistance: Wide choice of sheath materials should provide corrosion resistance in heating liquids. Check chemical composition of solution before selecting sheath material.

Sludge legs, or compatible metals, keep heated section off bottom of vessel, 4" standard height. Included with each heater (increases A Dimension by 3½"). Sludge legs are standard on all heaters.

Caution: Contact OMEGALUX® when bath temperatures exceed 400°F in any given application.

OVER-THE-SIDE IMMERSION HEATERS FOR CLEAN WATER APPLICATIONS

TLC and KTLC Series
Starts at

\$873



- ✓ Copper Sheath Heating Elements
- ✓ Monel Riser and Junction Box
- ✓ 120, 240, 480V, 1 and 3 Phase
- ✓ 2 to 18 kW
- ✓ Optional Thermostat Kits are Available to Fit into Terminal Box

FEATURES

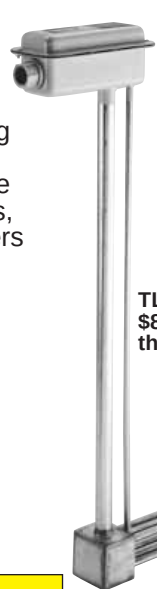
These heaters are lightweight and portable and provide convenient solutions to many heating applications. TLC Series heaters have two or three straight heating elements, while KTLC Series heaters have two or three curved heating elements.

APPLICATIONS

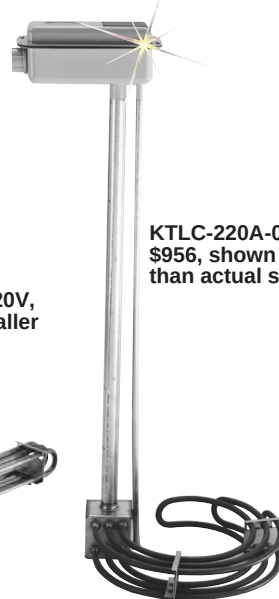
For clean water heating applications (pH 6 to 8).

SPECIFICATIONS

Wattage: 2 to 18 kW
Power: 120, 240, 480V, 1 and 3 phase
Watt Density: 40W/in²



TLC-220A-036/120V, \$873, shown smaller than actual size.



KTLC-220A-036/120V, \$956, shown smaller than actual size.

CAUTION AND WARNING!

Fire and electrical shock may result if products are used improperly or installed or used by non-qualified personnel. See inside back cover for additional warnings.

MOST POPULAR MODELS HIGHLIGHTED!

To Order (Specify Model Number)

kW	Riser (A) in (cm)	Straight Elements			Curved Elements			Wt. lb (kg)
		Min. Tank Clearance (B)—in (cm)	Model No.	Price	Min. Tank Clearance (B)—in (cm)	Model No.	Price	
Two Elements — Copper, 40 W/in. ²								
2	36 (91)	12¾ (31)	TLC-220A-036/120	\$873	10 ⁵ / ₈ (27)	KTLC-220A-036/120	\$956	7 (3)
2	36 (91)	12¾ (31)	TLC-220A-036/*	873	10 ⁵ / ₈ (27)	KTLC-220A-036/*	956	7 (3)
4	36 (91)	22¾ (57)	TLC-240A-036/120	1000	13¾ (35)	KTLC-240A-036/120	1092	9 (4)
4	36 (91)	22¾ (57)	TLC-240A-036/*	1000	13¾ (35)	KTLC-240A-036/*	1092	9 (4)
6	36 (91)	29½ (75)	TLC-260A-036/*	1059	16 ¹ / ₂ (41)	KTLC-260A-036/*	1160	9 (4)
6	48 (121)	29½ (75)	TLC-260TI-048/240	1059	—	—		11 (5)
8	36 (91)	37 ³ / ₈ (95)	TLC-280A-036/*	1139	18 ⁵ / ₈ (47)	KTLC-280A-036/*	1251	11 (5)
10	48 (121)	45 (103)	TLC-210A-048/*	1212	21¼ (54)	KTLC-210A-048/*	1331	14 (6)
12	48 (121)	52½ (133)	TLC-212A-048/*	1288	23½ (59)	KTLC-212A-048/*	1481	16 (7)
Three Elements — Copper, 40 W/in ²								
3	36 (91)	12¾ (31)	TLC-330A-036/120	988	10 ⁵ / ₈ (27)	KTLC-330A-036/120	1082	12 (5)
3	36 (91)	12¾ (31)	TLC-330A-036/240/**	988	10 ⁵ / ₈ (27)	KTLC-330A-036/240/**	1082	12 (5)
3	36 (91)	12¾ (31)	TLC-330A-036/480/**	988	10 ⁵ / ₈ (27)	KTLC-330A-036/480/**	1082	12 (5)
6	36 (91)	22¾ (57)	TLC-360A-036/120	1111	13¾ (35)	KTLC-360A-036/120	1219	12 (5)
6	36 (91)	22¾ (57)	TLC-360A-036/240/**	1111	13¾ (35)	KTLC-360A-036/240/**	1219	12 (5)
6	36 (91)	22¾ (57)	TLC-360A-036/480/**	1111	13¾ (35)	KTLC-360A-036/480/**	1219	12 (5)
9	36 (91)	29½ (75)	TLC-390A-036/240/**	1181	16 ¹ / ₂ (41)	KTLC-390A-036/240/**	1298	13 (6)
9	36 (91)	29½ (75)	TLC-390A-036/480/**	1181	16 ¹ / ₂ (41)	KTLC-390A-036/480/**	1298	13 (6)
12	48 (121)	37 ³ / ₈ (95)	TLC-312A-048/240/**	1269	18 ⁵ / ₈ (47)	KTLC-312A-048/240/**	1389	16 (8)
12	48 (121)	37 ³ / ₈ (95)	TLC-312A-048/480/**	1269	18 ⁵ / ₈ (47)	KTLC-312A-048/480/**	1389	16 (8)
15	48 (121)	45 (103)	TLC-315A-048/240/**	1348	21¼ (54)	KTLC-315A-048/240/**	1490	17 (8)
15	48 (121)	45 (103)	TLC-315A-048/480/**	1348	21¼ (54)	KTLC-315A-048/480/**	1490	17 (8)
18	48 (121)	52½ (133)	TLC-318A-048/240/**	1443	23½ (60)	KTLC-318A-048/240/**	1580	18 (8)
18	48 (121)	52½ (133)	TLC-318A-048/480/**	1443	23½ (60)	KTLC-318A-048/480/**	1580	18 (8)

* Designate voltage, i.e. insert 240 for 240 for 480 for 480V. ** Add the suffix "3P" to the model number for 3 phase power.

Optional thermostat kits are available to fit into heater terminal box (see page 108).

Ordering Example: TLC-220A-036/240, 2 kW heater powered by 1 phase 240 Vac, \$873. TLC-330A-036/240/3P, 3 kW heater powered by 3 phase 240 Vac, \$988.

OVER-THE SIDE IMMERSION HEATERS FOR MILDLY CORROSIVE FLUIDS

TLS and KTLS Series
Starts at

\$959

- ✓ 2 to 18 kW
- ✓ 120, 240, 480V, 1 and 3 Phase
- ✓ Stainless Steel Sheath and Riser Elements
- ✓ Optional Thermostat Kits are Available to Fit into Terminal Box

FEATURES

These over-the-side immersion heaters are designed for installing in the top of a tank with the heated portion directly immersed along the side or at the bottom. This provides easy removal of the heater and ample working space inside the tank.



APPLICATIONS

Alkaline cleaners (electrified), alkaline soaking cleaners, copper sulfate, electroless copper, electro cleaners, mild acid baths, wash tanks dip tanks containing alkali, oakite, caustic soda, detergent and other aqueous solutions

SPECIFICATIONS

Wattage: 2 to 18 kW
Power: 120, 240 480V, 1 & 3
Watt Density: 40 w/in²

CAUTION AND WARNING!

Fire and electrical shock may result if products are used improperly or installed or used by non-qualified personnel. See inside back cover for additional warnings.



TLS-220A-036/120V, \$959, shown smaller than actual size.

KTLS-220A-036/120V, \$1051, shown smaller than actual size.

MOST POPULAR MODELS HIGHLIGHTED!

To Order (Specify Model Number)

kW	Riser (A) in (cm)	Straight Elements			Curved Elements			Wt. lb (kg)
		Min. Tank Clearance (B)—in (cm)	Model No.	Price	Min. Tank Clearance (B)—in (cm)	Model No.	Price	
Two Elements — Stainless Steel, 40 W/in. ²								
2	36 (91)	12¼ (31)	TLS-220A-036/120	\$959	10½ (27)	KTLS-220A-036/120	\$1051	8 (4)
2	36 (91)	12¼ (31)	TLS-220A-036/*	959	10½ (27)	KTLS-220A-036/*	1051	8 (4)
4	36 (91)	22¼ (57)	TLS-240A-036/120	1045	13¾ (35)	KTLS-240A-036/120	1148	8 (4)
4	36 (91)	22¼ (57)	TLS-240A-036/*	1045	13¾ (35)	KTLS-240A-036/*	1148	8 (4)
6	36 (91)	29½ (75)	TLS-260A-036/120	1134	16% (41)	KTLS-260A-036/120	1240	10 (5)
6	36 (91)	29½ (75)	TLS-260A-036/*	1134	16% (41)	KTLS-260A-036/*	1240	10 (5)
8	36 (91)	37% (95)	TLS-280A-036/*	1265	18% (47)	KTLS-280A-036/*	1288	12 (5)
10	48 (121)	45 (103)	TLS-210A-048/*	1313	21¼ (54)	KTLS-210A-048/*	1373	14 (6)
12	48 (121)	52½ (133)	TLS-212A-048/*	1401	23½ (59)	KTLS-212A-048/*	1458	16 (7)
Three Elements — Stainless Steel, 40 W/in ²								
3	36 (91)	12¼ (31)	TLS-330A-036/120	1088	10½ (27)	KTLS-330A-036/120	1200	9 (4)
3	36 (91)	12¼ (31)	TLS-330A-036/240/**	1088	10% (27)	KTLS-330A-036/240/**	1200	9 (4)
3	36 (91)	12¼ (31)	TLS-330A-036/480/**	1088	10% (27)	KTLS-330A-036/480/**	1200	9 (4)
6	36 (91)	22¼ (57)	TLS-360A-036/120	1209	13¾ (35)	KTLS-360A-036/120	1330	10 (5)
6	36 (91)	22¼ (57)	TLS-360A-036/240/**	1209	13¾ (35)	KTLS-360A-036/240/**	1330	10 (5)
6	36 (91)	22¼ (57)	TLS-360A-036/480/**	1209	13¾ (35)	KTLS-360A-036/480/**	1330	10 (5)
9	36 (91)	29½ (75)	TLS-390A-036/240/**	1274	16% (41)	KTLS-390A-036/240/**	1399	12 (5)
9	36 (91)	29% (75)	TLS-390A-036/480/**	1274	16% (41)	KTLS-390A-036/480/**	1399	12 (5)
12	48 (121)	37% (95)	TLS-312A-048/240/**	1371	18% (47)	KTLS-312A-048/240/**	1506	14 (6)
12	48 (121)	37% (95)	TLS-312A-048/480/**	1371	18% (47)	KTLS-312A-048/480/**	1506	14 (6)
15	48 (121)	45 (103)	TLS-315A-048/240/**	1611	21¼ (54)	KTLS-315A-048/240/**	1611	16 (7)
15	48 (121)	45 (103)	TLS-315A-048/480/**	1611	21¼ (54)	KTLS-315A-048/480/**	1611	16 (7)
18	48 (121)	52½ (133)	TLS-318A-048/240/**	1709	23½ (60)	KTLS-318A-048/240/**	1709	18 (8)
18	48 (121)	52½ (133)	TLS-318A-048/480/**	1709	23½ (60)	KTLS-318A-048/480/**	1709	18 (8)

* Designate voltage, i.e. insert 240 for 240 for 480V for 480 V. ** Add the suffix "3P" to the model number for 3 phase power.

Optional thermostat kits are available to fit into heater terminal box.

Ordering Example: TLS-220A-036/240, 2 kW heater powered by 1 phase 240 Vac, \$959. TLS-330A-036/240/3P, 3 kW heater powered by 3 phase 240 Vac, \$1088.

OVER-THE SIDE IMMERSION HEATERS FOR MEDIUM WEIGHT OILS

TLO and KTLO Series
Starts at

\$754



- ✓ 2 to 10 kW
- ✓ 120, 240, 480V, 1 and 3 Phase
- ✓ Heavy Duty Steel Heating Elements, Riser and Junction Box
- ✓ Optional Thermostat Kits are Available to Fit into Terminal Box
- ✓ Low Watt Density for Heating Medium Weight Oils

FEATURES

Tubular heating elements are brazed into a junction box. All wetted parts of TLO & KTLO Series heaters are steel. Sludge legs (to keep heated portion of the unit off the bottom of the tank) are standard.

APPLICATIONS

Medium weight oils, alkali, soaking cleaners, degreasing solutions, caustics, solvent type oils, heat transfer fluids.

SPECIFICATIONS

Wattage: 2 to 10 kW

Power: 120, 240 480 V, 1 and 3 phase

Watt Density: 20 W/in²

CAUTION AND WARNING!

Fire and electrical shock may result if products are used improperly or installed or used by non-qualified personnel. See inside back cover for additional warnings.

TLO-220A-036/120V, \$754, shown smaller than actual size.



KTLO-220A-036/120V, \$825, shown smaller than actual size.

MOST POPULAR MODELS HIGHLIGHTED!

To Order (Specify Model Number)

kW	Riser (A) in (cm)	Straight Elements			Curved Elements			Wt. lb (kg)
		Min. Tank Clearance (B)—in (cm)	Model No.	Price	Min. Tank Clearance (B)—in (cm)	Model No.	Price	
Two Elements — Steel, 20 W/in. ²								
2	36 (91)	22¾ (57)	TLO-220A-036/120	\$754	13¾ (35)	KTLO-220A-036/120	\$825	9 (4)
2	36 (91)	22¾ (57)	TLO-220A-036/*	754	13¾ (35)	KTLO-220A-036/*	825	9 (4)
3	36 (91)	29½ (75)	TLO-230A-036/120	882	16⅞ (41)	KTLO-230A-036/120	968	10 (5)
3	36 (91)	29⅞ ₂₄ (75)	TLO-230A-036/*	882	16⅞ (35)	KTLO-230A-036/*	968	10 (5)
5	48 (121)	45 (103)	TLO-250A-048/120	1024	21¾ (57)	KTLO-250A-048/120	1123	10 (5)
5	48 (121)	45 (103)	TLO-250A-048/*	1024	21¾ (57)	KTLO-250A-048/*	1123	12 (5)
6	48 (121)	52½ (133)	TLO-260A-048/*	1093	23½ (59)	KTLO-260A-048/*	1212	13 (6)
7	48 (121)	56½ (144)	TLO-260A-048/*	1093	24⅞ (59)	KTLO-260A-048/*	1212	14 (7)
Three Elements — Steel, 20 W/in ²								
3	36 (91)	22⅞ (57)	TLO-330A-036/120	837	13¾ (35)	KTLO-330A-036/120	920	12 (4)
3	36 (91)	22⅞ (57)	TLO-330A-036/240/**	837	13¾ (35)	KTLO-330A-036/240/**	920	12 (4)
3	36 (91)	22¾ (57)	TLO-330A-036/480/**	837	13¾ (35)	KTLO-330A-036/480/**	920	12 (4)
4.5	36 (91)	29½ (75)	TLO-345A-036/120	961	16⅞ (41)	KTLO-345A-036/120	1059	13 (6)
4.5	36 (91)	29½ (75)	TLO-345A-036/240/**	961	16⅞ (41)	KTLO-345A-036/240/**	1059	13 (6)
4.5	36 (91)	29⅞ (75)	TLO-345A-036/480/**	961	16⅞ (41)	KTLO-345A-036/480/**	1059	13 (6)
6	48 (121)	37⅞ (95)	TLO-360A-048/120	1024	18⅞ (47)	KTLO-360A-048/120	1123	13 (6)
6	48 (121)	37⅞ (95)	TLO-360A-048/240/**	1024	18⅞ (47)	KTLO-360A-048/240/**	1123	13 (6)
6	48 (121)	37⅞ (95)	TLO-360A-048/480/**	1024	18⅞ (47)	KTLO-360A-048/480/**	1123	13 (6)
7.5	48 (121)	45 (103)	TLO-375A-048/120	1123	21¾ (54)	KTLO-375A-048/120	1243	14 (6)
7.5	48 (121)	45 (103)	TLO-375A-048/240/**	1123	21¾ (54)	KTLO-375A-048/240/**	1243	14 (6)
7.5	48 (121)	45 (103)	TLO-375A-048/480/**	1123	21¾ (54)	KTLO-375A-048/480/**	1243	14 (6)
9	48 (121)	52½ (133)	TLO-390A-048/240/**	1213	23½ (60)	KTLO-390A-048/240/**	1331	15 (7)
9	48 (121)	52⅞ (133)	TLO-390A-048/480/**	1213	23½ (60)	KTLO-390A-048/480/**	1331	15 (7)
10	48 (121)	56⅞ (145)	TLO-310A-048/240/**	1288	24⅞ (63)	KTLO-310A-048/240/**	1418	16 (7)
10	48 (121)	56⅞ (145)	TLO-310A-048/480/**	1288	24⅞ (63)	KTLO-310A-048/480/**	1418	16 (7)

* Designate voltage, i.e. insert 240 for 240V or 480 for 480V.

** Add the suffix "3P" to the model number for 3 phase power. Optional thermostat kits are available to fit into heater terminal box.

Ordering Example: Model TLO-220A-036/240 is a 2 kW heater powered by 1 phase 240 Vac, \$754.

Note 1: Model TLO-2 and KTLO-2 Series are available in 4 kW units. contact OMEGALUX® for details.

CORROSION RESISTANT OVER-THE-SIDE IMMERSION HEATERS

TPR Series
Starts at
\$464



TPR—Round Cross Section Elements

- ✓ Fluoropolymer Coated Stainless Steel Elements
- ✓ 20 W/in²
- ✓ 1 to 8 kW
- ✓ 120, 240 and 480V, 1 Phase
- ✓ Moisture Resistant Terminal Enclosure

FEATURES

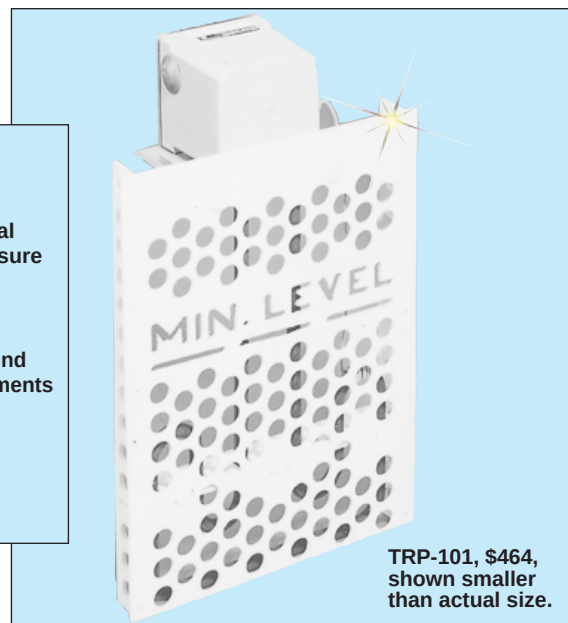
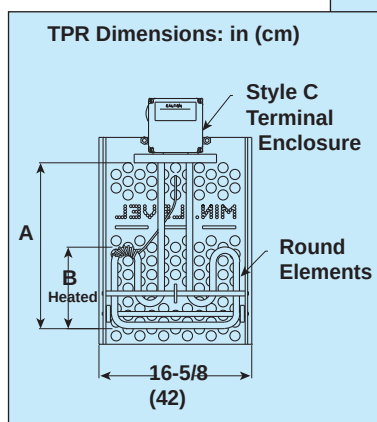
- ✓ Moisture Resistant Terminal Enclosure
- ✓ Standard Polypropylene Guard
- ✓ Side Mounted Construction with PVC Mounting Flange
- ✓ Overtemperature Protection Integral Manual Reset Cutout (240°F)
- ✓ Low Profile, Light Weight

1. Corrosion Resistant-

Thermoplastic fluoropolymer coated stainless steel sheath for long life in almost all types of corrosive solutions for operating temperatures up to 212°F. Pin hole free, durable coating, 100% tested at factory.

2. Overtemperature Shutoff-

Standard on all units. A manual reset cutout will deactivate the heater in the event of an overtemperature condition (rated 25 amps up to 277 volts). A visual minimum level indication is also provided on the heater guard.



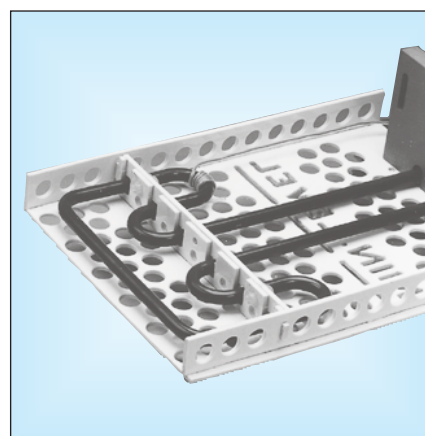
TRP-101, \$464, shown smaller than actual size.

TPR-Round Cross Section Elements, Single Phase Models

3. **Low Profile** - Single and three phase heaters have flat profiles which permit maximum work area and minimum interference with plating process. Heater projects less than 2" away from the side of the tank.

CAUTION AND WARNING!

Fire and electrical shock may result if products are used improperly or installed or used by non-qualified personnel. See inside back cover for additional warning.



MOST POPULAR MODEL HIGHLIGHTED!

To Order (Specify Model Number)

Watts	Volts	Dimensions in (cm)		Model No.	Price	Wt. lb (kg)
		A	B			
1000	120	13(33)	6(15)	TPR-101	\$464	4 (2)
1000	240	13(33)	6(15)	TPR-102	464	4 (2)
2000	240	21(53)	12(30)	TPR-202	551	5 (2)
2000	480	21(53)	12(30)	TPR-204	568	5 (2)
3000	240	26(66)	17(43)	TPR-302	698	6 (3)
3000	480	26(66)	17(43)	TPR-304	698	6 (3)
4000	240	31(79)	22(56)	TPR-402	895	7 (3)
4000	480	31(79)	22(56)	TPR-404	895	7 (3)
6000	240	42(106)	33(84)	TPR-602	1117	10 (5)
6000	480	42(106)	33(84)	TPR-604	1151	10 (5)
8000	240	53(37)	44(112)	TPR-802	1501	12 (5)
8000	480	53(37)	44(112)	TPR-804	1501	12 (5)

Ordering Example: Model TPR-202 is a single phase, round cross section element immersion heater, 2000 W, 240V, \$551.

CORROSION RESISTANT OVER-THE-SIDE IMMERSION HEATERS

TPF Series
Starts at
\$871



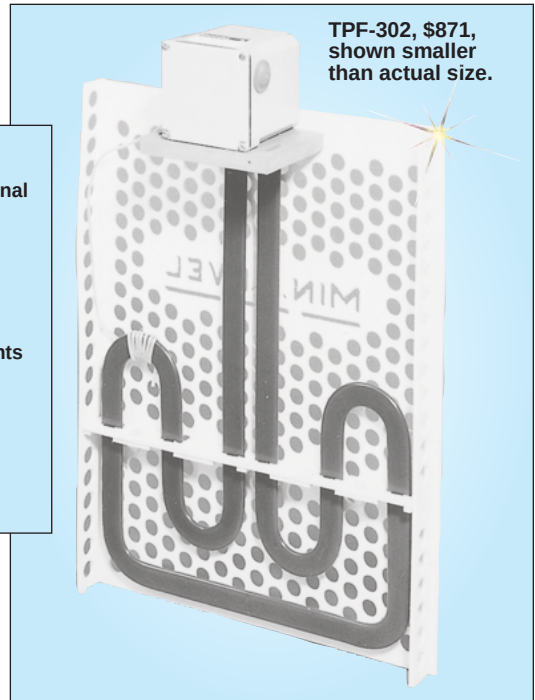
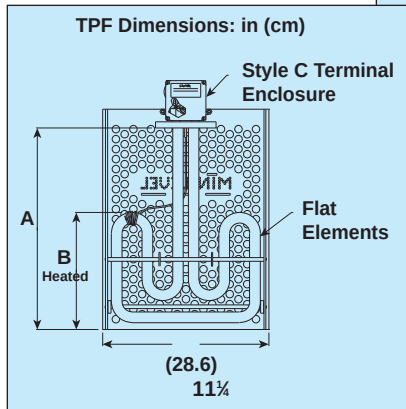
TPF—Flat Elements

- ✓ Fluoropolymer Coated Stainless Steel Thinblade Elements
- ✓ 20 W/in²
- ✓ 3 to 10 kW
- ✓ 240 and 480V, 3 Phase
- ✓ Moisture Resistant Terminal Enclosure

FEATURES

- ✓ Moisture Resistant Terminal Enclosure
- ✓ Standard Polypropylene Guard
- ✓ Side Mounted Construction with PVC Mounting Flange
- ✓ Overtemperature Protection Integral Manual Reset Cutout (240°F)
- ✓ Low Profile, Light Weight

4. Vapor Tight Terminal - Enclosure of PVC material with left or right hand conduit entry.
5. Mounting Bracket - Made of PVC material with conveniently located mounting slots.
6. Polypropylene Guard - Standard on all units. It protects the heater from work in process in heating tank. Guard easily disassembles for ease of cleaning heating elements.
7. Grounded Construction - With metal sheath heating elements to allow for proper grounding safety.



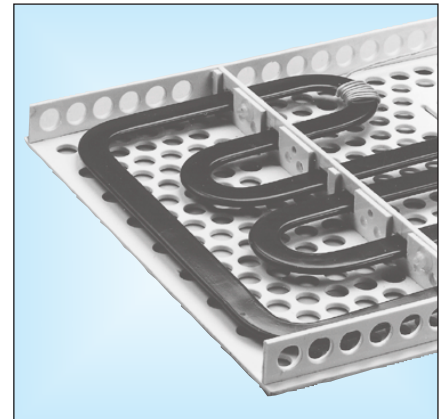
TPF-Flat Element, Three Phase Models

Low Watt Density - 20 watts per square inch heat output suitable for almost all corrosive solutions.

Light Weight - Simple design permits easy installation and removal for cleaning.

CAUTION AND WARNING!

Fire and electrical shock may result if products are used improperly or installed or used by non-qualified personnel. See inside back cover for additional warning.



MOST POPULAR MODEL HIGHLIGHTED!

To Order (Specify Model Number)

Watts	Volts	Dimensions in (cm)		Model No.	Price	Wt. lb (kg)
		A	B			
3000	240	20 (51)	11 (28)	TPF-302	\$871	8 (4)
3000	480	20 (51)	11 (28)	TPF-304 ¹	795	8 (4)
4000	240	23 (58)	14 (36)	TPF-402	968	9 (4)
4000	480	23 (58)	14 (36)	TPF-404 ¹	968	9 (4)
6000	240	30 (76)	21 (53)	TPF-602	1252	11 (5)
6000	480	30 (76)	21 (53)	TPF-604 ¹	1252	11 (5)
8000	240	37 (94)	28 (71)	TPF-802	1499	12 (5)
8000	480	37 (94)	28 (71)	TPF-804 ¹	1499	12 (5)
10000	240	44 (112)	35 (89)	TPF-1002	1852	14 (6)
10000	480	44 (112)	35 (89)	TPF-1004 ¹	1852	14 (6)

¹ Not UL Listed or CSA Certified.

Ordering Example: Model TPF-404 is a three phase, flat element immersion heater, 4000 W, 480V, \$968. It is not UL Listed or CSA Certified.

SIDE MOUNT FLUOROPOLYMER COVERED HEATERS

GTF6 and GTF9 Series
Starts at

\$126



GTF6—6 Elements

- ✓ 6 Fluoropolymer Covered Stainless Steel Elements
- ✓ 10 W/in²
- ✓ 2 to 12 kW
- ✓ 240 and 480V, 3 Phase
- ✓ Moisture Resistant Terminal Enclosure

GTF9 – 9 Elements

- ✓ 9 Fluoropolymer Covered Stainless Steel Elements
- ✓ 10 W/in²
- ✓ 3 to 18 kW
- ✓ 240 and 480V, 3 Phase
- ✓ Moisture Resistant Terminal Enclosure

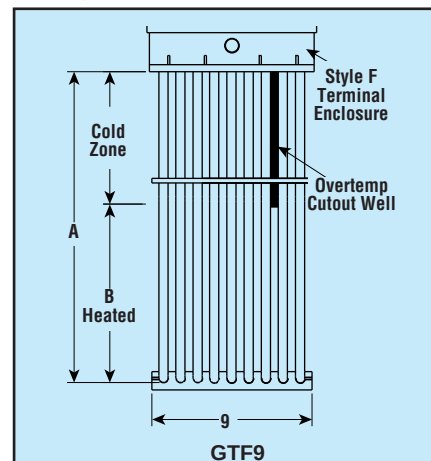
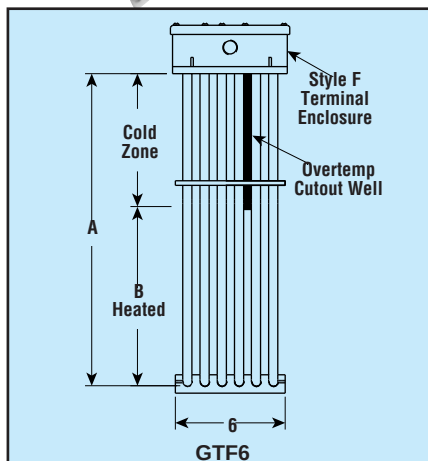
FEATURES

- ✓ Moisture Resistant Terminal Enclosure
- ✓ Side Mounted Construction with Mounting Flange
- ✓ Overtemperature Protection One Time Use Thermal Fuse (260°F), Field Replaceable
- ✓ Polypropylene Guard, Order Separately
- ✓ Custom Vertical Heights and Other Configurations Available
- ✓ Alternate Voltages and Single Phase Available

GTF6, \$126,
shown smaller
than actual size.



GTF9, \$150,
shown smaller
than actual size.



MOST POPULAR MODELS HIGHLIGHTED!

To Order (Specify Model Number)

kW	Volts	W/in ²	Phase	DIM (in)		Fluoropolymer Model No.	Price	Wt. (lb)	Guard' Model No.	Guard' Price
				A	B					
GTF6 — 6 Elements										
2 2	240 480	10 10	3 3	17 17	9 9	GTF6-22 GTF6-24	\$655 726	19 19	GTF6-2G	\$126
3 3	240 480	10 10	3 3	23 23	15 15	GTF6-32 GTF6-34	833 833	22 22	GTF6-3G	141
4 4	240 480	10 10	3 3	29 29	21 21	GTF6-42 GTF6-44	1010 1010	24 24	GTF6-4G	155
6 6	240 480	10 10	3 3	35 35	27 27	GTF6-62 GTF6-64	1182 1182	27 27	GTF6-6G	172
8 8	240 480	10 10	3 3	47 47	38 38	GTF6-82 GTF6-84	1438 1438	33 33	GTF6-8G	199
10 10	240 480	10 10	3 3	59 59	47 47	GTF6-102 GTF6-104	1546 1546	40 40	GTF6-10G	262
12 12	240 480	10 10	3 3	68 68	55 55	GTF6-122 GTF6-124	889 889	45 45	GTF6-12G	299
GTF9 — 9 Elements										
3 3	240 480	10 10	3 3	17 17	9 9	GTF9-32 GTF9-34	\$1001 1001	28 28	GTF9-3G	\$150
4.5 4.5	240 480	10 10	3 3	23 23	15 15	GTF9-452 GTF9-454	1137 1137	33 33	GTF9-45G	170
6 6	240 480	10 10	3 3	29 29	21 21	GTF9-62 GTF9-64	1376 1376	36 36	GTF9-6G	180
9 9	240 480	10 10	3 3	35 35	27 27	GTF9-92 GTF9-94	1376 1376	40 40	GTF9-9G	204
12 12	240 480	10 10	3 3	47 47	38 38	GTF9-122 GTF9-124	1608 1608	49 49	GTF9-12G	236
15 15	240 480	10 10	3 3	59 59	47 47	GTF9-152 GTF9-154	1906 1906	60 60	GTF9-15G	308
18 18	240 480	10 10	3 3	68 68	55 55	GTF9-182 GTF9-184	2108 2108	67 67	GTF9-18G	359

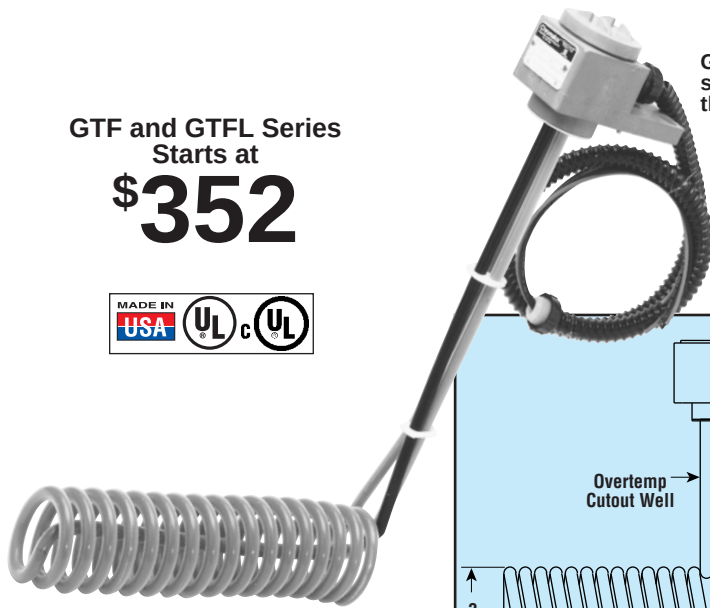
Ordering Example: GTF6-62, 240V, 6 kW, 6-element heater, \$689 and GTF6-6G, heater guard, \$172, \$1010 + 172 = \$1182.

Guard (not shown). Order separately by Model Number. Guard adds approximately ½" to overall heater dimensions.

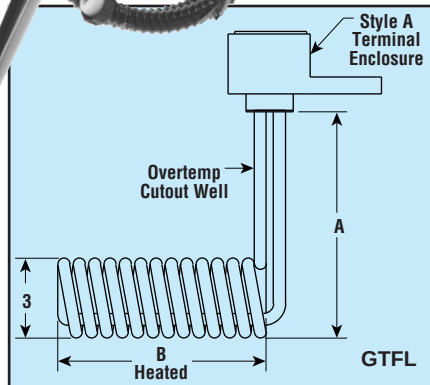
FLUOROPOLYMER COVERED IMMERSION HEATERS

GTF and GTFL Series
Starts at

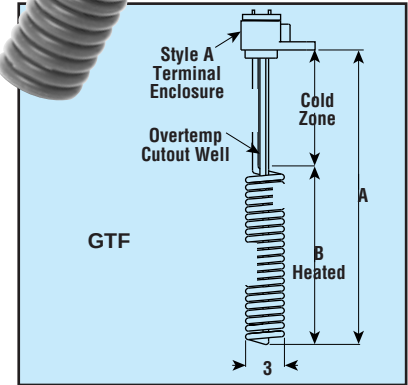
\$352



GTF, \$352,
shown smaller
than actual size.



GTFL, \$379,
shown smaller
than actual size.



- ✓ GTF—Side Mount
- ✓ GTFL—L-Shaped
- ✓ Fluoropolymer Covered Stainless Steel Elements
- ✓ 10 W/In²
- ✓ 1 to 6 kW
- ✓ 120, 240 and 480V, 1 Phase
- ✓ Moisture Resistant Terminal Enclosure

FEATURES

- ✓ Moisture Resistant Terminal Enclosure
- ✓ Side Mounted Vertical Construction with Mounting Bracket (GTF Only)
- ✓ Side Mounted Horizontal Heater L-Shaped (GTFL Only)
- ✓ Overtemperature Protection One Time Use Thermal Fuse (260°F), Field Replaceable
- ✓ Polypropylene Guard, Order Separately
- ✓ Optional Riser Heights Available (GTFL Only)

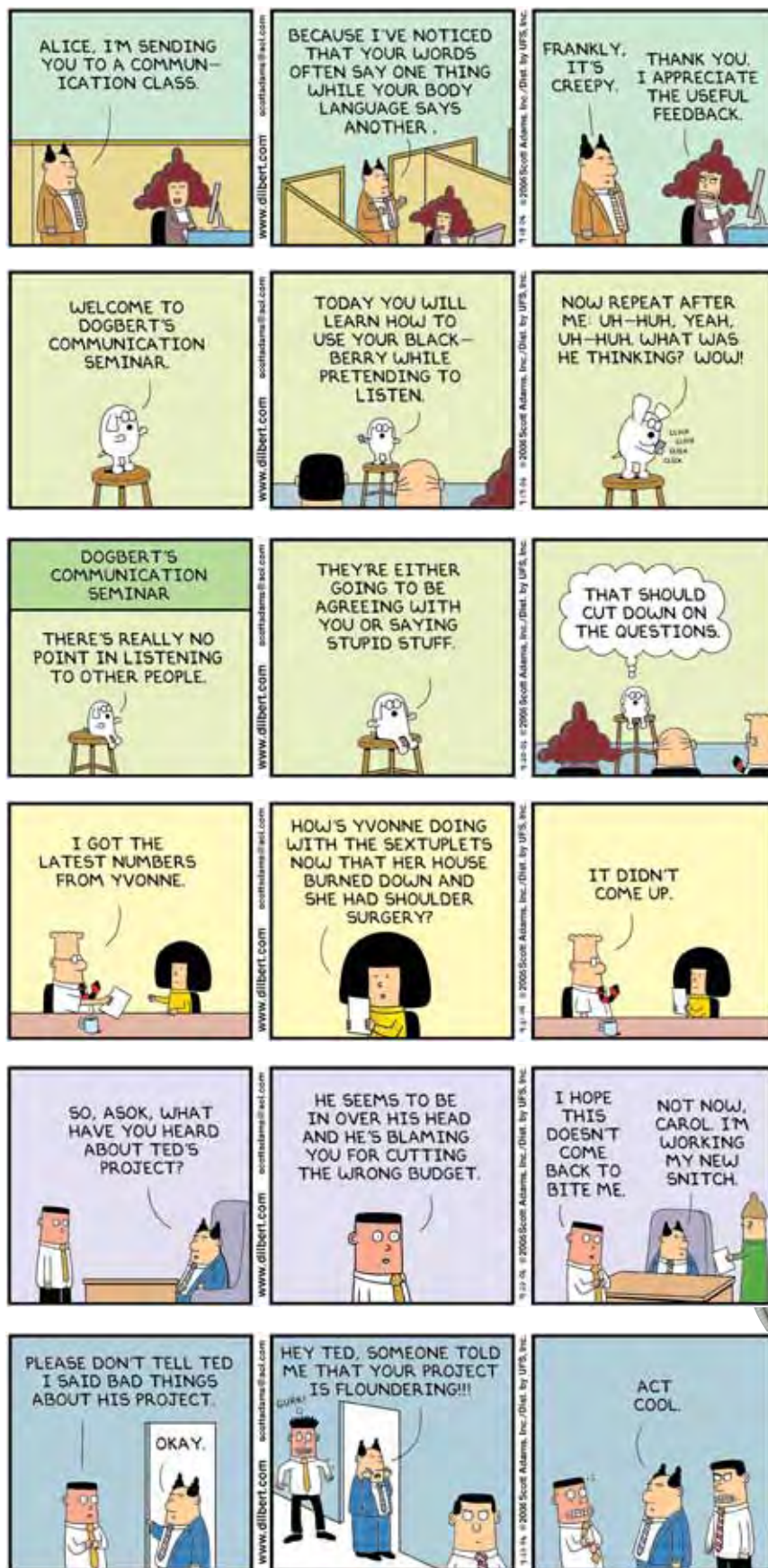
MOST POPULAR MODELS HIGHLIGHTED!

To Order (Specify Model Number)

kW	Volts	W/in ²	Phase	DIM (in)		Fluoropolymer		(lb)	Guard Model No.	Guard' Price
				A	B	Model No.	Price			
GTF — Side Mount										
1	120	10	1	11	6	GTF-11	\$352	7	GTF-1G	\$98
1	240	10	1	11	6	GTF-12	352	7		
2	240	10	1	17	10	GTF-22	473	8	GTF-2G	103
2	480	10	1	17	10	GTF-24	473	8		
3	240	10	1	23	14	GTF-32	573	13	GTF-3G	113
3	480	10	1	23	14	GTF-34	573	13		
4	240	10	1	29	18	GTF-42	781	15	GTF-4G	119
4	480	10	1	29	18	GTF-44	781	15		
5	240	10	1	35	23	GTF-52	883	18	GTF-5G	125
5	480	10	1	35	23	GTF-54	883	18		
6	240	10	1	40	27	GTF-62	964	21	GTF-6G	132
6	480	10	1	40	27	GTF-64	964	21		
GTFL — L-Shaped										
1	120	10	1	12	9	GTFL-11	\$379	8	GTFL-1G	\$104
1	240	10	1	12	9	GTFL-12	379	8		
2	240	10	1	18	13	GTFL-22	496	9	GTFL-2G	125
2	480	10	1	18	13	GTFL-24	496	9		
3	240	10	1	18	17	GTFL-32	598	13	GTFL-3G	129
3	480	10	1	18	17	GTFL-34	598	13		
4	240	10	1	18	21	GTFL-42	807	16	GTFL-4G	136
4	480	10	1	18	21	GTFL-44	807	16		
5	240	10	1	18	25	GTFL-52	911	18	GTFL-5G	156
5	480	10	1	18	25	GTFL-54	911	18		
6	240	10	1	18	29	GTFL-62	989	21	GTFL-6G	170
6	480	10	1	18	29	GTFL-64	989	21		

Ordering Example: GTF-62, 240V, 6 kW, side mount immersion heater, \$964 and GTF-6G, heater guard, \$132, \$864 + 132 = \$996.

Guard (not shown). Order separately by PN. Guard adds approximately 1/2" to overall heater dimensions.



HSTC Series Starts at \$25

Ready-Made Insulated Thermocouples

KMTXL Series Starts at \$27

Super OMEGACLAD® XL Probes Very Low Drift at High Temperatures

Exclusively From Omega!

TJ36-XSIB Series Starts at \$45

6" Length

Rugged Transition Joint Probe with Inconel® Braid over Silica Ceramic-Insulated Lead Wire

Please search omega.com for more details on these featured products!

HEAVY DUTY SOFT METAL HEATERS WITH CAST IRON SHEATH

CIT Series
Starts at
\$843

- ✓ 3 to 10 kW
- ✓ 240V, 1 Phase
- ✓ Used for Soft Metal Melting
- ✓ Rugged, Reliable
- ✓ Efficient Heat Transfer
- ✓ Three Configurations Available

APPLICATIONS

Used with metals such as solder, lead tin, stereotype metals, and babbitt (with 4% or less copper content) which can be melted for top working temperatures of 950°F or less. Not suitable for immersion heating of zinc or aluminum.*

FEATURES

Maximum heavy duty construction. 0.475" steel sheath tubular elements are cast into heavy iron bodies. Terminal connections are protected against rough handling and spillage by fully enclosed cast iron terminal box.

Large heat output with good heat transfer and high resistance to overheating.

Easy to maintain. Simple to de-energize and remove for occasional pot cleaning or transfer to other melt pots.

Three configurations available including through-the-side mounting (CIT-218) and special stereotype metal melting design (CIT-2219 and CIT-2319).

Mounting flange and heater body are one casting in CIT-218 model. Cold ends of the element extend 2" beyond flange to terminal box.

Stereotype metal heaters CIT-2219 and CIT-2319 have combination of effective heating length, low watt density and shape which permits cold starts without damage to the heater. Also used with low-melt-point alloys.

* Clamped on OMEGALUX® strip or tubular heaters are used in these applications.

Figure A
CIT-1612
CIT-1619

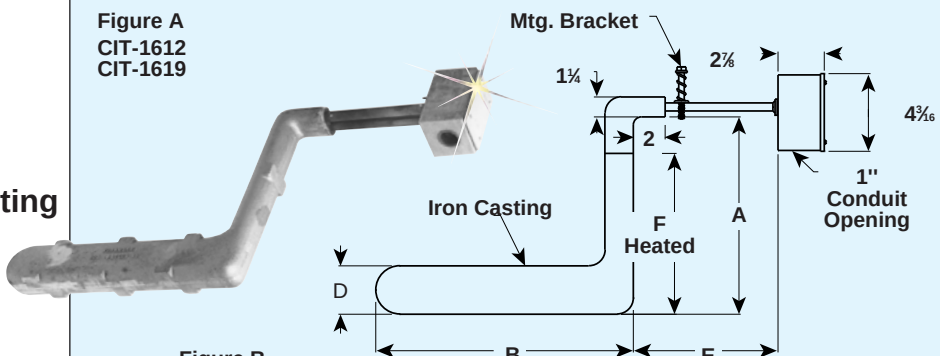


Figure B
CIT-218

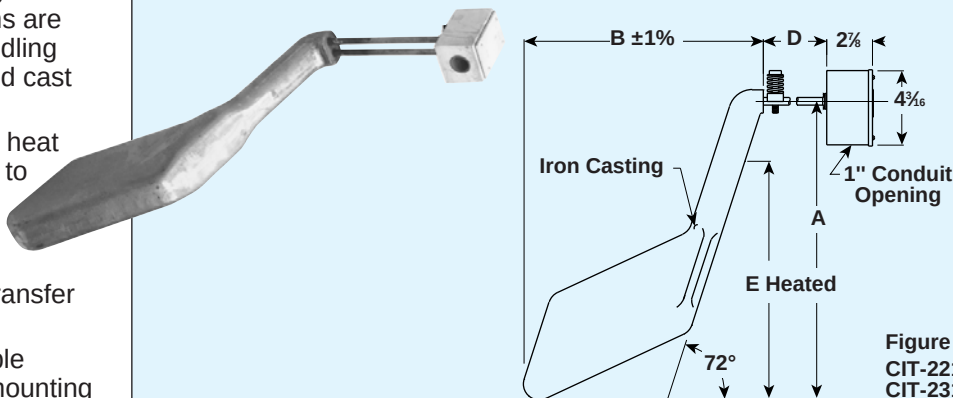
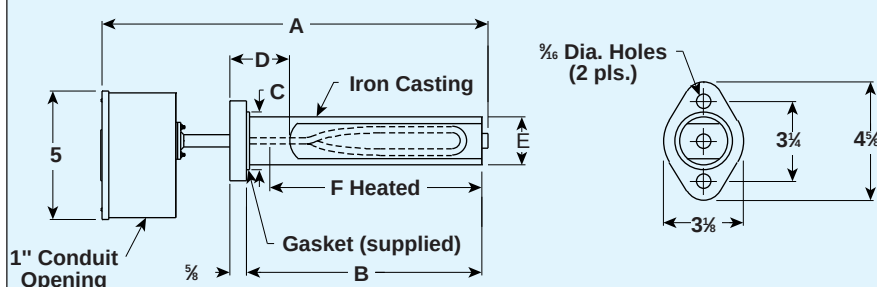


Figure C
CIT-2219
CIT-2319

MOST POPULAR MODELS HIGHLIGHTED!

To Order (Specify Model Number)

		Dimensions-in.							Displace-		Model No.	Price	Wt. lb
kW	Volts	Fig.	A	B	C	D	E	F	Angle	ment-In ³			
Over-the-side mounting													
5	240	A	12¼	16	2	3	9	10	—	135	CIT-1612 CIT-1619	\$1249 1346	40
5	240	A	19¼	16	2	3	6	17	—	180			55
Through-the-side mounting													
3	240	B	—	18	2¼	2¼	2	17½	—	57	CIT-218	\$843	22
Special Stereotype design													
5	240	C	18½	12½	3	—	6½	14½	72°	—	CIT-2219 CIT-2319	\$1311 2123	51
10	240	C	19	15¼	3¼	—	9	15	72°	—			80

Ordering Example: CIT-1612, 5 kW, 240V heater with a 3" diameter, \$1249.

"T" TYPE AIR PROCESS HEATERS

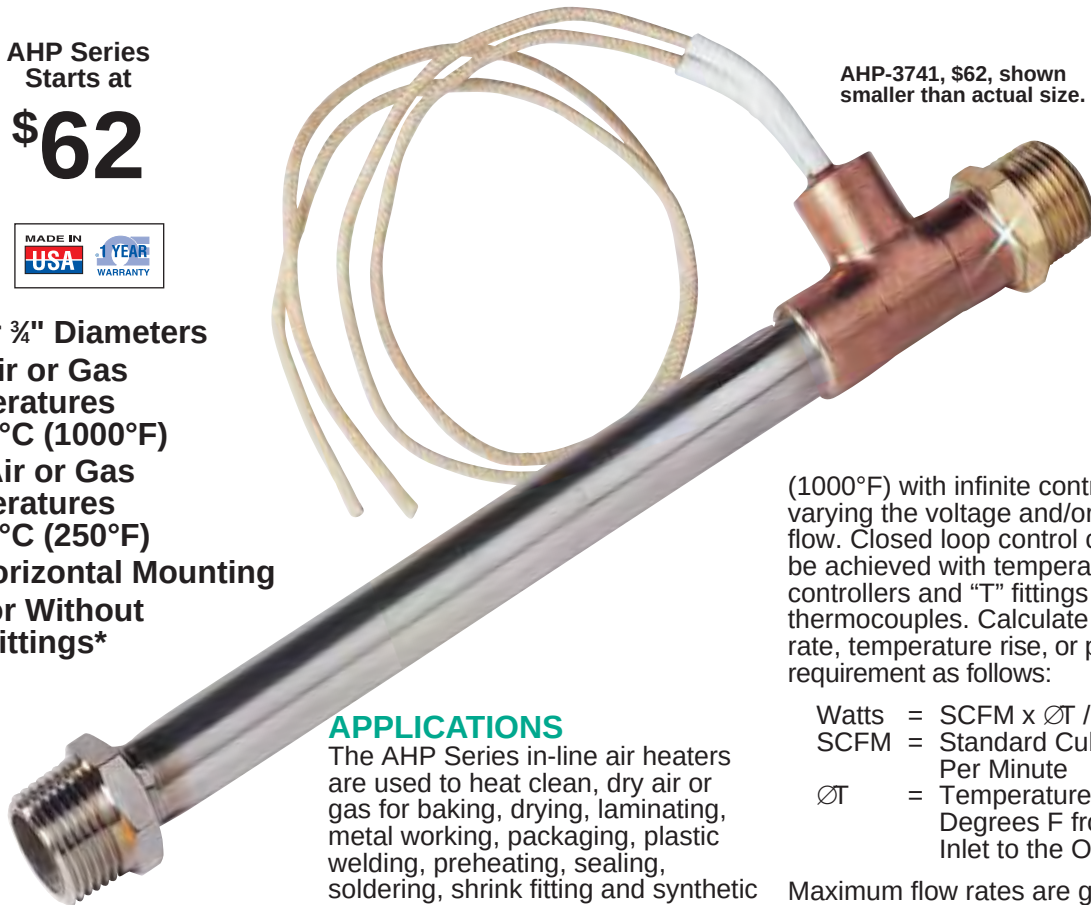
For In-Line Air and Gas Heating

AHP Series
Starts at

\$62



- ✓ 3/8, 1/2 or 3/4" Diameters
- ✓ Exit Air or Gas Temperatures to 540°C (1000°F)
- ✓ Inlet Air or Gas Temperatures to 121°C (250°F)
- ✓ For Horizontal Mounting
- ✓ With or Without NPT Fittings*



AHP-3741, \$62, shown smaller than actual size.

APPLICATIONS

The AHP Series in-line air heaters are used to heat clean, dry air or gas for baking, drying, laminating, metal working, packaging, plastic welding, preheating, sealing, soldering, shrink fitting and synthetic fabric sewing.

AHP series air process heaters provide hot air and gas up to 540°C

(1000°F) with infinite control by varying the voltage and/or the air flow. Closed loop control can also be achieved with temperature controllers and "T" fittings to mount thermocouples. Calculate the flow rate, temperature rise, or power requirement as follows:

$$\begin{aligned} \text{Watts} &= \text{SCFM} \times \Delta T / 3 \\ \text{SCFM} &= \text{Standard Cubic Feet Per Minute} \\ \Delta T &= \text{Temperature Rise in Degrees F from the Inlet to the Outlet} \end{aligned}$$

Maximum flow rates are given in the table below. For minimum flow rates, see table on page 119.

MOST POPULAR MODELS HIGHLIGHTED!

To Order (Specify Model Number)

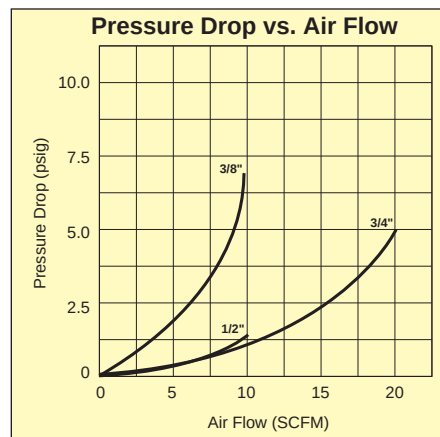
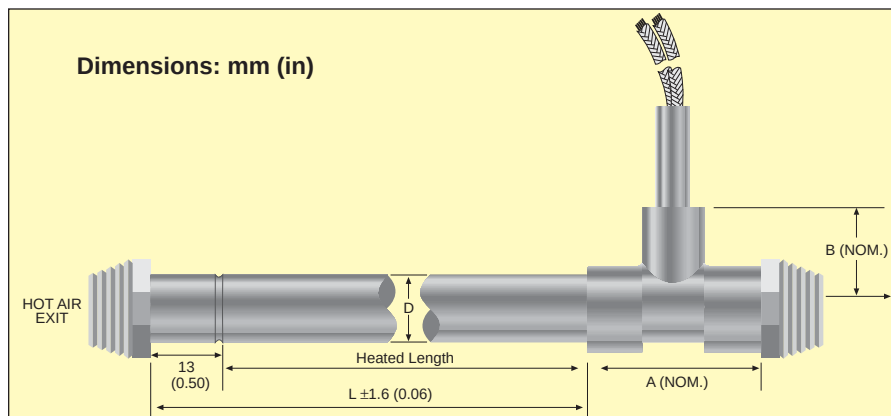
Model Number	Volts	Watts	Heated Length mm (in)	Watts/Inch [†]	Maximum CFM	Diameter mm (in)	NPT Fitting	Price	Weight g (lb)
120 Vac Models									
AHP-3741	120	200	89 (3½)	57	8	10 (¾)	¼"	\$62	82 (0.18)
AHP-5051	120	400	114 (4½)	88	10	13 (½)	⅜"	74	113 (0.25)
AHP-7561	120	750	140 (5½)	136	20	19 (¾)	¾"	97	308 (0.68)
120/240 Vac Models**									
AHP-3742	120 240	50 200	89 (3½) 89 (3½)	14 57	8 8	10 (¾)	¼"	62	82 (0.18)
AHP-5052	120 240	100 400	11 (4½) 11 (4½)	22 80	10 10	13 (½)	⅜"	74	113 (0.25)
AHP-7562	120 240	190 750	14 (5½) 14 (5½)	34 136	20 20	19 (¾)	¾"	97	308 (0.68)

* Note: To order heaters without NPT fittings add suffix "-NF" to model no. price for heaters without fittings is \$44 for AHP-374 Series, \$54 for AHP-505 Series, and \$68 for AHP-756 Series.

** These air heaters can be operated on either 120 or 240V. Specifications are shown for operation on both 120 and 240V.

† Indicates watts per inch of heated length. Use the table above to determine minimum required flow rates. The watts per inch of heated length can be changed by reducing the operating voltage or by ordering a custom made heater.

Ordering Example: AHP-3741/120, 200 W, 120 Vac "T" Type in-line air/gas heater, \$62.



Dimensions: mm (in)

Series	Diameter	Heated Length	L	A	B
AHP-374	9.5 (3/8)	88.9 (3 1/2)	101.6 (4)	7.9 (5/16)	33.3 (1 1/8)
AHP-505	12.7 (1/2)	114.3 (4 1/2)	127.0 (5)	34.9 (1 3/8)	19 (3/4)
AHP-756	19.1 (3/4)	139.7 (5 1/2)	152.4 (6)	61.9 (2 3/8)	41.3 (1 5/8)

SPECIFICATIONS

Pressure Rating: 80 PSIG

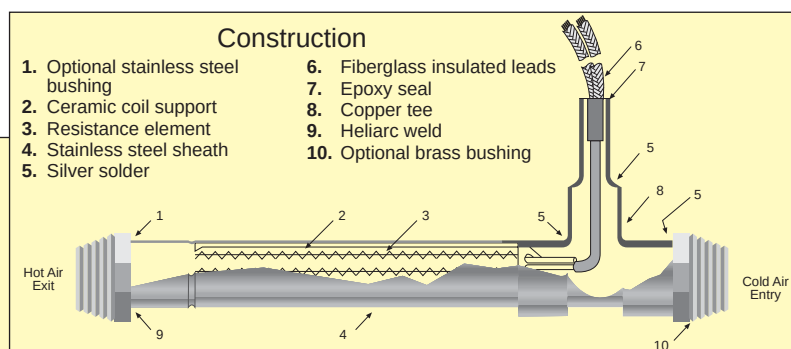
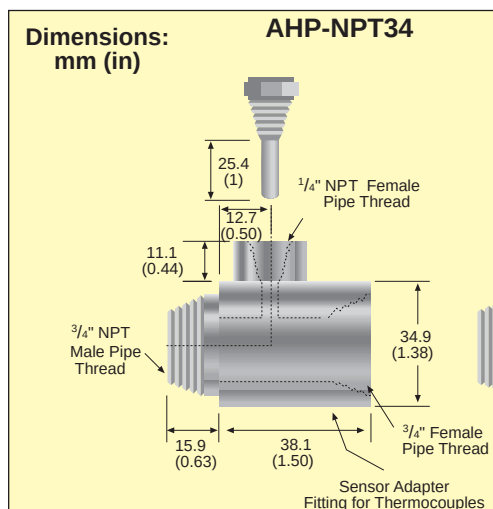
Wattage Tolerance: +5, -10% or better at the voltage specified

Leads:

0.3 m L (1') fiberglass insulated leads

Maximum Watts Per Linear Inch of Heated Length

Minimum CFM Required	3/8" Dia.	1/2" Dia.	3/4" Dia.
1	60	80	120
2	60	80	120
4	100	100	120
6	150	150	150
8	200	200	200
10	-	250	250
15	-	-	375
20	-	-	500



Thermocouple T-Fitting

The AHP-NPT34 fitting can be used with subminiature thermocouple probes (see the OMEGA Complete Temperature Measurement Handbook and Encyclopedia®) and with stainless steel compression fittings (Model SSLK-18-14) to monitor temperature at the outlet of the AHP-756 Series heaters.

Model Number	Price
AHP-NPT34	\$87

MAXIMUM FLOW AIR HEATERS

For Low Pressure, High Flow Air Heating

AHF Series
Starts at

\$98



- ✓ 4" OD Mounting Flange
- ✓ Air Flows Up To 200 CFM*
- ✓ Exit Air Temperatures up to 315°C (600°F)
- ✓ Post Terminals Junction Box

APPLICATIONS

The AHF series maximum flow air heaters are used with blowers or recirculating air in baking, drying, and preheating applications.

This air heater is designed with a 60 mm (2 3/8") OD aluminum tube and a cross frame heating element for minimum resistance to air flow. The nickel-chrome heating element is insulated by ceramic beads on a stainless steel support frame which is firmly secured to the inside of the tube. Post terminals enclosed in a junction box simplify the wiring. A 102 mm (4") round flange with pre-drilled holes at the inlet side are used for mounting the heater. It has a practical operating range of up to 200 CFM with temperatures up to 315°C (600°F).

Calculate the flow rate, temperature rise, or power requirement as follows:

$$\begin{aligned} \text{Watts} &= \text{SCFM} \times \Delta T / 3 \\ \text{SCFM} &= \text{Standard Cubic Feet Per Minute} \\ \Delta T &= \text{Temperature Rise in Degrees F from the Inlet to the Outlet} \end{aligned}$$

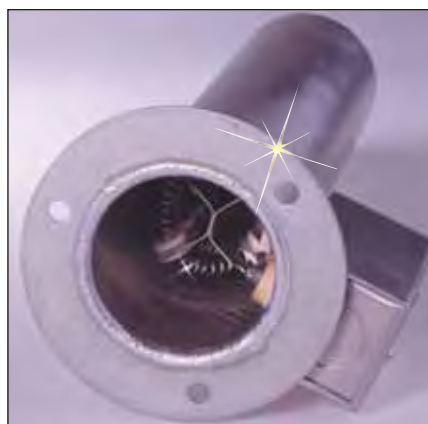
Minimum flow rates are given in the table to right.

SPECIFICATIONS

Maximum Amperage: 15

Cross Sectional Flow Area: 3.5 square inches

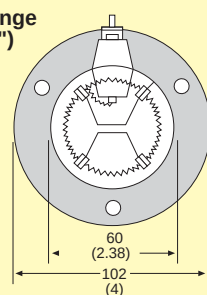
Threaded Terminals: 6-32



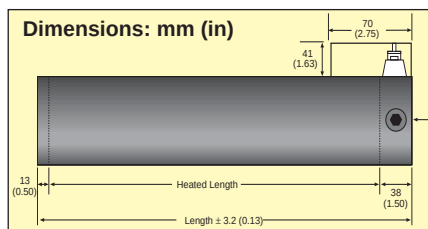
Nickel-Chrome Heating Element
Insulated with Ceramic Beads

102 mm (4") OD Flange
with three 7 mm (5/16")
dia. holes
equally spaced
on 3.25 BC

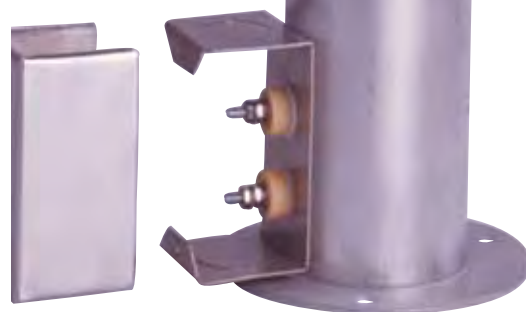
Dimensions:
mm (in)



Dimensions: mm (in)



AHF-10120, \$127, shown
smaller than actual size.



CFM	Max. Watts/Linear Inch of Heated Length
1	150
2	150
4	150
6	150
8	150
10	150
20	175
30	275
40	350
50	450
60	525

MOST POPULAR MODELS HIGHLIGHTED!

To Order (Specify Model Number)

Model Number	Volts	Watts	Heated Length mm (in)	Watts/ Inch**	Maximum CFM	Length mm (in)	Price	Weight kg (lb)
120 Vac Models								
AHF-06120	120	600	102 (4)	150	200	152 (6)	\$98	0.23 (0.5)
AHF-10120	120	1000	203 (8)	125	200	254 (10)	127	0.57 (1.25)
120/240 Vac Models*								
AHF-12240	120 240	375 1500	254 (10) 254 (10)	38 150	200 200	305 (12)	145	0.68 (1.5)
AHF-14240	120 240	500 2000	305 (12) 305 (12)	42 166	200 200	356 (14)	159	0.79 (1.75)

* These air heaters can be operated on either 120 or 240 Volts. Specifications are given for operation on both 120 and 240 Volts.

** Indicates Watts per inch of heated length. Use the table above to determine minimum required flow rates. The watts per inch of heated length can be changed by reducing the operating voltage or by ordering a custom made heater. Stainless steel construction also available. Consult Engineering.

Ordering Example: AHF-12240, air heater, 240 Vac, 1500 W, \$145.

LOW FLOW AIR PROCESS AND LIQUID CIRCULATION HEATERS

For In-Line Air, Gas and Liquid Heating

AHPF Series
Starts at

\$241



- ✓ 316 Stainless Steel Construction
- ✓ Air/Gas Flow up to 15 CFM
- ✓ Air/Gas Outlet Temperatures up to 430°C (800°F)
- ✓ Pressures up to 100 PSI*
- ✓ 50 Watts/Square Inch**

The AHPF Series heaters are used to heat low flows of air, gas, water, or aqueous solutions. Applications include those where clean air is necessary, as in laboratories and environmental testing areas. The stream of air is heated by passing over an enclosed heated surface rather than directly over resistance elements. This method assures that no foreign matter will enter the stream of flow. The AHPF Series is also used as a miniature circulation heater for small volume of liquids as in photographic developer solution, chemicals, dyes, and inks.

Calculate the flow rate, temperature rise, or power requirement as described on page 120. For heating liquids, contact engineering.

The Thermocouple "T" fitting AHPF-NPT12 can be used with the subminiature thermocouple probes and with the SSLK series stainless steel compression fittings (see the OMEGA Complete Temperature Measurement Handbook and Encyclopedia®) and with stainless steel compression fittings (Model SSLK-18-14) to monitor or control temperature at the outlet of the AHPF series heaters.

SPECIFICATIONS

Cross Sectional Area: 0.152 sq. inches

Pressure Rating: Up to 100 PSIG

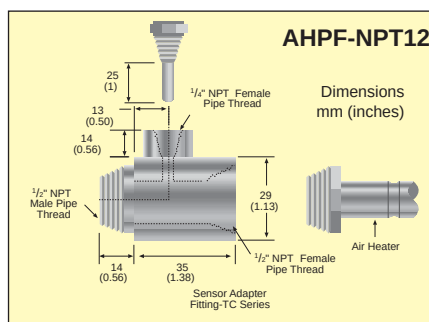
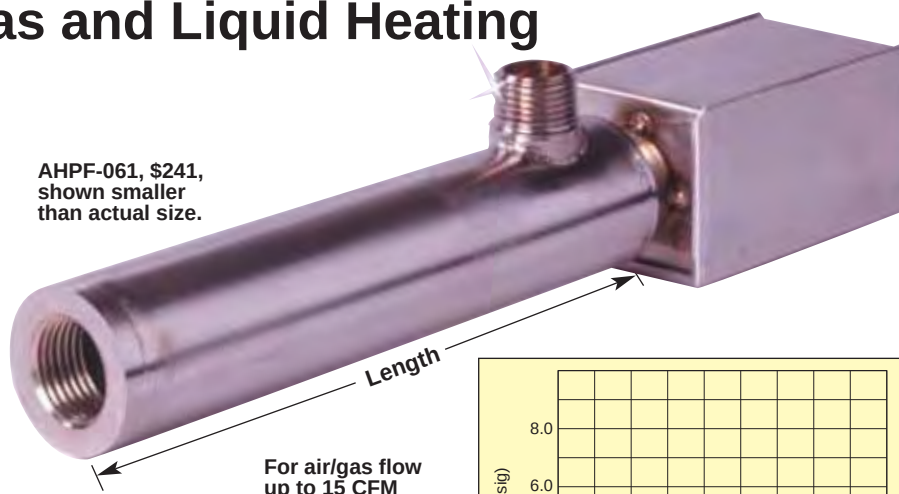
Wattage Tolerance: +5, -10% or better at the voltage specified

Outside Diameter: 32 mm (1¼")

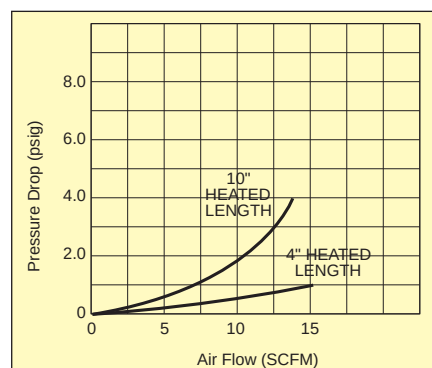
Inlet: Male ¾" NPT

Outlet: ½" NPT

AHPF-061, \$241,
shown smaller
than actual size.



Model Number	Price
AHPF-NPT12	\$85



CFM	Max. Watts/Linear Inch of Heated Length
1	75
2	100
4	150
6	200
8	200
10	250
15	275

MOST POPULAR MODELS HIGHLIGHTED!

To Order (Specify Model Number)

Model Number	Volts	Watts	Heated Length mm (in)	Watts/Inch*	Max CFM	Length mm (in)	Price	Weight kg (lb)
120 Vac Models								
AHPF-061	120	400	102 (4)	91	15	152 (6)	\$241	0.45 (1.0)
AHPF-081	120	600	152 (6)	94	15	203 (8)	277	0.54 (1.18)
AHPF-101	120	1000	203 (8)	120	15	254 (10)	291	0.62 (1.37)
AHPF-121	120	1200	254 (10)	115	15	305 (12)	311	0.70 (1.55)
120/240 Volt Models**								
AHPF-062	120 240	100 400	102 (4) 102 (4)	23 91	15 15	152 (6)	\$241	0.45 (1.0)
AHPF-082	120 240	150 600	152 (6) 152 (6)	23 94	15 15	203 (8)	277	0.54 (1.18)
AHPF-102	120 240	250 1000	203 (8) 203 (8)	30 120	15 15	254 (10)	291	0.62 (1.37)
AHPF-122	120 240	300 1200	254 (10) 254 (10)	29 115	15 15	305 (12)	311	0.70 (1.55)

* Indicates watts per inch of heated length. Use the table above to determine minimum required flow rates. ** These air heaters can be operated on either 120 or 240V. Specifications are shown for either 120 or 240V operation.

Ordering Example: AHPF-101, 120V, 1000 W low flow air process and liquid circulation heater, \$291.

HIGH-TEMPERATURE, LOW-MASS, VACUUM-FORMED CERAMIC RADIANT HEATERS

Full Cylinder Heaters

CRFC Series
Starts at

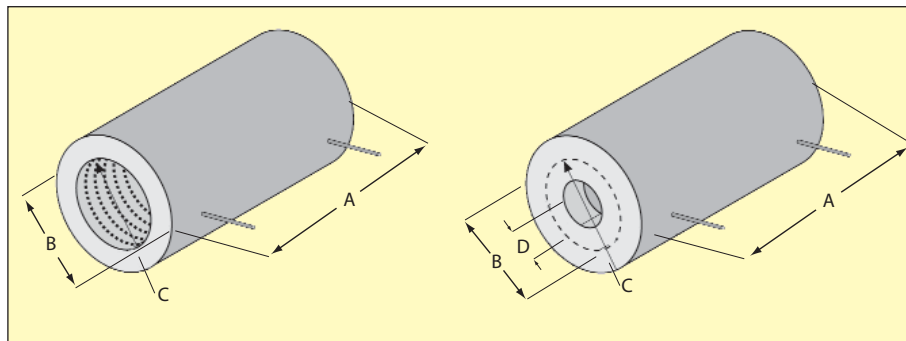
\$140



- ✓ Rated to 982°C (1800°F)
- ✓ Fast Heat-Up and Cool Down
- ✓ Greater Temperature Uniformity
- ✓ Lower Operating Costs
- ✓ Heating Element and Insulation in One

APPLICATIONS

- ✓ Tube Furnaces
- ✓ Annealing Ovens
- ✓ Pipe Heating



OMEGALUX® CRFC and CRWS Series radiant heaters are produced using high-quality and high-purity, vacuum-formed ceramic fiber, with low-sodium inorganic bond. Helically wound iron-chrome-aluminum wire elements assure top quality in this extra-efficient, low watt density series. The helically wound wire is embedded into the vacuum-formed ceramic fiber.

SPECIFICATIONS

Full and Semi Cylinders Models:

Wattage: 220 to 9500 Watts

Voltage: 60, 120 and 240 Vac

Leads: 10 Standard

NOTE: CR Series Heaters are intended for "radiant" heat. Never let material to be heated come into contact with the face of the heater. It is recommended that the OD of tubes, pipes, or circular items to be used with the circular heaters be kept a minimum of 1/2" under the nominal inside "C" dimension.

MOST POPULAR MODELS HIGHLIGHTED!

To Order (Specify Model Number)									
Watts	Volts	Dimensions in cm (")				Without Vestibules		With Vestibules	
		A DIM*	B DIM	C DIM	D DIM	Model No.	Price	Model No.	Price
220	60	15 (6)	8 (3)	2 (0.75)	0.6 (0.25)	CRFC-756/60-A	\$140	CRFC-756/60-C-A	\$159
440	120	30 (12)	8 (3)	2 (0.75)	0.6 (0.25)	CRFC-7512/120-A	228	CRFC-7512/120-C-A	254
250	60	15 (6)	8 (3)	3 (1)	1 (0.5)	CRFC-16/60-A	151	CRFC-16/60-C-A	164
500	120	30 (12)	8 (3)	3 (1)	1 (0.5)	CRFC-112/120-A	246	CRFC-112/120-C-A	271
300	60	15 (6)	8 (3)	3 (1.25)	2 (0.75)	CRFC-1256/60-A	152	CRFC-1256/60-C-A	169
600	120	30 (12)	8 (3)	3 (1.25)	2 (0.75)	CRFC-12512/120-A	256	CRFC-12512/120-C-A	278
350	60	15 (6)	9 (3.5)	4 (1.5)	3 (1)	CRFC-156/60-A	158	CRFC-156/60-C-A	176
650	120	30 (12)	9 (3.5)	4 (1.5)	3 (1)	CRFC-1512/120-A	263	CRFC-1512/120-C-A	287
435	120	15 (6)	10 (4)	5 (2)	4 (1.5)	CRFC-26/120-A	176	CRFC-26/120-C-A	194
870	120	30 (12)	10 (4)	5 (2)	4 (1.5)	CRFC-212/120-A	278	CRFC-212/120-C-A	304
700	115	15 (6)	13 (5)	8 (3)	5 (2)	CRFC-36/115-A	194	CRFC-36/115-C-A	229
1400	240	30 (12)	13 (5)	8 (3)	5 (2)	CRFC-312/240-A	295	CRFC-312/240-C-A	336
2100	240	46 (18)	13 (5)	8 (3)	5 (2)	CRFC-318/240-A	453	CRFC-318/240-C-A	495
900	240	15 (6)	18 (7)	10 (4)	6 (2.5)	CRFC-46/240-A	219	CRFC-46/240-C-A	245
1800	240	30 (12)	18 (7)	10 (4)	6 (2.5)	CRFC-412/240-A	340	CRFC-412/240-C-A	564
2700	240	46 (18)	18 (7)	10 (4)	6 (2.5)	CRFC-418/240-A	622	CRFC-418/240-C-A	627
1130	240	15 (6)	23 (9)	13 (5)	9 (3.5)	CRFC-56/240-A	262	CRFC-56/240-C-A	287
2260	240	30 (12)	23 (9)	13 (5)	9 (3.5)	CRFC-512/240-A	401	CRFC-512/240-C-A	448
3390	240**	46 (18)	23 (9)	13 (5)	9 (3.5)	CRFC-518/240-A	685	CRFC-518/240-C-A	748
4520	240**	61 (24)	23 (9)	13 (5)	9 (3.5)	CRFC-524/240-A	903	CRFC-524/240-C-A	991
1350	240	15 (6)	25 (10)	15 (6)	11 (4.5)	CRFC-66/240-A	366	CRFC-66/240-C-A	370
2700	240**	30 (12)	25 (10)	15 (6)	11 (4.5)	CRFC-612/240-A	550	CRFC-612/240-C-A	600

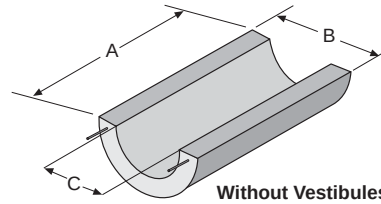
* Add 3" for units with vestibules. ** Dual 240 Vac circuits.

Ordering Example: CRFC-156/60-A, 350 watt heater with 4 cm (1.5") ID, 15 cm (6") long without vestibules, \$158.

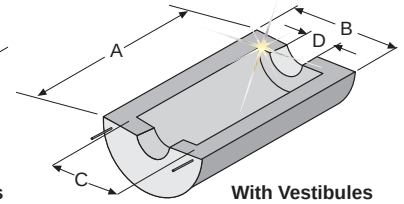
Semi-Cylindrical Ceramic Heaters

CRWS Series
Starts at
\$142

- ✓ Rated to 982°C (1800°F)
- ✓ Helically Wound Iron-Chrome-Aluminum Wire



Without Vestibules



With Vestibules

MOST POPULAR MODELS HIGHLIGHTED!

To Order (Specify Model Number)									
		Dimensions in cm (")				Without Vestibules		With Vestibules	
Watts	Volts	A DIM*	B DIM	C DIM	D DIM	Model No.	Price	Model No.	Price
300	60	15 (6)	10 (4)	5 (2)	4 (1.5)	CRWS-62/60-A	\$142	CRWS-62/60-C-A	\$159
600	120	30 (12)	10 (4)	5 (2)	4 (1.5)	CRWS-122/120-A	184	CRWS-122/120-C-A	201
900	120	46 (18)	10 (4)	5 (2)	4 (1.5)	CRWS-182/120-A	228	CRWS-182/120-C-A	254
1200	240	61 (24)	10 (4)	5 (2)	4 (1.5)	CRWS-242/240-A	254	CRWS-242/240-C-A	280
425	120	15 (6)	13 (5)	8 (3)	5 (2)	CRWS-63/120-A	184	CRWS-63/120-C-A	228
850	120	30 (12)	13 (5)	8 (3)	5 (2)	CRWS-123/120-A	254	CRWS-123/120-C-A	280
1275	240	46 (18)	13 (5)	8 (3)	5 (2)	CRWS-183/240-A	345	CRWS-183/240-C-A	382
1700	240	61 (24)	13 (5)	8 (3)	5 (2)	CRWS-243/240-A	391	CRWS-243/240-C-A	435
565	120	15 (6)	15 (6)	10 (4)	6 (2.5)	CRWS-64/120-A	210	CRWS-64/120-C-A	236
1130	120	30 (12)	15 (6)	10 (4)	6 (2.5)	CRWS-124/120-A	287	CRWS-124/120-C-A	315
1700	240	46 (18)	15 (6)	10 (4)	6 (2.5)	CRWS-184/240-A	375	CRWS-184/240-C-A	413
2250	240	61 (24)	15 (6)	10 (4)	6 (2.5)	CRWS-244/240-A	479	CRWS-244/240-C-A	531
650	120	15 (6)	23 (9)	13 (5)	9 (3.5)	CRWS-65/120-A	220	CRWS-65/120-C-A	248
1300	240	30 (12)	23 (9)	13 (5)	9 (3.5)	CRWS-125/120-A	332	CRWS-125/120-C-A	368
1950	240	46 (18)	23 (9)	13 (5)	9 (3.5)	CRWS-185/240-A	393	CRWS-185/240-C-A	437
2600	240	61 (24)	23 (9)	13 (5)	9 (3.5)	CRWS-245/240-A	567	CRWS-245/240-C-A	626
850	120	15 (6)	25 (10)	15 (6)	10 (4)	CRWS-66/120-A	228	CRWS-66/120-C-A	254
1700	240	30 (12)	25 (10)	15 (6)	10 (4)	CRWS-126/240-A	345	CRWS-126/240-C-A	375
2550	240	46 (18)	25 (10)	15 (6)	10 (4)	CRWS-186/240-A	472	CRWS-186/240-C-A	525
3400	240**	61 (24)	25 (10)	15 (6)	10 (4)	CRWS-246/240-A	662	CRWS-246/240-C-A	732
920	240	15 (6)	28 (11)	18 (7)	13 (5)	CRWS-67/240-A	247	CRWS-67/240-C-A	272
1840	240	30 (12)	28 (11)	18 (7)	13 (5)	CRWS-127/240-A	358	CRWS-127/240-C-A	393
2760	240	46 (18)	28 (11)	18 (7)	13 (5)	CRWS-187/240-A	437	CRWS-187/240-C-A	530
3680	240**	61 (24)	28 (11)	18 (7)	13 (5)	CRWS-247/240-A	742	CRWS-247/240-C-A	819
1100	240	15 (6)	30 (12)	20 (8)	15 (6)	CRWS-68/240-A	253	CRWS-68/240-C-A	280
2200	240	30 (12)	30 (12)	20 (8)	15 (6)	CRWS-128/240-A	368	CRWS-128/240-C-A	402
3300	240	46 (18)	30 (12)	20 (8)	15 (6)	CRWS-188/240-A	578	CRWS-188/240-C-A	636
4400	240**	61*** (24)	30 (12)	20 (8)	15 (6)	CRWS-248/240-A	803	CRWS-248/240-C-A	880
2250	240	30 (12)	36 (14)	25 (10)	20 (8)	CRWS-1210/240-A	479	CRWS-1210/240-C-A	530
3400	240**	46 (18)	36 (14)	25 (10)	20 (8)	CRWS-1810/240-A	689	CRWS-1810/240-C-A	759
4500	240**	61*** (24)	36 (14)	25 (10)	20 (8)	CRWS-2410/240-A	975	CRWS-2410/240-C-A	1074
2700	240	30 (12)	41 (16)	30 (12)	25 (10)	CRWS-1212/240-A	583	CRWS-1212/240-C-A	645
4050	240**	46 (18)	41 (16)	30 (12)	25 (10)	CRWS-1812/240-A	827	CRWS-1812/240-C-A	910
5400	240**	61*** (24)	41 (16)	30 (12)	25 (10)	CRWS-2412/240-A	1028	CRWS-2412/240-C-A	1132
3400	240**	30 (12)	48 (19)	38 (15)	33 (13)	CRWS-1215/240-A	750	CRWS-1215/240-C-A	827
5100	240**	46 (18)	48 (19)	38 (15)	33 (13)	CRWS-1815/240-A	1010	CRWS-1815/240-C-A	1116
6800	240**	61*** (24)	48 (19)	38 (15)	33 (13)	CRWS-2415/240-A	1394	CRWS-2415/240-C-A	1453
4100	240**	30 (12)	56 (22)	46 (18)	41 (16)	CRWS-1218/240-A	872	CRWS-1218/240-C-A	915
6150	240**	46 (18)	56 (22)	46 (18)	41 (16)	CRWS-1818/240-A	1152	CRWS-1818/240-C-A	1162
8200	240**	61*** (24)	56 (22)	46 (18)	41 (16)	CRWS-2418/240-A	1628	CRWS-2418/240-C-A	1698
4750	240**	30 (12)	64 (25)	53 (21)	48 (19)	CRWS-1221/240-A	1010	CRWS-1221/240-C-A	1116
7125	240**	46 (18)	64 (25)	53 (21)	48 (19)	CRWS-1821/240-A	1262	CRWS-1821/240-C-A	1394
9500	240**	61*** (24)	64 (25)	53 (21)	48 (19)	CRWS-2421/240-A	1793	CRWS-2421/240-C-A	1974

* Add 3" for units with vestibules. ** Dual 240 Vac circuits.

*** Using two 30 cm (12") long heaters; the indicated wattage is a total of two 30 cm (12") long heaters.

Ordering Example: CRWS-67/240-A, 920 Watt, 240 Vac heater, 15 cm (6") long, 18 cm (7") ID, \$247.

CERAMIC RIBBON HEATERS

Ultra-High Temperature, Helically Wound

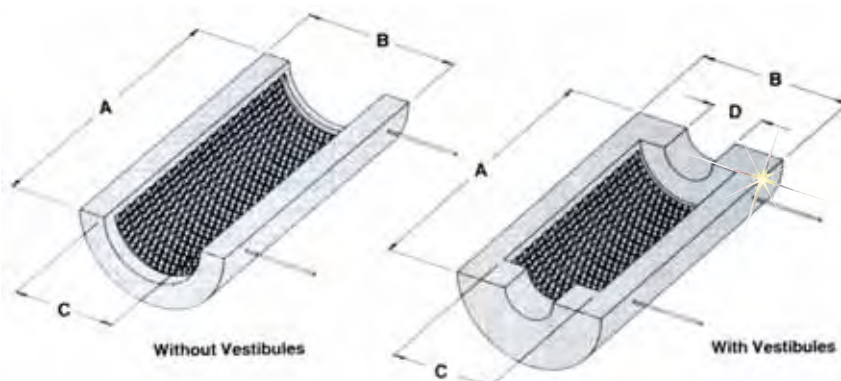
CRRS Series
Starts at

\$267

- ✓ Helically Wound Ribbon Iron-Chrome-Aluminum
- ✓ Rated to 900°C (1800°F)
- ✓ Low Mass Vacuum Formed Ceramic Fiber
- ✓ Use Two Semi-Cylindrical Units to Form a Full Cylinder

APPLICATIONS

- ✓ Pipe Heating
- ✓ Process Air Heating
- ✓ Calibration Ovens
- ✓ Strain Annealing Ovens
- ✓ Tube Furnace



With the CRRS and CRFP Series the helically wound iron-chrome-aluminum ribbon elements are mounted in ridges which permits heat dissipation in three directions, thereby transferring more radiant heat energy to work chamber and load. Using this design effectively triples the radiant heating surface. The unique design allows for two semi-cylindrical units to be combined to form a full cylinder heating element.

SPECIFICATIONS

Semi-Cylindrical Helically Wound Ribbon Models:

Wattage: 800 to 9500 Watts

Voltage:

120 and 240 Vac single and dual circuits

Semi-Cylindrical Helically Wound Ribbon Models

MOST POPULAR MODELS HIGHLIGHTED!

To Order (Specify Model Number)									
Watts	Volts	Dimensions: cm (in)				Without Vestibules		With Vestibules	
		A DIM*	B DIM	C DIM	D DIM	Model No.	Price	Model No.	Price
800	120	15 (6)	28 (11)	18 (7)	13 (5)	CRRS-67/120-A	\$267	CRRS-67/120C-A	\$292
1600	240	30 (12)	28 (11)	18 (7)	13 (5)	CRRS-127/240-A	386	CRRS-127/240C-A	430
2400	240	46 (18)	28 (11)	18 (7)	13 (5)	CRRS-187/240-A	574	CRRS-187/240C-A	635
3200	240	61 (24)	28 (11)	18 (7)	13 (5)	CRRS-247/240-A	805	CRRS-247/240C-A	891
900	120	15 (6)	30 (12)	20 (8)	15 (6)	CRRS-68/120-A	274	CRRS-68/120C-A	300
1800	240	30 (12)	30 (12)	20 (8)	15 (6)	CRRS-128/240-A	395	CRRS-128/240C-A	437
2700	240	46 (18)	30 (12)	20 (8)	15 (6)	CRRS-188/240-A	648	CRRS-188/240C-A	686
3600	240	61 (24)***	30 (12)	20 (8)	15 (6)	CRRS-248/240-A	863	CRRS-248/240C-A	949
2250	240	30 (12)	36 (14)	25 (10)	20 (8)	CRRS-1210/240-A	514	CRRS-1210/240C-A	567
3375	240	46 (18)	36 (14)	25 (10)	20 (8)	CRRS-1810/240-A	746	CRRS-1810/240C-A	821
4500	240	61 (24)***	36 (14)	25 (10)	20 (8)	CRRS-2410/240-A	1052	CRRS-2410/240C-A	1154
2700	240	30 (12)	41 (16)	30 (12)	25 (10)	CRRS-1212/240-A	635	CRRS-1212/240C-A	700
4050	240	46 (18)	41 (16)	30 (12)	25 (10)	CRRS-1812/240-A	896	CRRS-1812/240C-A	991
5400	240	61 (30)	12 (25)	12 (35)	25 (10)	CRRS-2412/240-A	1112	CRRS-2412/240C-A	1224
3400	240	30 (12)	48 (19)	38 (15)	33 (13)	CRRS-1215/240-A	812	CRRS-1215/240C-A	896
5100	240	46 (18)	48 (19)	38 (15)	33 (13)	CRRS-1815/240-A	1096	CRRS-1815/240C-A	1205
6800	240**	61 (24)***	48 (19)	38 (15)	33 (13)	CRRS-2415/240-A	1504	CRRS-2415/240C-A	1657
4100	240	30 (12)	56 (22)	46 (18)	41 (16)	CRRS-1218/240-A	944	CRRS-1218/240C-A	1033
6150	240**	46 (18)	56 (22)	46 (18)	41 (16)	CRRS-1818/240-A	1224	CRRS-1818/240C-A	1330
8200	240**	61 (24)***	56 (22)	46 (18)	41 (16)	CRRS-2418/240-A	1762	CRRS-2418/240C-A	1937
4750	240	30 (12)	64 (25)	53 (21)	48 (19)	CRRS-1221/240-A	1096	CRRS-1221/240C-A	1205
7125	240**	46 (18)	64 (25)	53 (21)	48 (19)	CRRS-1821/240-A	1368	CRRS-1821/240C-A	1504
9500	240**	61 (24)***	64 (25)	53 (21)	48 (19)	CRRS-2421/240-A	1932	CRRS-2421/240C-A	2128

* Add 3" for units with vestibules ** Dual 240 Vac circuits

*** Using two 12" long heaters; the indicated wattage is the total of two 12" long heaters.

Ordering Example: CRRS-67/120C-A is an 800 watt 120 Vac heater, 6" long with a 7" ID and 3" unheated vestibules, \$292.

To Order, Call **1-800-872-4328** or Shop Online at **omega.comSM**

CERAMIC RIBBON HEATERS

Flat Plate Ceramic Heating Elements

CRFP Series
Starts at

\$140

- ✓ Rated to 900°C (1800°F)
- ✓ Helically Wound Ribbon Iron-Chrome-Aluminum
- ✓ Low Mass Vacuum Formed Ceramic Fiber
- ✓ Optional Unheated Flanges
- ✓ Low Watt Density
- ✓ Fast Heat-Up and Cool Down

APPLICATIONS

- ✓ Heat Treating Furnaces
- ✓ Fluidized Bed Furnaces
- ✓ Process Air Heating
- ✓ Pipe Heating

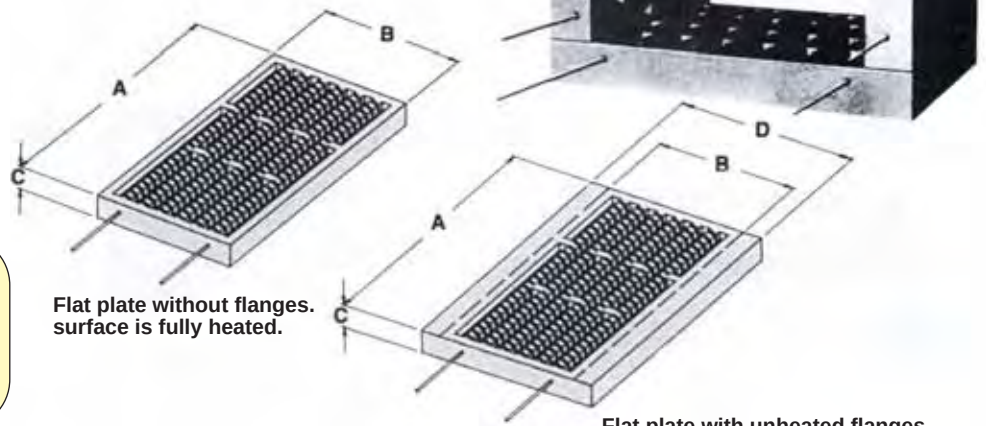
SPECIFICATIONS

Wattage: 300 to 6200 Watts

Voltage: 60, 120, and 240 Vac Single and dual/circuits

Two flat plate fiber heaters matched with 2 flanged flat plate fiber heaters to form box with 4 heated sides.

Many sizes of heaters available to form square or rectangular shaped chambers of various depths.



Flat plate without flanges. surface is fully heated.

Flat plate with unheated flanges. All flange plates have 51 mm (2") wide unheated flanges on each side of heated area.

MOST POPULAR MODELS HIGHLIGHTED!

To Order (Specify Model Number)									
Watts	Volts	Dimensions: cm (in)				Without Flanges		With Flanges	
		A DIM	B DIM	C DIM	D DIM	Model No.	Price	Model No.	Price
300	60	15 (6)	10 (4)	5 (2)	20 (8)	CRFP-64/60-A	\$140	CRFP-64/60-C-A	\$151
600	120	3 (12)	10 (4)	5 (2)	20 (8)	CRFP-124/120-A	194	CRFP-124/120-C-A	201
400	60	15 (6)	15 (6)	5 (2)	25 (10)	CRFP-66/60-A	168	CRFP-66/60-C-A	176
800	120	30 (12)	15 (6)	5 (2)	25 (10)	CRFP-126/120-A	210	CRFP-126/120-C-A	219
1250	120	46 (18)	15 (6)	5 (2)	25 (10)	CRFP-186/120-A	298	CRFP-186/120-C-A	316
1650	240	61 (24)	15 (6)	5 (2)	25 (10)	CRFP-246/240-A	334	CRFP-246/240-C-A	347
1100	120	30 (12)	20 (8)	5 (2)	30 (12)	CRFP-128/120-A	272	CRFP-128/120-C-A	289
1650	240	46 (18)	20 (8)	5 (2)	30 (12)	CRFP-188/240-A	316	CRFP-188/240-C-A	334
2200	240	61 (24)	20 (8)	5 (2)	30 (12)	CRFP-248/240-A	428	CRFP-248/240-C-A	455
1375	240	30 (12)	25 (10)	5 (2)	36 (14)	CRFP-1210/240-A	289	CRFP-1210/240-C-A	305
2050	240	46 (18)	25 (10)	5 (2)	36 (14)	CRFP-1810/240-A	376	CRFP-1810/240-C-A	411
2750	240	61 (24)	25 (10)	5 (2)	36 (14)	CRFP-2410/240-A	549	CRFP-2410/240-C-A	602
3400	240	76 (30)	25 (10)	5 (2)	36 (14)	CRFP-3010/240-A	671	CRFP-3010/240-C-A	742
1650	240	30 (12)	30 (12)	5 (2)	41 (16)	CRFP-1212/240-A	342	CRFP-1212/240-C-A	376
2460	240	46 (18)	30 (12)	5 (2)	41 (16)	CRFP-1812/240-A	461	CRFP-1812/240-C-A	506
3280	240	61 (24)	30 (12)	5 (2)	41 (16)	CRFP-2412/240-A	653	CRFP-2412/240-C-A	724
4100	240	76 (30)	30 (12)	5 (2)	41 (16)	CRFP-3012/240-A	774	CRFP-3012/240-C-A	854
3700	240	46 (18)	46 (18)	5 (2)	56 (22)	CRFP-1818/240-A	715	CRFP-1818/240-C-A	785
5000	240	61 (24)	46 (18)	5 (2)	56 (22)	CRFP-2418/240-A	750	CRFP-2418/240-C-A	827
6200	240*	76 (30)	46 (18)	5 (2)	56 (22)	CRFP-3018/240-A	1132	CRFP-3018/240-C-A	1244

* Dual 240 Vac circuits

Ordering Example: CRFP-1812/240-C-A, 2460 watt heater with vestibules powered by 240 Vac, \$506.

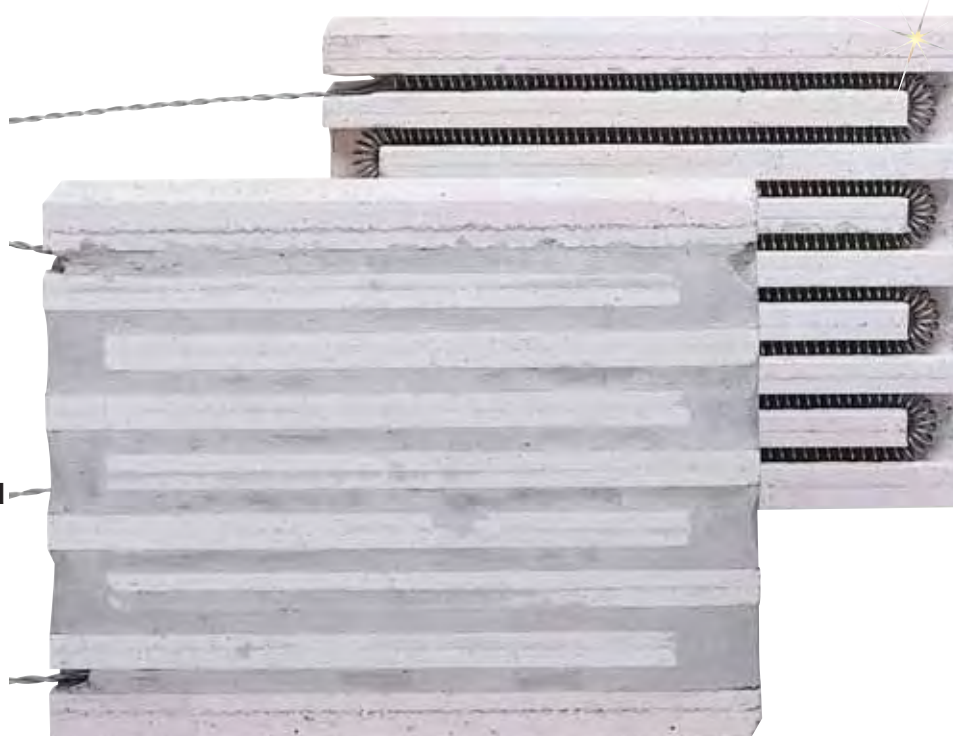
CERAMIC HEATER PLATES

CRHF Series
With Flange
Starts at

\$497



- ✓ 980°C (1800°F) Operating Temperature for Embedded Heating Element Construction
- ✓ 980°C (1800°F) Operating Temperature for Exposed Element Construction
- ✓ Imbedded Heating Elements Standard
- ✓ Optional Exposed Heating Elements



Imbedded heating elements standard, exposed optional

CRHF-18650/230, \$497, shown smaller than actual size.

With Flanges

MOST POPULAR MODELS HIGHLIGHTED!

To Order (Specify Model Number)								
Model Number	Wattage	Dimensions: mm (in)				Voltage	Price	Weight kg (lb)
		A	B	C	D			
CRHF-18650/230	2700	457 (18)	168 (6½)	38 (1½)	244 (9½)	230	\$497	9.8 (21.6)
CRHF-21650/230	3150	533 (21)	168 (6½)	38 (1½)	244 (9½)	230	580	11.4 (25.2)
CRHF-24650/230	3600	610 (24)	168 (6½)	38 (1½)	244 (9½)	230	664	13.1 (28.8)
CRHF-121250/230	3600	305 (12)	321 (12½)	38 (1½)	397 (15½)	230	540	10.6 (23.4)
CRHF-151250/230	4500	381 (15)	321 (12½)	38 (1½)	397 (15½)	230	675	13.3 (29.3)
CRHF-181250/230	5400	457 (18)	321 (12½)	38 (1½)	397 (15½)	230	807	15.9 (35.1)
CRHF-211250/230	6300	533 (21)	321 (12½)	38 (1½)	397 (15½)	230	940	18.6 (41)
CRHF-241250/230	7200	610 (24)	321 (12½)	38 (1½)	397 (15½)	230*	1076	21.2 (46.8)
CRHF-181850/230	7100	457 (18)	473 (18½)	51 (2)	549 (21½)	230*	1116	28.2 (62.1)
CRHF-211850/230	9450	533 (21)	473 (18½)	51 (2)	549 (21½)	230*	1301	32.8 (72.4)
CRHF-241850/460	10800	610 (24)	473 (18½)	51 (2)	549 (21½)	460	1487	37.6 (82.8)
CRHF-242450/460	14400	610 (24)	625 (24½)	51 (2)	702 (27½)	460†	1899	48 (105.8)

Includes complete operator's manual.

* These heaters contain two 230V circuits which may be wired in parallel for 230V operation or in series for 460V operation.

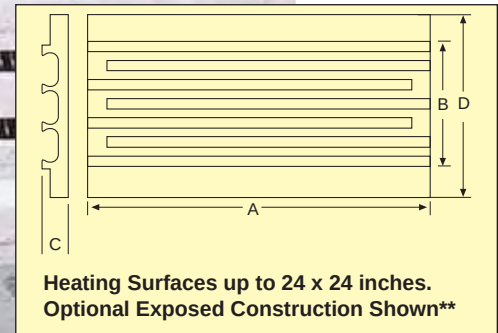
** Add suffix "-E" for exposed element construction, same price.

† Indicates heater containing two 460V circuits.

Ordering Example: CRHF-21650/230, flanged ceramic heater plate, 3150 Watts, 230 Vac, \$580.

CRHP Series
Without Flange
Starts at

\$230



CN77000
Series PID Autotune
Temperature/Process Controller,
\$229, visit omega.com for details

OMEGALUX® ceramic heater plates provide surface temperatures of up to 980°C (1800°F). The large, 16 mm (5/8") ID grooves permit the use of exceptionally heavy gauge heating wire for low element watt densities and high wattage per square inch of radiating surface. The elements can be imbedded in ceramic, or exposed, depending on requirements.

Special sizes, shapes, wattages, voltages, thermocouple access holes and extra long braided leads are available. Contact OMEGALUX Sales department for ordering information.

For Sales and Service in the U.S. and Canada:

1-800-872-4328®
1-800-USA-HEAT

Without Flanges

MOST POPULAR MODELS HIGHLIGHTED

To Order (Specify Model Number)

Model Number	Wattage	Dimensions: mm (in)			Voltage	Price	Wt. lb (kg)
		A	B	C			
CRHP-12650/230	1800	305 (12)	168 (6%)	38 (1½)	230	\$230	4.5 (9.9)
CRHP-15650/230	2250	381 (15)	168 (6%)	38 (1½)	230	287	5.6 (12.4)
CRHP-18650/230	2700	457 (18)	68 (6%)	38 (1½)	230	344	6.8 (14.9)
CRHP-21650/230	3150	533 (21)	68 (6%)	38 (1½)	230	400	7.9 (17.5)
CRHP-24650/230	3600	610 (24)	68 (6%)	38 (1½)	230	457	9 (19.8)
CRHP-121250/230	3600	305 (12)	321 (12%)	38 (1½)	230	437	8.6 (18.9)
CRHP-151250/230	4500	381 (15)	321 (12%)	38 (1½)	230	545	10.8 (23.8)
CRHP-181250/230	5400	457 (18)	321 (12%)	38 (1½)	230	655	12.8 (28.4)
CRHP-211250/230	4500	533 (21)	321 (12%)	38 (1½)	230	763	15 (33.1)
CRHP-241250/230	7200	610 (24)	321 (12%)	38 (1½)	230*	871	17.1 (37.8)
CRHP-181850/230	7100	457 (18)	473 (18%)	51 (2)	230*	967	24.3 (53.6)
CRHP-211850/230	9450	533 (21)	473 (18%)	51 (2)	230*	1121	28.4 (62.6)
CRHP-241850/460	10800	610 (24)	473 (18%)	51 (2)	460	1282	32.3 (71.3)
CRHP-242450/460	14400	610 (24)	625 (24%)	51 (2)	460†	1692	42.8 (94.3)

Includes complete operator's manual.

*These heaters contain two 230V circuits which may be wired in parallel for 230V operation or in series for 460V operation.

**Add suffix "-E" for exposed element construction, same price.

†Indicates heater containing two 460V circuits.

Ordering Example: **CRHP-21650/230**, ceramic heater plate, 3150 Watts, 230 Vac, \$400.

RUBE GOLDBERG

Rube Goldberg (rōob göld'berg), n. a comically involved, complicated invention, laboriously contrived to perform a simple operation — Webster's New World Dictionary

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\$220

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Smart Transmitter



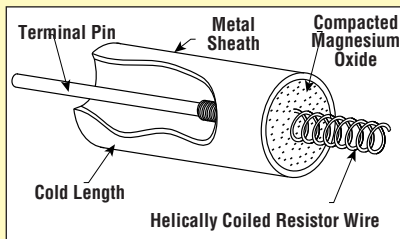
CN3261
Series
\$145
All Models

High-Limit
Temperature
Controller

**Please search omega.com
for more details on these
featured products!**



Tubular Heaters
Technical Reference
Free

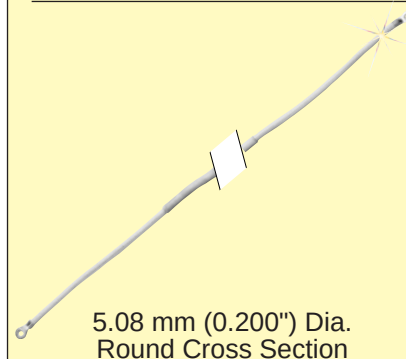


TRC and TRCC Style
Starts at
\$20

Visit omega.com
for full details



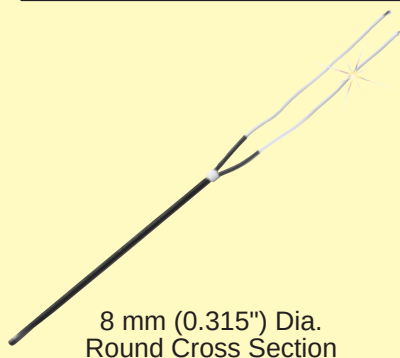
TSSM Style
Starts at
\$62



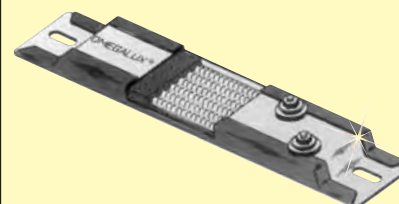
UTU
Starts at
\$70



STRI
Starts at
\$37



Band Heaters
Technical Reference
Free



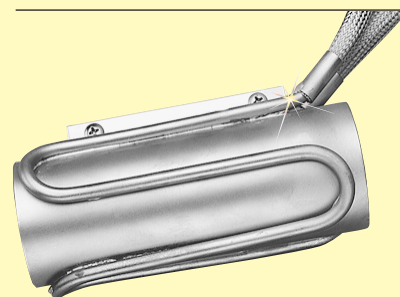
MB-1 Series
Starts at
\$53



HBA Series
Starts at
\$116



HBZ Series
Starts at
\$377





0.475" (12.07 mm) DIAMETER ROUND CROSS-SECTION

TRI Style Series
Starts at

\$72



- ✓ Incoloy Sheath
- ✓ 450 to 4750 Watts
- ✓ 120 and 240 Volt
- ✓ 30 W/in²

APPLICATIONS

Versatile tubular elements can be designed for use in most applications.

ADVANTAGES

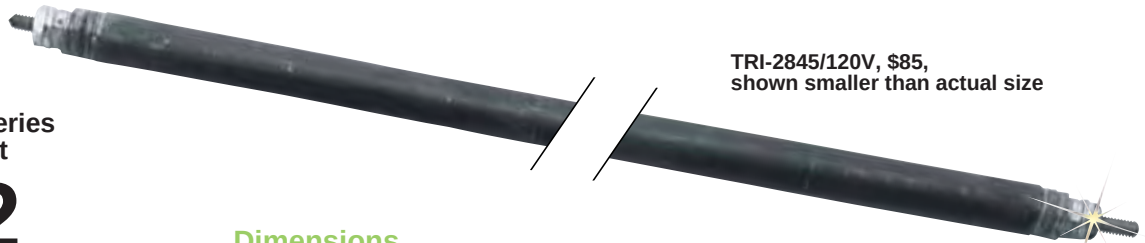
The metal sheath isolates and protects the resistor wire from the environment. At the same time, it maximizes heat transfer capability to the work. Tubular elements can be bent to put the heat where it works best.

FEATURES

Type 4 Terminals: Standard. Integral parts of the element are of high strength to resist bending during tightening of the wiring connections. Type 4 is threaded extension of the cold pin. See terminal detail drawing in the Tubular Heater Overview section on omega.com.

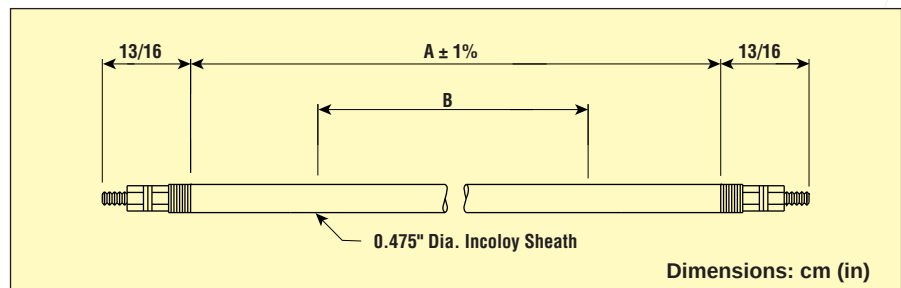
Work Temperatures: See Tubular Heater Overview section on omega.com.

Bending: Customer's minimum inside bending radius is 1½". See bending requirements in the Tubular Heater Overview section on omega.com.



TRI-2845/120V, \$85,
shown smaller than actual size

Dimensions



MOST POPULAR MODELS HIGHLIGHTED!

To Order (Specify Model Number)

Watts	Volts	W/in ²	Dimensions In. (cm)		INCOLOY Sheath		Weight Lb (kg)
			Sheath A	Heated B	Model No.	Price	
450	120	30	16 (41)	9½ (23)	TRI-1645/120V	\$72	0.5 (0.2)
540	120	30	18 (46)	11½ (28)	TRI-1845/120V	74	0.5 (0.2)
635	120	30	20 (51)	13½ (33)	TRI-2045/120V	77	0.5 (0.2)
750	120	30	23 (58)	16½ (41)	TRI-2345/120V	80	0.5 (0.2)
750	240	30	23 (58)	16½ (41)	TRI-2345/240V	80	0.5 (0.2)
825	240	30	25 (64)	18½ (46)	TRI-2545/240V	82	0.7
900	240	30	27 (69)	20½ (51)	TRI-2745/240V	84	0.9
1000	120	30	28 (71)	21½ (54)	TRI-2845/120V	85	1
1000	240	30	28 (71)	21½ (54)	TRI-2845/240V	85	1
1100	240	30	30 (76)	23½ (59)	TRI-3045/240V	88	1
1200	240	30	32 (81)	25½ (64)	TRI-3245/240V	90	1.1
1275	240	30	34 (86)	27½ (69)	TRI-3445/240V	92	1.1
1350	240	30	36 (91)	29½ (74)	TRI-3645/240V	94	1.2
1500	120	30	40 (102)	33½ (84)	TRI-4045/120V	99	1.3
1500	240	30	40 (102)	33½ (84)	TRI-4045/240V	99	1.3
1725	240	30	44 (112)	37½ (94)	TRI-4445/240V	103	1.4
1800	240	30	46 (117)	39½ (99)	TRI-4645/240V	109	1.6
1950	240	30	50 (127)	43½ (110)	TRI-5045/240V	115	1.8
2000	240	30	54½ (138)	47¾ (120)	TRI-5445/240V	121	1.8
2250	240	30	58 (147)	51 (130)	TRI-5845/240V	127	1.8
2500	120	30	60 (152)	53 (135)	TRI-6045/120V	130	1.8
2500	240	30	60 (152)	53 (135)	TRI-6045/240V	130	1.8
2750	240	30	66 (168)	59 (150)	TRI-6645/240V	139	1.8
3000	240	30	70 (178)	63 (160)	TRI-7045/240V	145	1.8
3125	240	30	74 (188)	67 (170)	TRI-7445/240V	151	1.8
3250	240	30	78 (198)	71 (180)	TRI-7845/240V	157	1.8
3500	240	30	85 (216)	78 (198)	TRI-8545/240V	168	2.3
4000	240	30	100 (254)	93 (236)	TRI-10045/240V	249	3.3
4500	240	30	108 (274)	101 (257)	TRI-10845/240V	260	3.3
4750	240	30	112 (284)	105 (267)	TRI-11245/240V	266	3.3

Ordering Example: TRI-5045/240V is a 1950 Watt, 240V Heater, \$115.

TUBULAR HEATERS

0.475" (12.07 mm) DIAMETER ROUND CROSS-SECTION

TRID-4065/240V,
\$99, shown smaller
than actual size.



TRID and TRIW Series
Starts at

\$99



- ✓ Incoloy Sheath
- ✓ 1000 to 7500 Watts
- ✓ 120, 240 and 480V
- ✓ 19 and 22 W/in² (Type TRID)
- ✓ 40 W/in² (Type TRIW)
- ✓ 871°C (1600°F) Max Sheath Temperature

APPLICATIONS

Versatile tubular elements can be designed for use in most applications. See guidelines in the Tubular Heater Overview section on omega.com.

ADVANTAGES

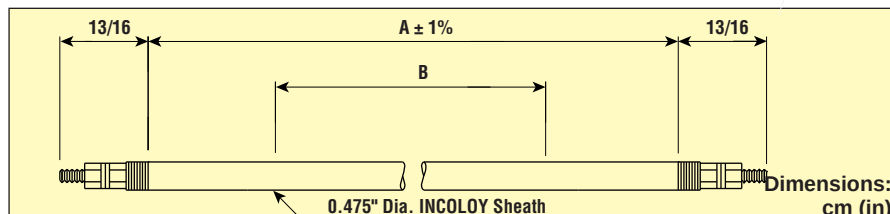
The metal sheath isolates and protects the resistor wire from the environment. At the same time it maximizes heat transfer capability to the work. Tubular elements can be bent to put the heat where it works best.

FEATURES

Type 4 Terminals: Standard. Integral parts of the element are of high strength to resist bending during tightening of the wiring connections. Type 4 is threaded extension of the cold pin. See terminal detail drawing in the Tubular Heater Overview section on omega.com.

Work Temperatures: See Tubular Heater Overview section on omega.com.

Bending: Customer's minimum inside bending radius is 1½". See bending requirements in the Tubular Heater Overview section on omega.com.



MOST POPULAR MODELS HIGHLIGHTED!

To Order (Specify Model Number)							
Watts	Volts	W/in²	Dimensions In. (cm)		INCOLOY Sheath		Weight Lb (kg)
			Sheath A	Heated B	Model No.	Price	
TRID — 22 W/in²							
1000	240	22	40 (102)	28¾ (71)	TRID-4065/240V	\$99	1.3 (0.6)
1000	480	22	40 (102)	28¾ (71)	TRID-4065/480V	99	1.3 (0.6)
1250	240	22	43¾ (111)	31¼ (80)	TRID-4365/240V	102	1.5 (0.7)
1250	480	22	43¾ (111)	31¼ (80)	TRID-4365/480V	102	1.5 (0.7)
1500	240	22	54¾ (138)	42¾ (108)	TRID-5465/240V	121	1.8 (0.8)
1500	480	22	54¾ (138)	42¾ (108)	TRID-5465/480V	121	1.8 (0.8)
2000	240	22	70 (178)	58¾ (148)	TRID-7065/240V	145	1.8 (0.8)
2000	480	22	70 (178)	58¾ (148)	TRID-7065/480V	145	1.8 (0.8)
2500	240	22	85 (216)	73¾ (186)	TRID-8565/240V	168	2.3 (1)
2500	480	22	85 (216)	73¾ (186)	TRID-8565/480V	168	2.3 (1)
3000	240	22	100 (254)	88¾ (224)	TRID-10065/240V	249	3.3 (1.5)
3000	480	22	100 (254)	88¾ (224)	TRID-10065/480V	249	3.3 (1.5)
3334	240	22	108 (274)	96¾ (244)	TRID-10865/240V	260	3.3 (1.5)
4167	240	22	134 (340)	122¾ (310)	TRID-13465/240V	297	4.3 (2)
5000	240	22	160 (406)	148¾ (376)	TRID-16065/240V	334	6 (2.7)
TRID — 19 W/in²							
1667	240	19	70 (178)	54¾ (138)	TRID-7085/240V	145	1.8 (0.8)
2225	240	19	91¾ (233)	76 (193)	TRID-9285/240V	237	2.3 (1)
2778	240	19	108 (274)	92¾ (235)	TRID-10885/240V	260	3.3 (1.5)
TRIW — 40 W/in²							
1000	120	40	20 (51)	13¾ (33)	TRIW-2045/120V	77	0.5 (0.2)
1000	240	40	20 (51)	13¾ (33)	TRIW-2045/240V	77	0.5 (0.2)
1250	120	40	23 (58)	16¾ (41)	TRIW-2345/120V	80	0.5 (0.2)
1250	240	40	23 (58)	16¾ (41)	TRIW-2345/240V	80	0.5 (0.2)
1500	120	40	28 (71)	21¾ (56)	TRIW-2845/120V	85	1 (0.5)
1500	240	40	28 (71)	21¾ (56)	TRIW-2845/240V	85	1 (0.5)
1500	480	40	28 (71)	21¾ (56)	TRIW-2845/480V	85	1 (0.5)
2000	240	40	40 (102)	28 (71)	TRIW-4065/240V	99	1.3 (0.6)
2000	480	40	40 (102)	28 (71)	TRIW-4065/480V	99	1.3 (0.6)
2500	240	40	43¾ (110)	31¾ (80)	TRIW-4365/240V	102	1.3 (0.6)
2500	480	40	43¾ (110)	31¾ (80)	TRIW-4365/480V	102	1.3 (0.6)
3000	240	40	54¾ (138)	42¾ (108)	TRIW-5465/240V	121	1.8 (0.8)
3000	480	40	54¾ (138)	42¾ (108)	TRIW-5465/480V	121	1.8 (0.8)
3500	240	40	60 (152)	48 (122)	TRIW-6065/240V	130	1.8 (0.8)
4000	240	40	70 (178)	58 (147)	TRIW-7065/240V	145	1.8 (0.8)
4000	480	40	70 (178)	58 (147)	TRIW-7065/480V	145	1.8 (0.8)
5000	240	40	85 (216)	73 (185)	TRIW-8565/240V	168	2.3 (1)
5000	480	40	85 (216)	73 (185)	TRIW-8565/480V	168	2.3 (1)
6000	240	40	100 (254)	88 (224)	TRIW-10065/240V	249	3.3 (1.5)
6000	480	40	100 (254)	88 (224)	TRIW-10065/480V	249	3.3 (1.5)
7500	240	40	112 (284)	100 (254)	TRIW-11265/240V	266	3.3 (1.5)

Ordering Example: TRID-16065/240V is a 5000 Watt, 240 Volt Heater, \$334.

To Order, Call **1-800-872-4328** or Shop Online at omega.comSM

0.430" (10.92 mm) DIAMETER ROUND CROSS-SECTION

TRI Series
Starts at

\$76



- ✓ Incoloy Sheath
- ✓ 400 to 4,500 Watts
- ✓ 120 and 240V
- ✓ 30 W/in²
- ✓ 871°C (1600°F) Max Sheath Temperature



TRI-1644/120V, \$76,
shown smaller than actual size.

APPLICATIONS

Versatile tubular elements can be designed for use in most applications. See guidelines in the Tubular Heater Overview section on omega.com.

ADVANTAGES

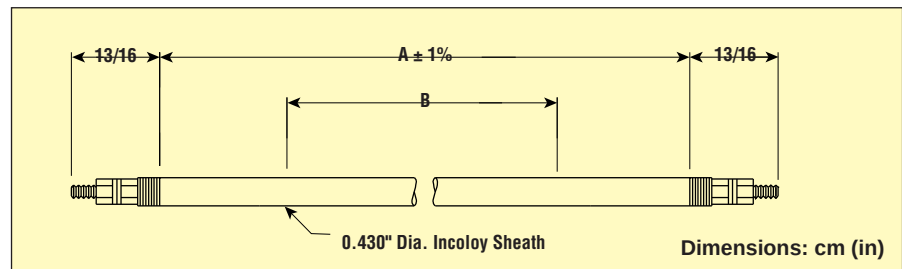
The metal sheath isolates and protects the resistor wire from the environment. At the same time it maximizes heat transfer capability to the work. Tubular elements can be bent to put the heat where it works best.

FEATURES

Type 4 Terminals: Standard. Integral parts of the element are of high strength to resist bending during tightening of the wiring connections. Type 4 is threaded extension of the cold pin. See terminal detail drawing in the Tubular Heater Overview section on omega.com.

Work Temperatures: See Tubular Heater Overview section on omega.com.

Bending: Customer's minimum inside bending radius is 1½". See bending requirements in the Tubular Heater Overview section on omega.com.



MOST POPULAR MODELS HIGHLIGHTED!

To Order (Specify Model Number)

Watts	Volts	W/in ²	Dimensions in. (cm)		INCOLOY Sheath		Weight (Lb.)
			Sheath A	Heated B	Model No.	Price	
400	120	30	16 (41)	9½ (23)	TRI-1644/120V	\$76	0.5
575	120	30	20 (51)	13¾ (33)	TRI-2044/120V	80	0.5
900	240	30	28 (71)	21¾ (56)	TRI-2844/240V	89	1
1100	240	30	32 (81)	25¾ (64)	TRI-3244/240V	94	1.1
1300	240	30	36 (91)	29¾ (74)	TRI-3644/240V	98	1.2
1400	240	30	40 (102)	33¾ (84)	TRI-4044/240V	103	1.2
2000	240	30	54 (137)	47¾ (120)	TRI-5444/240V	145	1.7
2300	240	30	60 (152)	53 (135)	TRI-6044/240V	154	1.7
2500	240	30	66 (168)	59 (150)	TRI-6644/240V	163	1.7
2700	240	30	70 (178)	63 (160)	TRI-7044/240V	169	1.7
3100	240	30	78 (198)	71 (180)	TRI-7844/240V	181	1.7
3400	240	30	85 (216)	78 (198)	TRI-8544/240V	192	2.2
4000	240	30	100 (254)	93 (236)	TRI-10044/240V	253	3.2
4300	240	30	108 (274)	101 (257)	TRI-10844/240V	265	3.2
4500	240	30	112 (284)	105 (267)	TRI-11244/240V	270	3.2

Ordering Example: TRI-7844/240V is a 3100 Watt, 240V heater, \$181

0.375" (9.53 mm) DIAMETER ROUND CROSS-SECTION

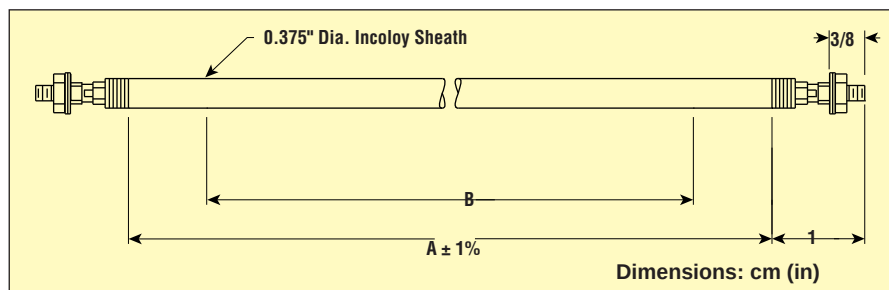
TRI Series
Starts at

\$52



- ✓ Incoloy Sheath
- ✓ 350 to 4000 Watts
- ✓ 120 and 240V
- ✓ 30 W/in²
- ✓ 871°C (1600°F) Max Sheath Temperature

TRI-2843/120V, \$65, shown smaller than actual size.



APPLICATIONS

Versatile tubular elements can be designed for use in most applications. See guidelines in the Tubular Heater Overview section on omega.com.

ADVANTAGES

The metal sheath isolates and protects the resistor wire from the environment. At the same time it maximizes heat transfer capability to the work. Tubular elements can be bent to put the heat where it works best.

FEATURES

Type 3 Terminals: Heliarc-welded to the cold pin. See terminal detail drawing in the Tubular Heater Overview section on omega.com.

Work Temperatures: See Tubular Heater Overview section on omega.com.

Bending: Customer's minimum bending inside radius is 1 1/16". See bending requirements in the Tubular Heater Overview section on omega.com.

MOST POPULAR MODELS HIGHLIGHTED!

To Order (Specify Model Number)

Watts	Volts	W/in ²	Dimensions: in (cm)		INCOLOY Sheath		Weight (lb)
			Sheath A	Heated B	Model No.	Price	
350	120	30	16 (41)	9 1/4 (23)	TRI-1643/120V	\$52	0.4
500	120	30	20 (51)	13 1/4 (34)	TRI-2043/120V	56	0.4
800	120	30	28 (71)	21 1/4 (54)	TRI-2843/120V	65	0.8
800	240	30	28 (71)	21 1/4 (54)	TRI-2843/240V	65	0.8
950	120	30	32 (81)	25 1/4 (64)	TRI-3243/120V	70	0.8
950	240	30	32 (81)	25 1/4 (64)	TRI-3243/240V	70	0.8
1100	240	30	36 (91)	29 1/4 (74)	TRI-3643/240V	74	0.8
1300	120	30	42 (107)	35 1/4 (90)	TRI-4243/120V	81	1
1300	240	30	42 (107)	35 1/4 (90)	TRI-4243/240V	81	1
1500	240	30	48 (122)	41 1/4 (105)	TRI-4843/240V	96	1.1
1800	120	30	54 (137)	47 1/4 (120)	TRI-5443/120V	106	1.3
1800	240	30	54 (137)	47 1/4 (120)	TRI-5443/240V	106	1.3
2100	240	30	62 (157)	55 1/4 (140)	TRI-6243/240V	118	1.3
2400	240	30	70 (178)	63 1/4 (161)	TRI-7043/240V	130	1.3
3000	240	30	86 (218)	79 1/4 (201)	TRI-8643/240V	154	1.8
3600	240	30	102 (259)	95 1/4 (242)	TRI-10243/240V	235	2
4000	240	30	112 (284)	105 1/4 (268)	TRI-11243/240V	249	2.5

Ordering Example: TRI-4243/120V is a 1300 Watt, 120V heater, \$81.

0.315" (8 mm) DIAMETER ROUND CROSS-SECTION



TRI Series
Starts at

\$43



- ✓ Incoloy Sheath
- ✓ 275 to 1450 Watts
- ✓ 120, 240 and 480V
- ✓ 30 W/in²
- ✓ 871°C (1600°F) Max Sheath Temperature

APPLICATIONS

Versatile tubular elements can be designed for use in most applications. See guidelines in the Tubular Heater Overview section on omega.com.

ADVANTAGES

The metal sheath isolates and protects the resistor wire from the environment. At the same time it maximizes heat transfer capability to the work. Tubular elements can be bent to put the heat where it works best.

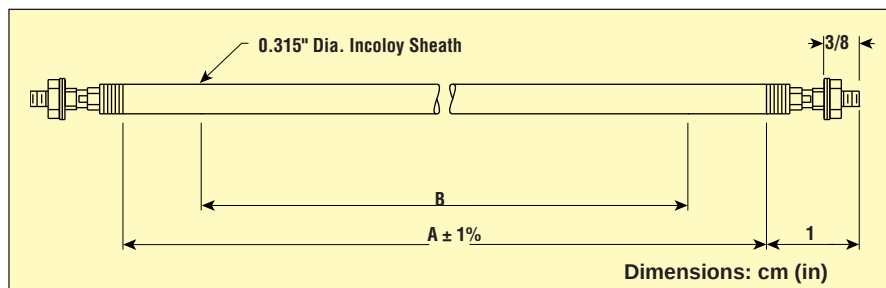
FEATURES

Type 3 Terminals: Heliarc-welded to the cold pin. See terminal detail drawing in the Tubular Heater Overview section on omega.com.

Work Temperatures: See Tubular Heater Overview section on omega.com.

Bending: Customer's minimum inside bending radius is 1½". See bending requirements in the Tubular Heater Overview section on omega.com.

TRI-3448/120V, \$63,
shown smaller than actual size.



MOST POPULAR MODELS HIGHLIGHTED!

To Order (Specify Model Number)

Watts	Volts	W/in ²	Dimensions In. (cm)		INCOLOY Sheath		Wt. (Lb.)
			Sheath A	Heated B	Model No.	Price	
275	120	30	16 (41)	9¾ (23)	TRI-1648/120V	\$43	0.4
350	120	30	18 (46)	11¼ (29)	TRI-1848/120V	45	0.4
400	120	30	20 (51)	13¾ (34)	TRI-2048/120V	48	0.4
500	120	30	22 (56)	15¾ (39)	TRI-2248/120V	50	0.5
650	120	30	25 (64)	18¾ (46)	TRI-2548/120V	53	0.6
650	240	30	25 (64)	18¾ (46)	TRI-2548/240V	53	0.6
700	120	30	27 (69)	20¾ (51)	TRI-2748/120V	55	0.7
700	240	30	27 (69)	20¾ (51)	TRI-2748/240V	55	0.7
625	120	30	28 (71)	21¼ (54)	TRI-2848/120V	56	0.8
625	240	30	28 (71)	21¼ (54)	TRI-2848/240V	56	0.8
800	120	30	30 (76)	23¾ (59)	TRI-3048/120V	59	0.8
800	240	30	30 (76)	23¾ (59)	TRI-3048/240V	59	0.8
750	120	30	32 (81)	25¾ (64)	TRI-3248/120V	61	0.8
750	240	30	32 (81)	25¾ (64)	TRI-3248/240V	61	0.8
900	120	30	34 (86)	27¾ (69)	TRI-3448/120V	63	0.8
900	240	30	34 (86)	27¾ (69)	TRI-3448/240V	63	0.8
850	120	30	36 (91)	29¾ (74)	TRI-3648/120V	65	0.8
850	240	30	36 (91)	29¾ (74)	TRI-3648/240V	65	0.8
1050	120	30	38 (97)	31¾ (79)	TRI-3848/120V	67	0.9
1050	240	30	38 (97)	31¾ (79)	TRI-3848/240V	67	0.9
975	120	30	40 (102)	33¾ (84)	TRI-4048/120V	70	1
975	240	30	40 (102)	33¾ (84)	TRI-4048/240V	70	1
1200	120	30	42 (107)	35¾ (90)	TRI-4248/120V	72	1
1200	240	30	42 (107)	35¾ (90)	TRI-4248/240V	72	1
1250	120	30	44 (112)	37¾ (95)	TRI-4448/120V	74	1
1250	240	30	44 (112)	37¾ (95)	TRI-4448/240V	74	1
1150	120	30	46 (117)	39¾ (100)	TRI-4648/120V	84	1
1150	240	30	46 (117)	39¾ (100)	TRI-4648/240V	84	1
1150	480	30	46 (117)	39¾ (100)	TRI-4648/480V	84	1
1350	120	30	48 (122)	41¾ (105)	TRI-4848/120V	87	1.1
1350	240	30	48 (122)	41¾ (105)	TRI-4848/240V	87	1.1
1450	120	30	50 (127)	43¾ (110)	TRI-5048/120V	90	1.2
1450	240	30	50 (127)	43¾ (110)	TRI-5048/240V	90	1.2
1325	120	30	52 (132)	45¾ (115)	TRI-5248/120V	93	1.3
1325	240	30	52 (132)	45¾ (115)	TRI-5248/240V	93	1.3
1325	480	30	52 (132)	45¾ (115)	TRI-5248/480V	93	1.3

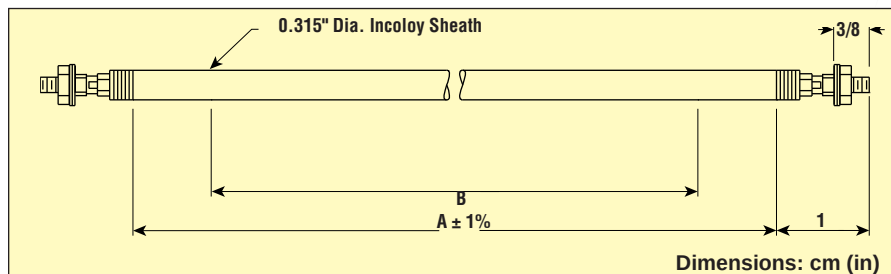
Ordering Example: TRI-3848/240V is a 1050 Watt, 240V heater, \$67.

0.315" (8 mm) DIAMETER ROUND CROSS-SECTION



TRI Series
Starts at

\$96



- ✓ Incoloy Sheath
- ✓ 1550 to 3150 Watts
- ✓ 120, 240 and 480V
- ✓ 30 W/in²
- ✓ 871°C (1600°F) Max Sheath Temperature

APPLICATIONS

Versatile tubular elements can be designed for use in most applications. See guidelines in the Tubular Heater Overview section on omega.com.

ADVANTAGES

The metal sheath isolates and protects the resistor wire from the environment. At the same time it maximizes heat transfer capability to the work. Tubular elements can be bent to put the heat where it works best.

FEATURES

Type 3 Terminals: Heliarc-welded to the cold pin. See terminal detail drawing in the Tubular Heater Overview section on omega.com.

Work Temperatures: See Tubular Heater Overview section on omega.com.

Bending: Customer's minimum inside bending radius is 1½". See bending requirements in the Tubular Heater Overview section on omega.com.

MOST POPULAR MODELS HIGHLIGHTED!

To Order (Specify Model Number)

Watts	Volts	W/in ²	Dimensions In. (cm)		INCOLOY Sheath		Wt. (Lb.)
			Sheath A	Heated B	Model No.	Price	
1550	120	30	54 (137)	47¼ (120)	TRI-5448/120V	\$96	1.3
1550	240	30	54 (137)	47¼ (120)	TRI-5448/240V	96	1.3
1500	120	30	58 (147)	51¼ (130)	TRI-5848/120V	103	1.3
1500	240	30	58 (147)	51¼ (130)	TRI-5848/240V	103	1.3
1500	480	30	58 (147)	51¼ (130)	TRI-5848/480V	103	1.3
1850	120	30	62 (157)	55¼ (140)	TRI-6248/120V	109	1.3
1850	240	30	62 (157)	55¼ (140)	TRI-6248/240V	109	1.3
1675	120	30	64 (163)	57¼ (145)	TRI-6448/120V	112	1.3
1675	240	30	64 (163)	57¼ (145)	TRI-6448/240V	112	1.3
1675	480	30	64 (163)	57¼ (145)	TRI-6448/480V	115	1.3
1950	120	30	66 (168)	59¼ (150)	TRI-6648/120V	115	1.3
1950	240	30	66 (168)	59¼ (150)	TRI-6648/240V	115	1.3
1850	120	30	70 (178)	63¼ (161)	TRI-7048/120V	121	1.3
1850	240	30	70 (178)	63¼ (161)	TRI-7048/240V	121	1.3
1850	480	30	70 (178)	63¼ (161)	TRI-7048/480V	121	1.3
2250	240	30	74 (188)	67¼ (163)	TRI-7448/240V	127	1.5
2025	120	30	76 (193)	69¼ (176)	TRI-7648/120V	130	1.5
2025	240	30	76 (193)	69¼ (176)	TRI-7648/240V	130	1.5
2025	480	30	76 (193)	69¼ (176)	TRI-7648/480V	130	1.5
2350	240	30	78 (198)	71¼ (181)	TRI-7848/240V	133	1.5
2200	120	30	82 (208)	75¼ (191)	TRI-8248/120V	139	1.8
2200	240	30	82 (208)	75¼ (191)	TRI-8248/240V	139	1.8
2200	480	30	82 (208)	75¼ (191)	TRI-8248/480V	139	1.8
2600	240	30	86 (218)	79¼ (201)	TRI-8648/240V	145	1.8
2375	240	30	88 (224)	81¼ (206)	TRI-8848/240V	168	1.8
2375	480	30	88 (224)	81¼ (206)	TRI-8848/480V	168	1.8
2750	240	30	90 (229)	83¼ (211)	TRI-9048/240V	168	1.8
2550	240	30	94 (239)	87¼ (222)	TRI-9448/240V	171	1.8
2550	480	30	94 (239)	87¼ (222)	TRI-9448/480V	171	1.8
3000	240	30	98 (249)	91¼ (232)	TRI-9848/240V	182	2
2700	240	30	100 (254)	93¼ (237)	TRI-10048/240V	185	2
2700	480	30	100 (254)	93¼ (237)	TRI-10048/480V	185	2
3150	240	30	102 (259)	95¼ (242)	TRI-10248/240V	188	2
2875	240	30	106 (269)	99¼ (252)	TRI-10648/240V	194	2.3
2875	480	30	106 (269)	99¼ (252)	TRI-10648/480V	194	2.3
3050	240	30	112 (284)	105¼ (267)	TRI-11248/240V	202	2.5
3050	480	30	112 (284)	105¼ (267)	TRI-11248/480V	202	2.5

Ordering Example: TRI-7648/240V is a 2025 Watt, 240V heater, \$130.

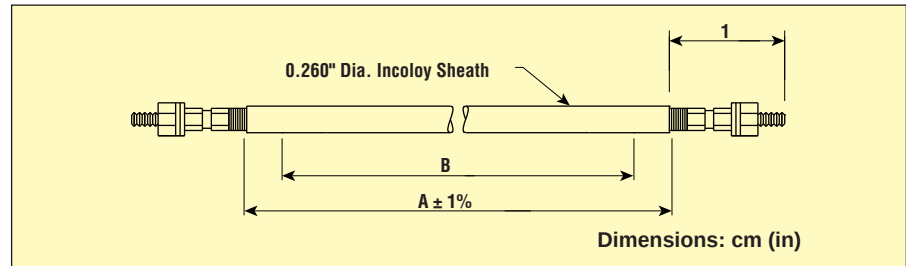
0.260" (6.6 mm) DIAMETER ROUND CROSS-SECTION

TRI3216/120V, \$59,
shown smaller than actual size.



TRI Series
Starts at

\$37



- ✓ Incoloy Sheath
- ✓ 175 to 2500 Watts
- ✓ 120 and 240V
- ✓ 30 W/in²
- ✓ 871°C (1600°F) Max Sheath Temperature

APPLICATIONS

Versatile tubular elements can be designed for use in most applications. See guidelines in the Tubular Heater Overview section on omega.com.

ADVANTAGES

The metal sheath isolates and protects the resistor wire from the environment. At the same time it maximizes heat transfer capability to the work. Tubular elements can be bent to put the heat where it works best.

FEATURES

Type 28 Terminals: Heliarc-welded to the cold pin. See terminal detail drawing in the Tubular Heater Overview section on omega.com.

Work Temperatures: See Tubular Heater Overview section on omega.com.

Bending: Customer's minimum inside bending radius is $\frac{1}{8}$ ". See bending requirements in the Tubular Heater Overview section on omega.com.

MOST POPULAR MODELS HIGHLIGHTED!

To Order (Specify Model Number)

Watts	Volts	W/in ²	Dimensions In. (cm)		INCOLOY Sheath		Wt. (Lb.)
			Sheath A	Heated B	Model No.	Price	
175	120	30	12 (30)	7½ (19)	TRI-1216/120V	\$37	0.2
270	120	30	16 (41)	11½ (29)	TRI-1616/120V	41	0.3
360	120	30	20 (51)	15½ (39)	TRI-2016/120V	46	0.3
360	240	30	20 (51)	15½ (39)	TRI-2016/240V	46	0.3
450	120	30	24 (61)	19½ (50)	TRI-2416/120V	50	0.3
450	240	30	24 (61)	19½ (50)	TRI-2416/240V	50	0.3
550	120	30	28 (71)	23½ (60)	TRI-2816/120V	54	0.5
550	240	30	28 (71)	23½ (60)	TRI-2816/240V	54	0.5
650	120	30	32 (81)	27½ (70)	TRI-3216/120V	59	0.6
650	240	30	32 (81)	27½ (70)	TRI-3216/240V	59	0.6
725	120	30	36 (91)	31½ (80)	TRI-3616/120V	59	0.6
725	240	30	36 (91)	31½ (80)	TRI-3616/240V	59	0.6
825	120	30	40 (102)	35½ (90)	TRI-4016/120V	68	0.7
825	240	30	40 (102)	35½ (90)	TRI-4016/240V	68	0.7
975	120	30	46 (117)	41½ (105)	TRI-4616/120V	68	0.7
975	240	30	46 (117)	41½ (105)	TRI-4616/240V	68	0.7
1100	120	30	52 (132)	47½ (121)	TRI-5216/120V	96	0.9
1100	240	30	52 (132)	47½ (121)	TRI-5216/240V	96	0.9
1250	120	30	58 (147)	53½ (136)	TRI-5816/120V	106	0.9
1250	240	30	58 (147)	53½ (136)	TRI-5816/240V	106	0.9
1400	120	30	64 (163)	59½ (151)	TRI-6416/120V	115	0.9
1400	240	30	64 (163)	59½ (151)	TRI-6416/240V	115	0.9
1525	120	30	70 (178)	65½ (166)	TRI-7016/120V	124	0.9
1525	240	30	70 (178)	65½ (166)	TRI-7016/240V	124	0.9
1650	120	30	76 (193)	71½ (182)	TRI-7616/120V	133	0.9
1650	240	30	76 (193)	71½ (182)	TRI-7616/240V	133	0.9
1800	120	30	82 (208)	77½ (197)	TRI-8216/120V	142	1.3
1800	240	30	82 (208)	77½ (197)	TRI-8216/240V	142	1.3
1950	120	30	88 (224)	83½ (212)	TRI-8816/120V	168	1.3
1950	240	30	88 (224)	83½ (212)	TRI-8816/240V	168	1.3
2100	240	30	94 (239)	89½ (227)	TRI-9416/240V	177	1.3
2200	240	30	100 (225)	95½ (243)	TRI-10016/240V	185	1.7
2350	240	30	106 (269)	101½ (258)	TRI-10616/240V	194	1.7
2500	240	30	112 (284)	107½ (273)	TRI-11216/240V	202	1.7

Ordering Example: TRI-4016/240V is a 825 Watt, 240V heater, \$68.

0.246" (6.25 mm) DIAMETER ROUND CROSS-SECTION



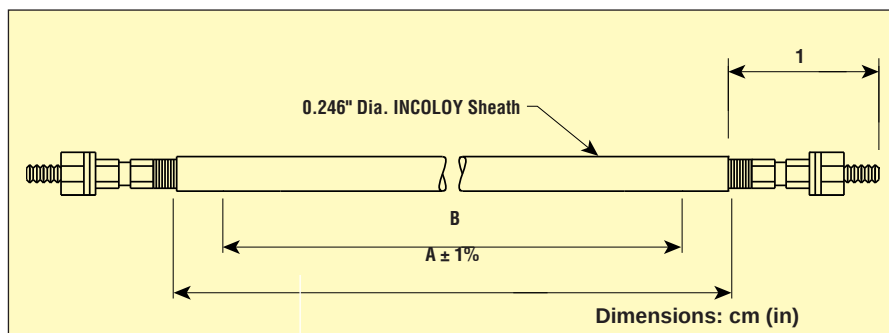
TRI Series
Starts at

\$37



TRI-5212/120V, \$96,
shown smaller than actual size.

- ✓ Incoloy Sheath
- ✓ 165 to 2365 Watts
- ✓ 120 and 240V
- ✓ 30 W/In²
- ✓ 871°C (1600°F) Max Sheath Temperature



MOST POPULAR MODELS HIGHLIGHTED!

APPLICATIONS

Versatile tubular elements can be designed for use in most applications. See guidelines in the Tubular Heater Overview section on omega.com.

ADVANTAGES

The metal sheath isolates and protects the resistor wire from the environment. At the same time it maximizes heat transfer capability to the work. Tubular elements can be bent to put the heat where it works best.

FEATURES

Small Diameter Tubular

Elements: Most easily bent to conform to work surfaces and to "pack" heat into confined spaces. Because of the small cross-section, these tubulars also heat up and cool rapidly.

Type 28 Terminals: Heliarc-welded to the cold pin. See terminal detail drawing in the Tubular Heater Overview section on omega.com.

Work Temperatures: See Tubular Heater Overview section on omega.com.

Bending: Customer's minimum inside bending radius is ¾". See bending requirements in the Tubular Heater Overview section on omega.com.

To Order (Specify Model Number)

Watts	Volts	W/In ²	Dimensions In. (cm)		INCOLOY Sheath		Wt. (Lb.)
			Sheath A	Heated B	Model No.	Price	
165	120	30	12 (30)	7½ (19)	TRI-1212/120V	\$37	0.2
255	120	30	16 (41)	11½ (29)	TRI-1612/120V	41	0.3
340	120	30	20 (51)	15½ (39)	TRI-2012/120V	46	0.3
340	240	30	20 (51)	15½ (39)	TRI-2012/240V	46	0.3
430	120	30	24 (61)	19½ (50)	TRI-2412/120V	50	0.3
430	240	30	24 (61)	19½ (50)	TRI-2412/240V	50	0.3
515	120	30	28 (71)	23½ (60)	TRI-2812/120V	54	0.5
515	240	30	28 (71)	23½ (60)	TRI-2812/240V	54	0.5
605	120	30	32 (81)	27½ (70)	TRI-3212/120V	59	0.5
605	240	30	32 (81)	27½ (70)	TRI-3212/240V	59	0.5
690	120	30	36 (91)	31½ (80)	TRI-3612/120V	63	0.5
690	240	30	36 (91)	31½ (80)	TRI-3612/240V	63	0.5
780	120	30	40 (102)	35½ (90)	TRI-4012/120V	67	0.7
780	240	30	40 (102)	35½ (90)	TRI-4012/240V	67	0.7
910	120	30	46 (117)	41½ (105)	TRI-4612/120V	87	0.7
910	240	30	46 (117)	41½ (105)	TRI-4612/240V	87	0.7
1045	120	30	52 (132)	47½ (121)	TRI-5212/120V	96	0.9
1045	240	30	52 (132)	47½ (121)	TRI-5212/240V	96	0.9
1175	120	30	58 (147)	53½ (136)	TRI-5812/120V	106	0.9
1175	240	30	58 (147)	53½ (136)	TRI-5812/240V	106	0.9
1310	120	30	64 (163)	59½ (151)	TRI-6412/120V	115	0.9
1310	240	30	64 (163)	59½ (151)	TRI-6412/240V	115	0.9
1440	120	30	70 (178)	65½ (166)	TRI-7012/120V	124	0.9
1440	240	30	70 (178)	65½ (166)	TRI-7012/240V	124	0.9
1570	120	30	76 (193)	71½ (182)	TRI-7612/120V	133	0.9
1570	240	30	76 (193)	71½ (182)	TRI-7612/240V	133	0.9
1700	120	30	82 (208)	77½ (197)	TRI-8212/120V	142	1.2
1700	240	30	82 (208)	77½ (197)	TRI-8212/240V	142	1.2
1835	120	30	88 (224)	83½ (212)	TRI-8812/120V	168	1.2
1835	240	30	88 (224)	83½ (212)	TRI-8812/240V	168	1.2
1965	240	30	94 (239)	89½ (227)	TRI-9412/240V	177	1.2
2100	240	30	100 (225)	95½ (243)	TRI-10012/240V	185	1.7
2230	240	30	106 (269)	101½ (258)	TRI-10612/240V	194	1.7
2365	240	30	112 (284)	107½ (273)	TRI-11212/240V	202	1.7

Ordering Example: TRI-5812/240V is a 1175 Watt, 240V heater, \$106.

0.200" (5.08 mm) DIAMETER ROUND CROSS-SECTION

TSSM Series
Starts at

\$62



- ✓ Incoloy Sheath
- ✓ 75 to 1200 Watts
- ✓ 28, 57.7 and 115V
- ✓ 29 - 49 W/in²
- ✓ 871°C (1600°F) Max Sheath Temperature

TSSM-20, \$78,
shown smaller than actual size.

APPLICATIONS

Compasses and gyroscopes, tubing "wrap-arounds," oil igniters and burning off flue gases.

ADVANTAGES

An Extremely Versatile Element:

Used where just a little heat is needed or where a high temperature is needed quickly in a tight spot. Heat-up is fast due to the small mass of the element.

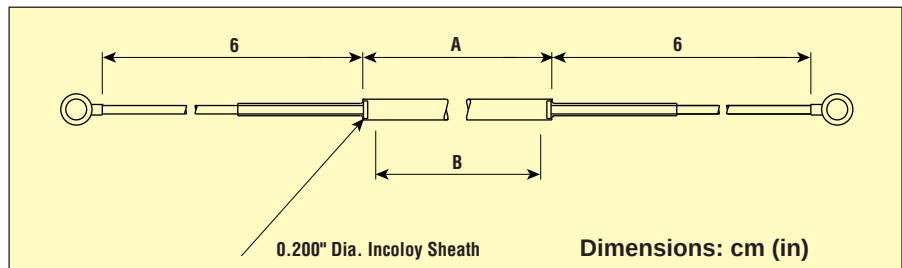
Flexible: Easily forms to a wide range of configurations.

FEATURES

Type 34 Terminals: Standard with high temperature leads attached to sheath. See terminal detail drawing in the Tubular Heater Overview section on omega.com.

Work Temperatures: See Tubular Heater Overview section on omega.com.

Bending: Customer's minimum inside bending radius is 5". See bending requirements in the Tubular Heater Overview section on omega.com.



MOST POPULAR MODELS HIGHLIGHTED!

To Order (Specify Model Number)

Watts	Volts	W/in ²	Dimensions In.(cm)		INCOLOY Sheath		Wt. (Lb.)
			Sheath A	Heated B	Model No.	Price	
75	28	40	6 (15)	3 (8)	TSSM-6	\$62	0.1
110	57.7	35	8 (20)	5 (13)	TSSM-8	64	0.1
150	57.7	34	10 (25)	7 (18)	TSSM-10	67	0.1
175	115	31	12 (30)	9 (23)	TSSM-12	69	0.1
225	115	33	14 (36)	11 (28)	TSSM-14	71	0.1
275	115	34	16 (41)	13 (33)	TSSM-16	73	0.2
300	115	32	18 (46)	15 (38)	TSSM-18	76	0.2
350	115	33	20 (51)	17 (43)	TSSM-20	78	0.2
830	115	49	30 (76)	27 (69)	TSSM-30	89	0.2
1120	115	48	40 (102)	37 (94)	TSSM-40	100	0.3
1400	115	47	50 (127)	47 (119)	TSSM-50	138	0.3
1400	115	29	60 (152)	57 (145)	TSSM-60	153	0.4
1200	115	29	70 (178)	67 (170)	TSSM-70	168	0.5

Ordering Example: TSSM-18 is a 300 Watt, 115V heater, \$76.

1.2 cm (0.475") DIAMETER ROUND CROSS-SECTION

TRSS Series
Starts at

\$85



- ✓ Stainless Steel Sheath (Type 304)
- ✓ 1000 to 7500 Watts
- ✓ 120, 208, 240, 277 and 480V
- ✓ 50 W/in²
- ✓ 538°C (1200°F) Max Sheath Temperature

APPLICATIONS

Versatile tubular elements can be designed for use in most applications. See guidelines in the Tubular Heater Overview section on omega.com.

ADVANTAGES

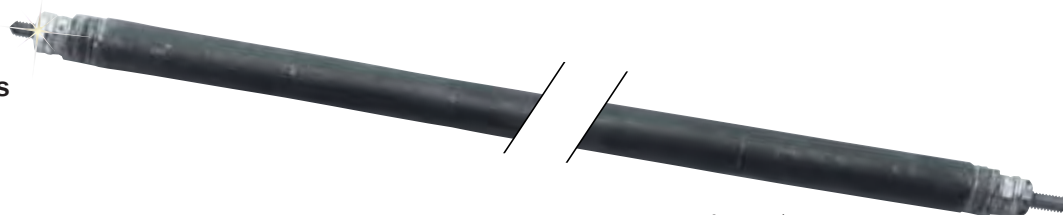
The metal sheath isolates and protects the resistor wire from the environment. At the same time it maximizes heat transfer capability to the work. Tubular elements can be bent to put the heat where it works best.

FEATURES

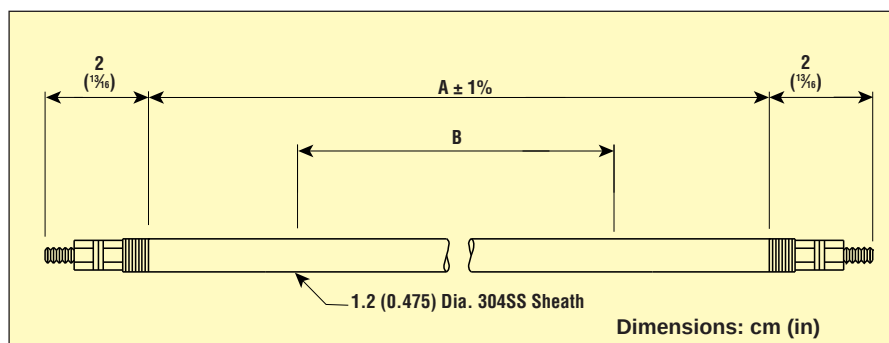
Type 4 Terminals: Integral parts of the element are of high strength to resist bending during tightening of the wiring connections. Type 4 is threaded extension of the cold pin. See terminal detail drawing in the Tubular Heater Overview section on omega.com.

Work Temperatures: See Tubular Heater Overview section on omega.com.

Bending: Customer's minimum inside bending radius is 38 cm (1½"). See bending requirements in the Tubular Heater Overview section on omega.com.



TRSS-2045/120V, \$85,
shown smaller than actual size.



MOST POPULAR MODELS HIGHLIGHTED!

To Order (Specify Model Number)

Watts	Volts	W/in ²	Dimensions cm (")		Stainless Steel Sheath		Weight kg (lb)
			Sheath A	Heated B	Model No.	Price	
1000	120	50	51 (20)	33 (13%)	TRSS-2045/120V	\$85	0.2 (0.5)
1000	208	50	51 (20)	33 (13%)	TRSS-2045/280V	85	0.2 (0.5)
1000	277	50	51 (20)	33 (13%)	TRSS-2045/277V	85	0.2 (0.5)
1250	240	50	58 (23)	41 (16%)	TRSS-2345/240V	88	0.2 (0.5)
1500	120	50	71 (28)	54 (21%)	TRSS-2845/120V	93	0.5 (1)
1500	208	50	71 (28)	54 (21%)	TRSS-2845/208V	93	0.5 (1)
1500	240	50	71 (28)	54 (21%)	TRSS-2845/240V	93	0.5 (1)
1500	480	50	71 (28)	54 (21%)	TRSS-2845/480V	93	0.5 (1)
2000	120	50	102 (40)	71 (28)	TRSS-4065/120V	108	0.6 (1.3)
2000	208	50	102 (40)	71 (28)	TRSS-4065/208V	108	0.6 (1.3)
2000	240	50	102 (40)	71 (28)	TRSS-4065/240V	108	0.6 (1.3)
2000	480	50	102 (40)	71 (28)	TRSS-4065/480V	108	0.6 (1.3)
2500	208	50	110 (43%)	80 (31%)	TRSS-4365/208V	111	0.6 (1.3)
2500	240	50	110 (43%)	80 (31%)	TRSS-4365/240V	111	0.6 (1.3)
2500	480	50	110 (43%)	80 (31%)	TRSS-4365/480V	111	0.6 (1.3)
3000	208	50	138 (54%)	108 (42%)	TRSS-5465/208V	153	0.8 (1.8)
3000	240	50	138 (54%)	108 (42%)	TRSS-5465/240V	153	0.8 (1.8)
3000	480	50	138 (54%)	108 (42%)	TRSS-5465/480V	153	0.8 (1.8)
4000	208	50	178 (70)	147 (58)	TRSS-7065/208V	177	0.8 (1.8)
4000	240	50	178 (70)	147 (58)	TRSS-7065/240V	177	0.8 (1.8)
4000	480	50	178 (70)	147 (58)	TRSS-7065/480V	177	0.8 (1.8)
5000	208	50	216 (85)	185 (73)	TRSS-8565/208V	200	1.0 (2.3)
5000	240	50	216 (85)	185 (73)	TRSS-8565/240V	200	1.0 (2.3)
5000	480	50	216 (85)	185 (73)	TRSS-8565/480V	200	1.0 (2.3)
6000	208	50	254 (100)	224 (88)	TRSS-10065/208V	257	1.5 (3.3)
6000	240	50	254 (100)	224 (88)	TRSS-10065/240V	257	1.5 (3.3)
6000	480	50	254 (100)	224 (88)	TRSS-10065/480V	257	1.5 (3.3)
7500	240	50	284 (112)	254 (100)	TRSS-11265/240V	274	1.5 (3.3)

Ordering Example: TRSS-4365/480V is a 2500 Watt, 480V heater, \$111.
If element is to be bent, specify "must be annealed".

1.2 cm (0.475") DIAMETER ROUND CROSS-SECTION

TRC and TRCC Series
Starts at

\$49



- ✓ Copper Sheath
- ✓ 675 to 2,500 Watts
- ✓ 120, 208, 240 and 480V
- ✓ 50 W/In²
- ✓ 177°C (350°F) Max Sheath Temperature

APPLICATIONS

Versatile tubular elements can be designed for use in most applications. See guidelines in the Tubular Heater Overview section on omega.com.

ADVANTAGES

The metal sheath isolates and protects the resistor wire from the environment. At the same time it maximizes heat transfer capability to the work. Tubular elements can be bent to put the heat where it works best.

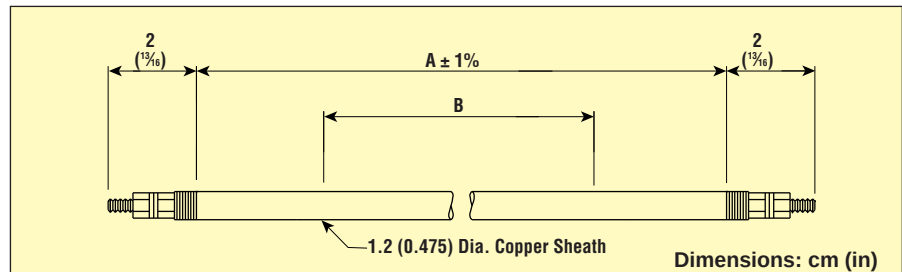
FEATURES

Type 4 Terminals: Standard. Integral parts of the element are of high strength to resist bending during tightening of the wiring connections. Type 4 is threaded extension of the cold pin. See terminal detail drawing in the Tubular Heater Overview section on omega.com.

Work Temperatures: See Tubular Heater Overview section on omega.com.

Bending: Customer's minimum inside bending radius is 3.8 cm (1½"). See bending requirements in the Tubular Heater Overview section on omega.com.

TRC-2045/120V, \$53,
shown smaller than actual size.



MOST POPULAR MODELS HIGHLIGHTED!

To Order (Specify Model Number)

Watts	Volts	W/In ²	Dimensions cm (")		Copper Sheath		Weight kg (lb)
			Sheath A	Heated B	Model No.	Price	
TRC — 50 W/In ²							
675	120	50	41 (16)	23 (9%)	TRC-1645/120V	\$49	0.2 (0.5)
815	120	50	46 (18)	28 (11%)	TRC-1845/120V	51	0.2 (0.5)
1000	120	50	51 (20)	33 (13%)	TRC-2045/120V	53	0.2 (0.5)
1000	208	50	51 (20)	33 (13%)	TRC-2045/208V	53	0.2 (0.5)
1000	240	50	51 (20)	33 (13%)	TRC-2045/240V	53	0.2 (0.5)
1250	120	50	58 (23)	41 (16%)	TRC-2345/120V	56	0.2 (0.5)
1250	208	50	58 (23)	41 (16%)	TRC-2345/208V	56	0.2 (0.5)
1250	240	50	58 (23)	41 (16%)	TRC-2345/240V	56	0.2 (0.5)
1300	120	50	64 (25)	46 (18%)	TRC-2545/120V	54	0.2 (0.5)
1300	240	50	64 (25)	46 (18%)	TRC-2545/240V	54	0.2 (0.5)
1450	120	50	69 (27)	51 (20%)	TRC-2745/120V	61	0.2 (0.5)
1450	240	50	69 (27)	51 (20%)	TRC-2745/240V	61	0.2 (0.5)
1500	120	50	71 (28)	54 (21%)	TRC-2845/120V	62	0.5 (1)
1500	208	50	71 (28)	54 (21%)	TRC-2845/208V	62	0.5 (1)
1500	240	50	71 (28)	54 (21%)	TRC-2845/240V	62	0.5 (1)
1500	480	50	71 (28)	54 (21%)	TRC-2845/480V	62	0.5 (1)
1650	120	50	76 (30)	59 (23%)	TRC-3045/120V	64	0.5 (1)
1650	240	50	76 (30)	59 (23%)	TRC-3045/240V	64	0.5 (1)
1800	120	50	81 (32)	64 (25%)	TRC-3245/120V	66	0.5 (1)
1800	240	50	81 (32)	64 (25%)	TRC-3245/240V	66	0.5 (1)
1950	120	50	86 (34)	69 (27%)	TRC-3445/120V	69	0.5 (1)
1950	240	50	86 (34)	69 (27%)	TRC-3445/240V	69	0.5 (1)
2100	120	50	91 (36)	74 (29%)	TRC-3645/120V	73	0.5 (1)
2100	240	50	91 (36)	74 (29%)	TRC-3645/240V	73	0.5 (1)
2200	120	50	97 (38)	79 (31%)	TRC-3845/120V	73	0.5 (1)
2200	240	50	97 (38)	79 (31%)	TRC-3845/240V	73	0.5 (1)
TRCC — 50 W/In ²							
2000	120	50	102 (40)	71 (28%)	TRCC-4065/120V	75	0.6 (1.3)
2000	208	50	102 (40)	71 (28%)	TRCC-4065/208V	75	0.6 (1.3)
2000	240	50	102 (40)	71 (28%)	TRCC-4065/240V	75	0.6 (1.3)
2000	480	50	102 (40)	71 (28%)	TRCC-4065/480V	75	0.6 (1.3)
2350	120	50	104 (41)	71 (29%)	TRCC-4165/120V	76	0.6 (1.3)
2350	240	50	104 (41)	71 (29%)	TRCC-4165/240V	76	0.6 (1.3)
2500	120	50	111 (43 ¹¹ / ₁₆)	80 (31 ¹¹ / ₁₆)	TRCC-4365/120V	78	0.6 (1.3)
2500	208	50	111 (43 ¹¹ / ₁₆)	80 (31 ¹¹ / ₁₆)	TRCC-4365/208V	78	0.6 (1.3)
2500	240	50	111 (43 ¹¹ / ₁₆)	80 (31 ¹¹ / ₁₆)	TRCC-4365/240V	78	0.6 (1.3)
2500	480	50	111 (43 ¹¹ / ₁₆)	80 (31 ¹¹ / ₁₆)	TRCC-4365/480V	78	0.6 (1.3)

Ordering Example: TRC-3045/120V is a 1650 Watt, 120V heater, \$64.
If element is to be bent, specify "must be annealed."

1.2 cm (0.475") DIAMETER ROUND CROSS-SECTION

TRCC Series
Starts at

\$80



- ✓ Copper Sheath
- ✓ 2600 to 10,000 Watts
- ✓ 120, 208, 240 and 480V
- ✓ 40 to 50 W/In²
- ✓ 177°C (350°F) Max Sheath Temperature

APPLICATIONS

Versatile tubular elements can be designed for use in most applications. See guidelines in the Tubular Heater Overview section on omega.com.

ADVANTAGES

The metal sheath isolates and protects the resistor wire from the environment. At the same time it maximizes heat transfer capability to the work. Tubular elements can be bent to put the heat where it works best.

FEATURES

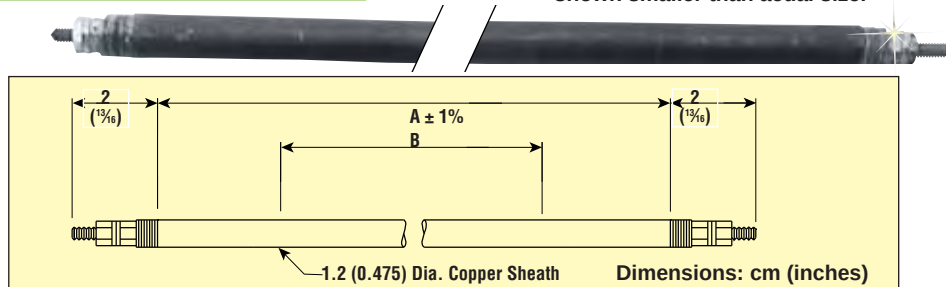
Type 4 Terminals: Standard. Integral parts of the element are of high strength to resist bending during tightening of the wiring connections. Type 4 is threaded extension of the cold pin. See terminal detail drawing in the Tubular Heater Overview section on omega.com.

Work Temperatures: See Tubular Heater Overview section on omega.com.

Bending: Customer's minimum inside bending radius is 3.0 cm (1½"). See bending requirements in the Tubular Heater Overview section on omega.com.

Ordering Example: TRCC-7865/480V
is a 4500 Watt, 480V heater, \$143.00.
If element is to be bent, specify
"must be annealed."

TRCC-5465/240V, \$106,
shown smaller than actual size.



MOST POPULAR MODELS HIGHLIGHTED!

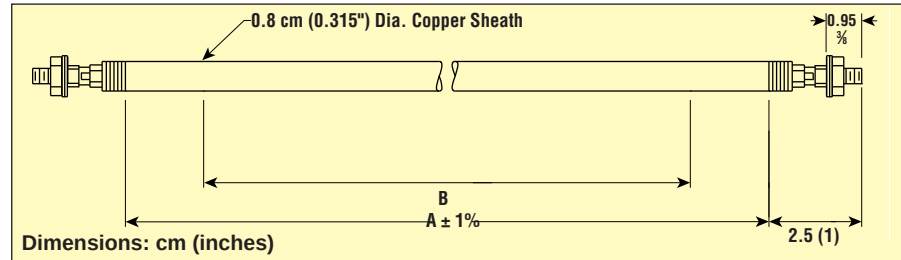
To Order (Specify Model Number)

Watts	Volts	W/In ²	Dimensions cm (in)		Copper Sheath		Weight kg (lb)
			Sheath A	Heated B	Model No.	Price	
2600	120	50	112 (44)	82 (32%)	TRCC-4465/120V	\$80	0.6 (1.3)
2600	240	50	112 (44)	82 (32%)	TRCC-4465/240V	80	0.6 (1.3)
2700	120	50	117 (46)	87 (34%)	TRCC-4665/120V	80	0.6 (1.3)
2700	240	50	117 (46)	87 (34%)	TRCC-4665/240V	80	0.6 (1.3)
2800	120	50	122 (48)	92 (36%)	TRCC-4865/120V	97	0.6 (1.3)
2800	240	50	122 (48)	92 (36%)	TRCC-4865/240V	97	0.6 (1.3)
2900	120	50	127 (50)	97 (38%)	TRCC-5065/120V	99	0.8 (1.8)
2900	240	50	127 (50)	97 (38%)	TRCC-5065/240V	99	0.8 (1.8)
3000	208	50	138 (54%)	108 (42%)	TRCC-5465/208V	106	0.8 (1.8)
3000	240	50	138 (54%)	108 (42%)	TRCC-5465/240V	106	0.8 (1.8)
3000	480	50	138 (54%)	108 (42%)	TRCC-5465/480V	106	0.8 (1.8)
3250	240	50	147 (58)	117 (46%)	TRCC-5865/240V	112	0.8 (1.8)
3250	480	50	147 (58)	117 (46%)	TRCC-5865/480V	112	0.8 (1.8)
3500	240	50	152 (60)	122 (48%)	TRCC-6065/240V	115	0.8 (1.8)
3500	480	50	152 (60)	122 (48%)	TRCC-6065/480V	115	0.8 (1.8)
3750	240	50	167 (66)	130 (51%)	TRCC-6665/240V	125	0.8 (1.8)
3750	480	50	167 (66)	130 (51%)	TRCC-6665/480V	125	0.8 (1.8)
4000	208	50	178 (70)	148 (58%)	TRCC-7065/208V	131	0.8 (1.8)
4000	240	50	178 (70)	148 (58%)	TRCC-7065/240V	131	0.8 (1.8)
4000	480	50	178 (70)	148 (58%)	TRCC-7065/480V	131	0.8 (1.8)
4250	240	50	188 (74)	158 (62%)	TRCC-7465/240V	137	1.0 (2.3)
4250	480	50	188 (74)	158 (62%)	TRCC-7465/480V	137	1.0 (2.3)
4500	240	50	198 (78)	168 (66%)	TRCC-7865/240V	143	1.0 (2.3)
4500	480	50	198 (78)	168 (66%)	TRCC-7865/480V	143	1.0 (2.3)
4750	240	50	208 (82)	178 (70%)	TRCC-8265/240V	149	1.0 (2.3)
4750	480	50	208 (82)	178 (70%)	TRCC-8265/480V	149	1.0 (2.3)
5000	208	50	216 (85)	186 (73%)	TRCC-8565/208V	153	1.0 (2.3)
5000	240	50	216 (85)	186 (73%)	TRCC-8565/240V	153	1.0 (2.3)
5000	480	50	216 (85)	186 (73%)	TRCC-8565/480V	153	1.0 (2.3)
5250	240	50	229 (90)	198 (78%)	TRCC-9065/240V	193	1.0 (2.3)
5250	480	50	229 (90)	198 (78%)	TRCC-9065/480V	193	1.0 (2.3)
5500	240	50	239 (94)	209 (82%)	TRCC-9465/240V	198	1.0 (2.3)
5500	480	50	239 (94)	209 (82%)	TRCC-9465/480V	198	1.0 (2.3)
5750	240	50	249 (98)	219 (86%)	TRCC-9865/240V	204	1.5 (3.3)
5750	480	50	249 (98)	219 (86%)	TRCC-9865/480V	204	1.5 (3.3)
6000	208	50	254 (100)	224 (88%)	TRCC-10065/208V	207	1.5 (3.3)
6000	240	50	254 (100)	224 (88%)	TRCC-10065/240V	207	1.5 (3.3)
6000	480	50	254 (100)	224 (88%)	TRCC-10065/480V	207	1.5 (3.3)
6667	208	50	274 (108)	244 (96%)	TRCC-10865/208V	218	1.5 (3.3)
6667	240	50	274 (108)	244 (96%)	TRCC-10865/240V	218	1.5 (3.3)
6667	480	50	274 (108)	244 (96%)	TRCC-10865/480V	218	1.5 (3.3)
8334	480	50	340 (134)	310 (122%)	TRCC-13465/480V	255	2.0 (4.3)
10000	480	50	406 (160)	376 (148%)	TRCC-16065/480V	293	2.0 (4.3)
2778	240	50	152 (60)	113 (44%)	TRCC-6085/240V	115	0.8 (1.8)
4166	240	50	198 (78)	158 (62%)	TRCC-7885/240V	143	1.0 (2)
5556	240	50	234 (92)	194 (76%)	TRCC-9285/240V	195	1.4 (3)

0.8 cm (0.315") DIAMETER ROUND CROSS-SECTION

TRC-1648/120V, \$20,
shown smaller than actual size.

TRC Series
Starts at
\$20



MOST POPULAR MODELS HIGHLIGHTED!

- ✓ Copper Sheath
- ✓ 500 to 5,475 Watts
- ✓ 120, 240 and 480V
- ✓ 53 W/in²
- ✓ 177°C (350°F) Max Sheath Temperature

APPLICATIONS

Versatile tubular elements can be designed for use in most applications. See guidelines in the Tubular Heater Overview section on omega.com.

ADVANTAGES

The metal sheath isolates and protects the resistor wire from the environment. At the same time it maximizes heat transfer capability to the work. Tubular elements can be bent to put the heat where it works best.

FEATURES

Type 3 Terminals: Heliarc-welded to the cold pin. See terminal detail drawing in the Tubular Heater Overview section on omega.com.

Work Temperatures: See Tubular Heater Overview section on omega.com.

Bending: Customer's minimum inside bending radius is 2.7 cm (1¹/₁₆"). See bending requirements in the Tubular Heater Overview section on omega.com.

Ordering Example: TRC-6448/240V
is a 2975 Watt, 240V heater, \$97
If element is to be bent,
specify "must be annealed".

To Order (Specify Model Number)

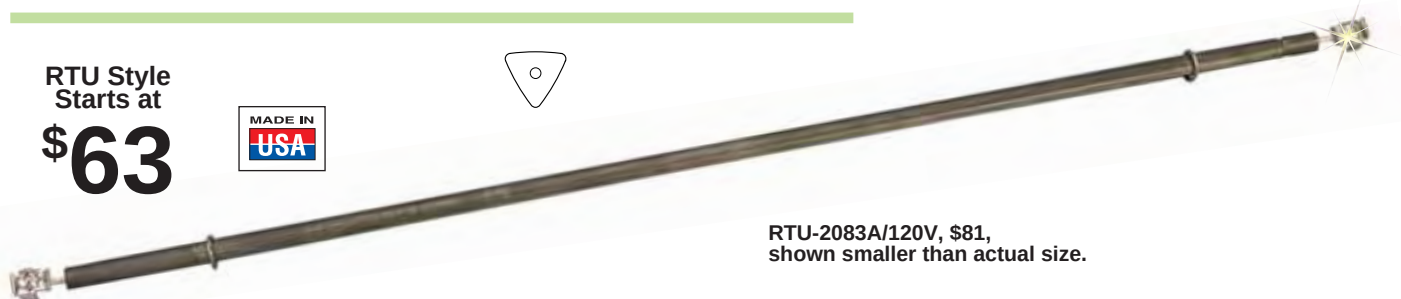
Watts	Volts	W/in ²	Dimensions cm (in)		Copper Sheath		Weight kg (lb)
			Sheath A	Heated B	Model No.	Price	
500	120	53	41 (16)	23 (9 ¹ / ₄)	TRC-1648/120V	\$20	0.2 (0.4)
700	120	53	51 (20)	34 (13 ³ / ₄)	TRC-2048/120V	24	0.2 (0.4)
700	240	53	51 (20)	34 (13 ³ / ₄)	TRC-2048/240V	24	0.2 (0.4)
1125	120	53	71 (28)	54 (21 ¹ / ₄)	TRC-2848/120V	33	0.4 (0.8)
1125	240	53	71 (28)	54 (21 ¹ / ₄)	TRC-2848/240V	33	0.4 (0.8)
1325	120	53	81 (32)	64 (25 ¹ / ₄)	TRC-3248/120V	37	0.4 (0.8)
1325	240	53	81 (32)	64 (25 ¹ / ₄)	TRC-3248/240V	37	0.4 (0.8)
1525	120	53	91 (36)	74 (29 ¹ / ₄)	TRC-3648/120V	42	0.4 (0.8)
1525	240	53	91 (36)	74 (29 ¹ / ₄)	TRC-3648/240V	42	0.4 (0.8)
1725	120	53	102 (40)	84 (33 ³ / ₄)	TRC-4048/120V	46	0.5 (1)
1725	240	53	102 (40)	84 (33 ³ / ₄)	TRC-4048/240V	46	0.5 (1)
2050	120	53	117 (46)	100 (39 ³ / ₄)	TRC-4648/120V	69	0.5 (1)
2050	240	53	117 (46)	100 (39 ³ / ₄)	TRC-4648/240V	69	0.5 (1)
2050	480	53	117 (46)	100 (39 ³ / ₄)	TRC-4648/480V	69	0.5 (1)
2350	120	53	132 (52)	115 (45 ¹ / ₄)	TRC-5248/120V	79	0.6 (1.3)
2350	240	53	132 (52)	115 (45 ¹ / ₄)	TRC-5248/240V	79	0.6 (1.3)
2350	480	53	132 (52)	115 (45 ¹ / ₄)	TRC-5248/480V	79	0.6 (1.3)
2675	120	53	147 (58)	130 (51 ¹ / ₄)	TRC-5848/120V	88	0.6 (1.3)
2675	240	53	147 (58)	130 (51 ¹ / ₄)	TRC-5848/240V	88	0.6 (1.3)
2675	480	53	147 (58)	130 (51 ¹ / ₄)	TRC-5848/480V	88	0.6 (1.3)
2975	120	53	163 (64)	145 (57 ¹ / ₄)	TRC-6448/120V	97	0.6 (1.3)
2975	240	53	163 (64)	145 (57 ¹ / ₄)	TRC-6448/240V	97	0.6 (1.3)
2975	480	53	163 (64)	145 (57 ¹ / ₄)	TRC-6448/480V	97	0.6 (1.3)
3300	240	53	178 (70)	161 (63 ³ / ₄)	TRC-7048/240V	106	0.6 (1.3)
3300	480	53	178 (70)	161 (63 ³ / ₄)	TRC-7048/480V	106	0.6 (1.3)
3600	240	53	193 (76)	176 (69 ³ / ₄)	TRC-7648/240V	115	0.6 (1.3)
3600	480	53	193 (76)	176 (69 ³ / ₄)	TRC-7648/480V	115	0.6 (1.3)
3900	240	53	208 (82)	191 (75 ¹ / ₄)	TRC-8248/240V	124	0.8 (1.8)
3900	480	53	208 (82)	191 (75 ¹ / ₄)	TRC-8248/480V	124	0.8 (1.8)
4225	240	53	224 (88)	206 (81 ¹ / ₄)	TRC-8848/240V	126	0.8 (1.8)
4225	480	53	224 (88)	206 (81 ¹ / ₄)	TRC-8848/480V	126	0.8 (1.8)
4525	240	53	239 (94)	222 (87 ¹ / ₄)	TRC-9448/240V	135	0.8 (1.8)
4525	480	53	239 (94)	222 (87 ¹ / ₄)	TRC-9448/480V	135	0.8 (1.8)
4850	240	53	254 (100)	232 (93 ³ / ₄)	TRC-10048/240V	144	1.1 (2.5)
4850	480	53	254 (100)	232 (93 ³ / ₄)	TRC-10048/480V	144	1.1 (2.5)
5150	240	53	269 (106)	252 (99 ³ / ₄)	TRC-10648/240V	152	1.1 (2.5)
5150	480	53	269 (106)	252 (99 ³ / ₄)	TRC-10648/480V	152	1.1 (2.5)
5475	240	53	284 (112)	267 (105 ¹ / ₄)	TRC-11248/240V	161	1.1 (2.5)
5475	480	53	284 (112)	267 (105 ¹ / ₄)	TRC-11248/480V	161	1.1 (2.5)

TUBULAR HEATERS

3/8" (9.5 mm) DIAMETER HEART CROSS-SECTION

RTU Style
Starts at

\$63



RTU-2083A/120V, \$81,
shown smaller than actual size.

- ✓ Incoloy Sheath
- ✓ 400 to 2500 Watts
- ✓ 120, 208, 240, 275 and 480V
- ✓ 40 W/in2
- ✓ 1½" Cold End (400-650 Watts)
- ✓ 2½" Cold End (800 - 2,500 Watts)
- ✓ 871°C (1600°F) Max Sheath Temperature
- ✓ Component of Radiant Heater (Type RAD and RADD)

APPLICATIONS

- ✓ Radiant Heating in Room Ambient
- ✓ Heating High Velocity Air
- ✓ Low Temperature Clamp-ons

ADVANTAGES

Specially constructed to provide excellent service life in radiant heating applications.

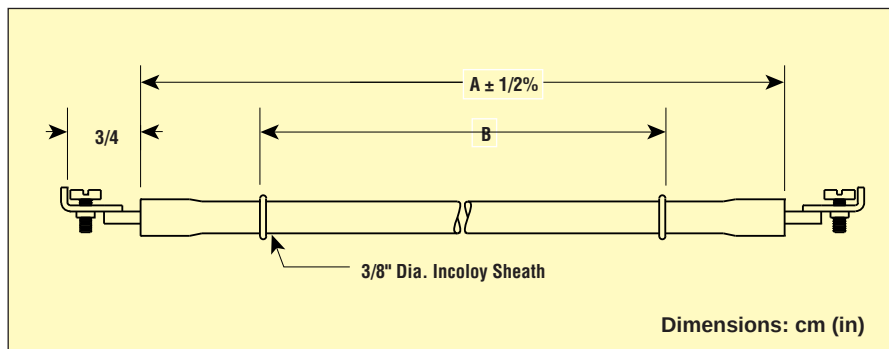
FEATURES

Type 8 Terminals: Standard with threaded clip to facilitate wiring.

Retaining Rings locate elements in radiant heater assemblies.

Work Temperatures: See Tubular Heater Overview section on omega.com.

Bending: Customer's minimum inside bending radius is 1½". See bending requirements in the Tubular Heater Overview section on omega.com.



MOST POPULAR MODELS HIGHLIGHTED!

To Order (Specify Model Number)

Watts	Volts	W/in ²	Dimensions: in (cm)		Incoloy Sheath		Weight (lb)
			Sheath A	Heated B	Model No.	Price	
400	120	40	10¼ (26)	7¼ (18)	RTU-2063AX35/120V	\$63	0.8
650	120	40	16⅞ (42)	13⅞ (35)	RTU-2063AX29/120V	64	0.8
800	120	40	21⅞ (53)	16⅞ (41)	RTU-2083A/120V	81	0.8
800	208	40	21⅞ (53)	16⅞ (41)	RTU-2083AV/208V	81	0.8
800	240	40	21⅞ (53)	16⅞ (41)	RTU-2083A/240V	81	0.8
800	275	40	21⅞ (53)	16⅞ (41)	RTU-2083AV/275V	81	0.8
1100	120	40	27⅞ (69)	22⅞ (58)	RTU-3113A/120V	87	1
1100	208	40	27⅞ (69)	22⅞ (58)	RTU-3113AV/208V	87	1
1100	240	40	27⅞ (69)	22⅞ (58)	RTU-3113A/240V	87	1
1100	275	40	27⅞ (69)	22⅞ (58)	RTU-3113AV/275V	87	1
1300	208	40	32⅞ (82)	27⅞ (71)	RTU-3133AV/208V	95	1
1300	240	40	32⅞ (82)	27⅞ (71)	RTU-3133A/240V	95	1
1300	275	40	32⅞ (82)	27⅞ (71)	RTU-3133AV/275V	95	1
1300	480	40	32⅞ (82)	27⅞ (71)	RTU-3133A/480V	95	1
1800	208	40	42⅞ (109)	38⅞ (98)	RTU-4183AV/208V	113	1.3
1800	240	40	42⅞ (109)	38⅞ (98)	RTU-4183A/240V	113	1.3
1800	275	40	42⅞ (109)	38⅞ (98)	RTU-4183AV/275V	113	1.3
1800	480	40	42⅞ (109)	38⅞ (98)	RTU-4183A/480V	113	1.3
2150	208	40	50⅞ (127)	45⅞ (116)	RTU-5213AV/208V	138	1.4
2150	240	40	50⅞ (127)	45⅞ (116)	RTU-5213A/240V	138	1.4
2150	275	40	50⅞ (127)	45⅞ (116)	RTU-5213AV/275V	138	1.4
2150	480	40	50⅞ (127)	45⅞ (116)	RTU-5213A/480V	138	1.4
2500	208	40	57⅞ (146)	53⅞ (135)	RTU-5253AV/208V	166	1.5
2500	240	40	57⅞ (146)	53⅞ (135)	RTU-5253A/240V	166	1.5
2500	275	40	57⅞ (146)	53⅞ (135)	RTU-5253AV/275V	166	1.5
2500	480	40	57⅞ (146)	53⅞ (135)	RTU-5253A/480V	166	1.5
2500	480	40	57⅞ (146)	53⅞ (135)	RTU-5253M/480V	166	1.5

Ordering Example: RTU-4183AV/208V, 1800 W, 208V heater, \$113.

To Order, Call **1-800-872-4328** or Shop Online at omega.comSM



RTU-6303A/240V, \$208,
shown smaller than actual size.

- ✓ Incoloy Sheath
- ✓ 2700-6500 Watts
- ✓ 208, 240, 275 and 480V
- ✓ 40 W/In²
- ✓ 2 $\frac{3}{8}$, 3 $\frac{3}{8}$ and 4" Cold Ends
- ✓ 871°C (1600°F) Max Sheath Temperature
- ✓ Component of Radiant Heater (Type RAD and RADD)

APPLICATIONS

- ✓ Radiant Heating in Room Ambient
- ✓ Heating High Velocity Air
- ✓ Low Temperature Clamp-ons

ADVANTAGES

Specially constructed to provide excellent service life in radiant heating applications.

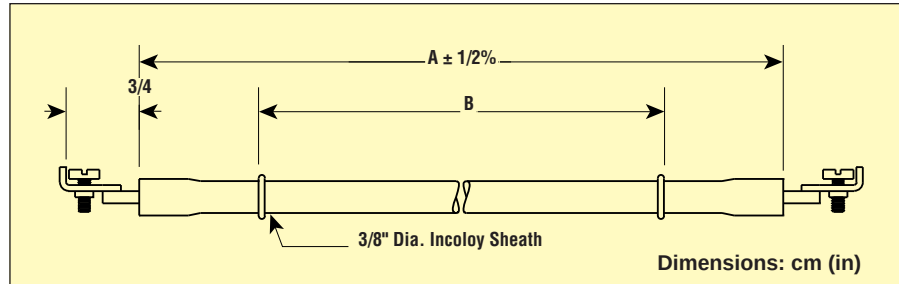
FEATURES

Type 8 Terminals: Standard with threaded clip to facilitate wiring.

Retaining Rings locate elements in radiant heater assemblies.

Work Temperatures: See Tubular Heater Overview section on omega.com.

Bending: Customer's minimum inside bending radius is 1 $\frac{1}{2}$ ". See bending requirements in the Tubular Heater Overview section on omega.com.

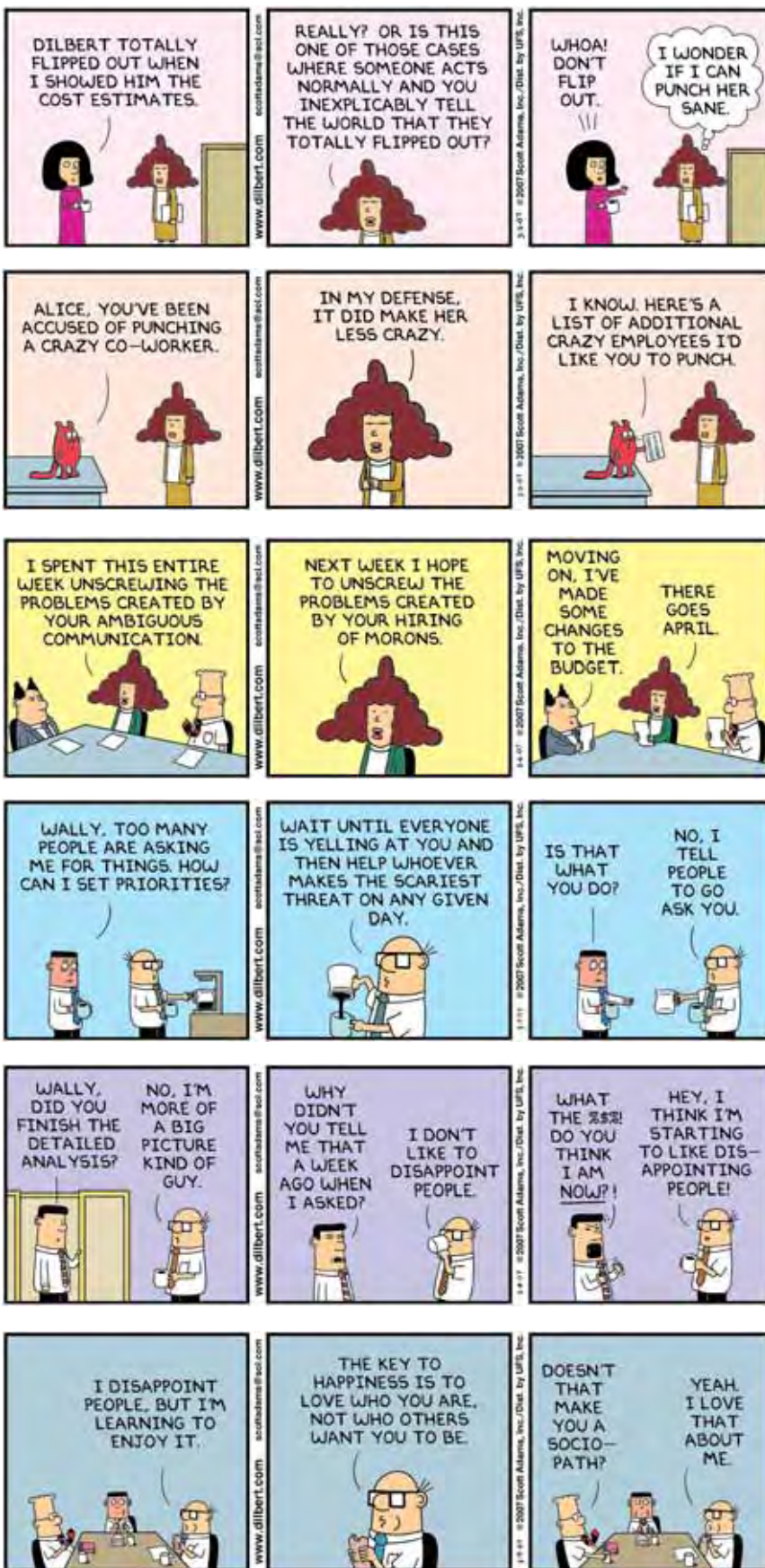


MOST POPULAR MODELS HIGHLIGHTED!

To Order (Specify Model Number)

Watts	Volts	W/in ²	Dimensions: in (cm)		Incoloy Sheath		Weight (lb)	
			Sheath A	Heated B	Model No.	Price		
2½" Cold End								
2700	208	40	61 ²⁷ / ₃₂ (157)	57 ¹¹ / ₃₂ (146)	RTU-6273AV/208V	\$180	1.6	
2700	240	40	61 ²⁷ / ₃₂ (157)	57 ¹¹ / ₃₂ (146)	RTU-6273A/240V	180	1.6	
2700	275	40	61 ²⁷ / ₃₂ (157)	57 ¹¹ / ₃₂ (146)	RTU-6273AV/275V	180	1.6	
2700	480	40	61 ²⁷ / ₃₂ (157)	57 ¹¹ / ₃₂ (146)	RTU-6273A/480V	180	1.6	
3000	208	40	69 ³ / ₄ (176)	65 (165)	RTU-6303AV/208V	208	1.8	
3000	240	40	69 ³ / ₄ (176)	65 (165)	RTU-6303A/240V	208	1.8	
3000	275	40	69 ³ / ₄ (176)	65 (165)	RTU-6303AV/275V	208	1.8	
3000	480	40	69 ³ / ₄ (176)	65 (165)	RTU-6303A/480V	208	1.8	
3000	480	40	69 ³ / ₄ (176)	65 (165)	RTU-6303M/480V	208	1.8	
3350	208	40	75 ²³ / ₃₂ (192)	71 ¹ / ₃₂ (181)	RTU-7333AV/208V	234	1.8	
3350	240	40	75 ²³ / ₃₂ (192)	71 ¹ / ₃₂ (181)	RTU-7333A/240V	234	1.8	
3350	275	40	75 ²³ / ₃₂ (192)	71 ¹ / ₃₂ (181)	RTU-7333AV/275V	234	1.8	
3350	480	40	75 ²³ / ₃₂ (192)	71 ¹ / ₃₂ (181)	RTU-7333A/480V	234	1.8	
3600	208	40	81 ¹ / ₃₂ (206)	77 ³ / ₃₂ (196)	RTU-7363AV/208V	253	2	
3600	240	40	81 ¹ / ₃₂ (206)	77 ³ / ₃₂ (196)	RTU-7363A/240V	253	2	
3600	275	40	81 ¹ / ₃₂ (206)	77 ³ / ₃₂ (196)	RTU-7363AV/275V	253	2	
3600	480	40	81 ¹ / ₃₂ (206)	77 ³ / ₃₂ (196)	RTU-7363A/480V	253	2	
3600	480	40	81 ¹ / ₃₂ (206)	77 ³ / ₃₂ (196)	RTU-7363M/480V	253	2	
4500	208	40	100% (255)	96 (244)	RTU-8453AV/208V	297	3.5	
4500	240	40	100% (255)	96 (244)	RTU-8453A/240V	297	3.5	
4500	275	40	100% (255)	96 (244)	RTU-8453AV/275V	297	3.5	
4500	480	40	100% (255)	96 (244)	RTU-8453A/480V	297	3.5	
4000	240	40	109% (277)	105 (267)	RTU-7303AX10/240V	315	4	
3¾" Cold End								
5000	240	40	134½ (342)	127¾ (324)	RTU-7303AX13/240V	430	5	
4" Cold End								
5500	240	40	153% (390)	145% (371)	RTU-7303AX9A/240V	517	6	
6500	240	40	179% (455)	171% (435)	RTU-7363AX38/240V	636	8	

Ordering Example: RTU-7333AV/208V is a 3350 Watt, 208V heater, \$234.



PRCTL Series
Starts at
\$55

Cut To Length RTD
for Field Adaptable Applications

HH800 Series
Starts at
\$85

Handheld Digital
Thermometers



XCIB Series
Starts at
\$35



Hi-Temperature Inconel
Overbraided Ceramic Fiber
Insulated Thermocouples

**Please search omega.com
for more details on these
featured products!**

1.2 cm (0.5") DIAMETER HEART CROSS-SECTION

TS Style Starts at
\$323



TS-11245/240V, \$323, shown smaller than actual size.



- ✓ Steel Sheath
- ✓ 3700 to 5300 Watts
- ✓ 240 and 480V
- ✓ 20 W/in²
- ✓ 400°C (750°F) Maximum Sheath Temperature

APPLICATIONS

High element surface temperature clamp-on or air heating applications or where extreme rigidity is required.

ADVANTAGES

More uniform surface temperatures and resistance to deformation.

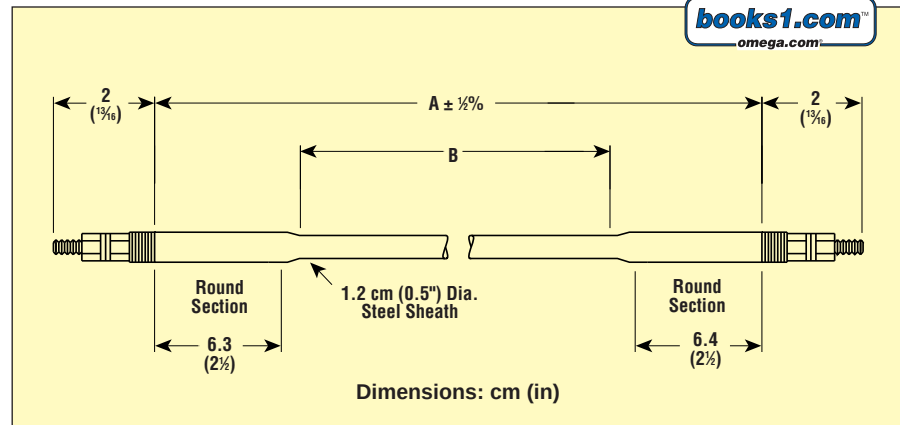
FEATURES

Type 4 Terminals: Integral parts of the element are of high strength to resist bending during tightening of the wiring connections. Type 4 is threaded extension of the cold pin. See terminal detail drawing in the Tubular Heater Overview section on omega.com.

Work Temperatures:

See Tubular Heater Overview section on omega.com.

Bending: Customer's minimum inside bending radius is 6.4 cm (2½"). See bending requirements in the Tubular Heater Overview section on omega.com.



MOST POPULAR MODELS HIGHLIGHTED!

To Order (Specify Model Number)

Watts	Volts	W/in ²	Dimensions cm (in)		Steel Sheath		Weight kg (lb)
			Sheath A	Heated B	Model No.	Price	
3700	240	20	284 (112)	268 (105½)	TS-11245/240V	\$323	1.5 (3.3)
3700	480	20	284 (112)	268 (105½)	TS-11245/480V	323	1.5 (3.3)
3800	240	20	315 (124)	298 (117½)	TS-12445/240V	340	1.5 (3.3)
3800	480	20	315 (124)	298 (117½)	TS-12445/480V	340	1.5 (3.3)
3920	240	20	330 (130)	314 (123½)	TS-13045/240V	349	1.5 (3.3)
3920	480	20	330 (130)	314 (123½)	TS-13045/480V	349	1.5 (3.3)
4075	240	20	345 (136)	329 (129½)	TS-13645/240V	357	2.0 (4.3)
4075	480	20	345 (136)	329 (129½)	TS-13645/480V	357	2.0 (4.3)
4250	240	20	360 (142)	344 (135½)	TS-14245/240V	366	2.0 (4.3)
4250	480	20	360 (142)	344 (135½)	TS-14245/480V	366	2.0 (4.3)
4450	240	20	376 (148)	359 (141½)	TS-14845/240V	375	2.0 (4.3)
4450	480	20	376 (148)	359 (141½)	TS-14845/480V	375	2.0 (4.3)
4700	240	20	396 (156)	380 (149½)	TS-15645/240V	386	2.0 (4.3)
4700	480	20	396 (156)	380 (149½)	TS-15645/480V	386	2.0 (4.3)
5000	240	20	417 (164)	400 (157½)	TS-16445/240V	397	2.0 (4.3)
5000	480	20	417 (164)	400 (157½)	TS-16445/480V	397	2.0 (4.3)
5300	240	20	437 (172)	420 (165½)	TS-17245/240V	409	2.0 (4.3)
5300	480	20	437 (172)	420 (165½)	TS-17245/480V	409	2.0 (4.3)

Ordering Example: TS-13045/240V is a 3920 Watt, 240V heater, \$349. If element is to be bent, specify "must be annealed."

0.95 cm (0.375") DIAMETER HEART CROSS-SECTION

TS Style
Starts at
\$28



TS-2048/120V, \$33,
shown smaller than actual size.

- ✓ Steel Sheath
- ✓ 225 to 1500 Watts
- ✓ 120, 240 and 480V
- ✓ 20 W/in²
- ✓ 400°C (750°F) Maximum Sheath Temperature

APPLICATIONS

High element surface temperature clamp-on or air heating applications or where extreme rigidity is required.

ADVANTAGES

More uniform surface temperatures and resistance to deformation.

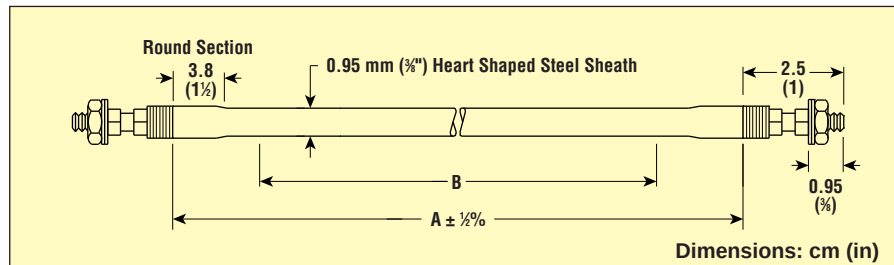
FEATURES

Type 3 Terminals:

Heliarc-welded to the cold pin.
See terminal detail drawing in the Tubular Heater Overview section on omega.com.

Work Temperatures: See Tubular Heater Overview section on omega.com.

Bending: Customer's minimum inside bending radius is 4.8 cm (1 7/8"). See bending requirements in the Tubular Heater Overview section on omega.com.



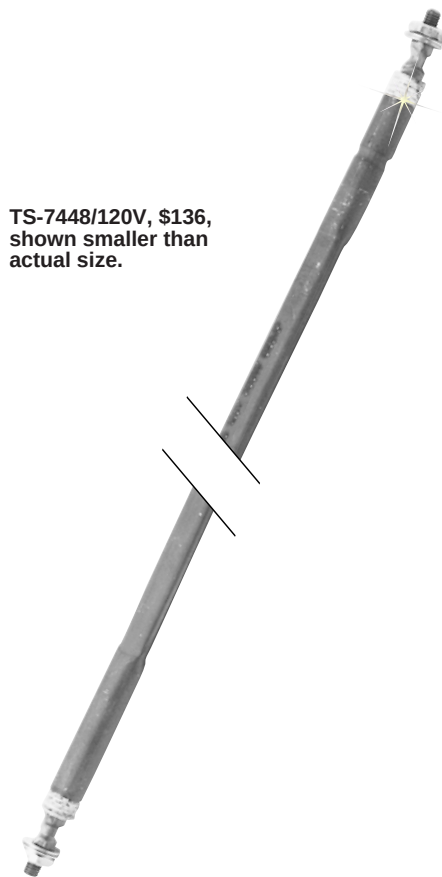
MOST POPULAR MODELS HIGHLIGHTED!

To Order (Specify Model Number)

Watts	Volts	W/in ²	Dimensions In. (cm)		Steel Sheath		Weight kg (lb)
			Sheath A	Heated B	Model No.	Price	
225	120	20	39 (16)	24 (9 1/2)	TS-1648/120V	\$28	0.2 (0.4)
250	120	20	44 (18)	28 (11 1/2)	TS-1848/120V	31	0.2 (0.4)
300	120	20	49 (20)	33 (13 1/2)	TS-2048/120V	33	0.2 (0.4)
350	120	20	54 (22)	45 (15 1/2)	TS-2248/120V	35	0.2 (0.4)
450	120	20	61 (25)	45 (18 1/2)	TS-2548/120V	38	0.2 (0.4)
500	120	20	66 (27)	50 (20 1/2)	TS-2748/120V	41	0.2 (0.4)
500	240	20	66 (27)	50 (20 1/2)	TS-2748/240V	41	0.2 (0.4)
500	120	20	69 (28)	53 (21 1/2)	TS-2848/120V	42	0.4 (0.8)
500	240	20	69 (28)	53 (21 1/2)	TS-2848/240V	42	0.4 (0.8)
550	120	20	74 (30)	57 (23 1/2)	TS-3048/120V	44	0.4 (0.8)
550	240	20	74 (30)	57 (23 1/2)	TS-3048/240V	44	0.4 (0.8)
600	120	20	78 (32)	62 (25 1/2)	TS-3248/120V	46	0.4 (0.8)
600	240	20	78 (32)	62 (25 1/2)	TS-3248/240V	46	0.4 (0.8)
650	120	20	83 (34)	67 (27 1/2)	TS-3448/120V	48	0.4 (0.8)
650	240	20	83 (34)	67 (27 1/2)	TS-3448/240V	48	0.4 (0.8)
700	120	20	88 (36)	72 (29 1/2)	TS-3648/120V	51	0.4 (0.8)
700	240	20	88 (36)	72 (29 1/2)	TS-3648/240V	51	0.4 (0.8)
750	120	20	93 (38)	77 (31 1/2)	TS-3848/120V	53	0.4 (0.8)
750	240	20	93 (38)	77 (31 1/2)	TS-3848/240V	53	0.4 (0.8)
800	120	20	98 (40)	82 (33 1/2)	TS-4048/120V	55	0.5 (1)
800	240	20	98 (40)	82 (33 1/2)	TS-4048/240V	55	0.5 (1)
850	120	20	103 (42)	87 (35 1/2)	TS-4248/120V	57	0.5 (1)
850	240	20	103 (42)	87 (35 1/2)	TS-4248/240V	57	0.5 (1)
900	120	20	108 (44)	92 (37 1/2)	TS-4448/120V	59	0.5 (1)
900	240	20	108 (44)	92 (37 1/2)	TS-4448/240V	59	0.5 (1)
950	120	20	113 (46)	97 (39 1/2)	TS-4648/120V	79	0.5 (1)
950	240	20	113 (46)	97 (39 1/2)	TS-4648/240V	79	0.5 (1)
1000	120	20	118 (48)	102 (41 1/2)	TS-4848/120V	82	0.5 (1)
1000	240	20	118 (48)	102 (41 1/2)	TS-4848/240V	82	0.5 (1)
1000	480	20	118 (48)	102 (41 1/2)	TS-4848/480V	82	0.5 (1)
1050	120	20	123 (50)	106 (43 1/2)	TS-5048/120V	85	0.5 (1)
1050	240	20	123 (50)	106 (43 1/2)	TS-5048/240V	85	0.5 (1)
1050	480	20	123 (50)	106 (43 1/2)	TS-5048/480V	85	0.5 (1)
1100	120	20	133 (54)	116 (47 1/2)	TS-5448/120V	91	0.6 (1.3)
1100	240	20	133 (54)	116 (47 1/2)	TS-5448/240V	91	0.6 (1.3)
1100	480	20	133 (54)	116 (47 1/2)	TS-5448/480V	91	0.6 (1.3)
1200	120	20	142 (58)	126 (51 1/2)	TS-5848/120V	97	0.6 (1.3)
1200	240	20	142 (58)	126 (51 1/2)	TS-5848/240V	97	0.6 (1.3)
1200	480	20	142 (58)	126 (51 1/2)	TS-5848/480V	97	0.6 (1.3)
1300	120	20	152 (62)	136 (55 1/2)	TS-6248/120V	103	0.6 (1.3)
1300	240	20	152 (62)	136 (55 1/2)	TS-6248/240V	103	0.6 (1.3)
1300	480	20	152 (62)	136 (55 1/2)	TS-6248/480V	103	0.6 (1.3)
1400	120	20	162 (66)	146 (59 1/2)	TS-6648/120V	109	0.6 (1.3)
1400	240	20	162 (66)	146 (59 1/2)	TS-6648/240V	109	0.6 (1.3)
1400	480	20	162 (66)	146 (59 1/2)	TS-6648/480V	109	0.6 (1.3)
1500	120	20	172 (70)	156 (63 1/2)	TS-7048/120V	115	0.6 (1.3)
1500	240	20	172 (70)	156 (63 1/2)	TS-7048/240V	115	0.6 (1.3)
1500	480	20	172 (70)	156 (63 1/2)	TS-7048/480V	115	0.6 (1.3)

Note: If element is to be bent, specify "must be annealed."
Ordering Example: TS-4848/480V, 1000 W, 480V heater, \$82.

TS-7448/120V, \$136,
shown smaller than
actual size.



- ✓ Steel Sheath
- ✓ 1600 to 3800 Watts
- ✓ 120, 240 and 480V
- ✓ 20 W/in²
- ✓ 400°C (750°F) Maximum Sheath Temperature

APPLICATIONS

High element surface temperature clamp-on or air heating applications or where extreme rigidity is required.

ADVANTAGES

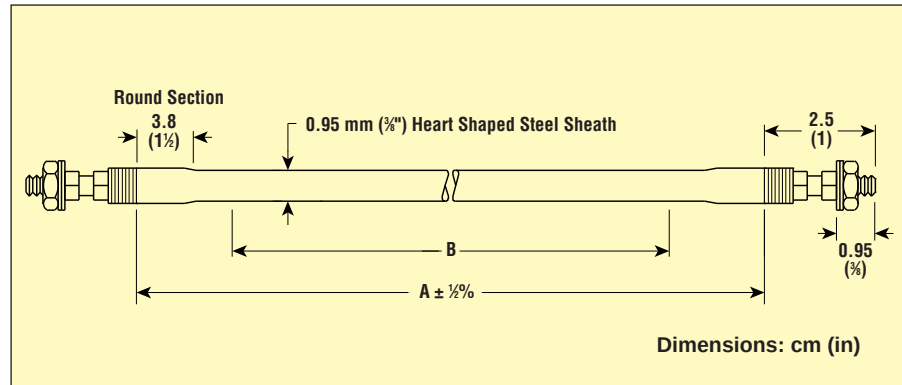
More uniform surface temperatures and resistance to deformation.

FEATURES

Type 3 Terminals: Heliarc-welded to the cold pin. See terminal detail drawing in the Tubular Heater Overview section on omega.com.

Work Temperatures: See Tubular Heater Overview section on omega.com.

Bending: Customer's minimum inside bending radius is 4.8 cm (1 7/8"). See bending requirements in the Tubular Heater Overview section on omega.com.



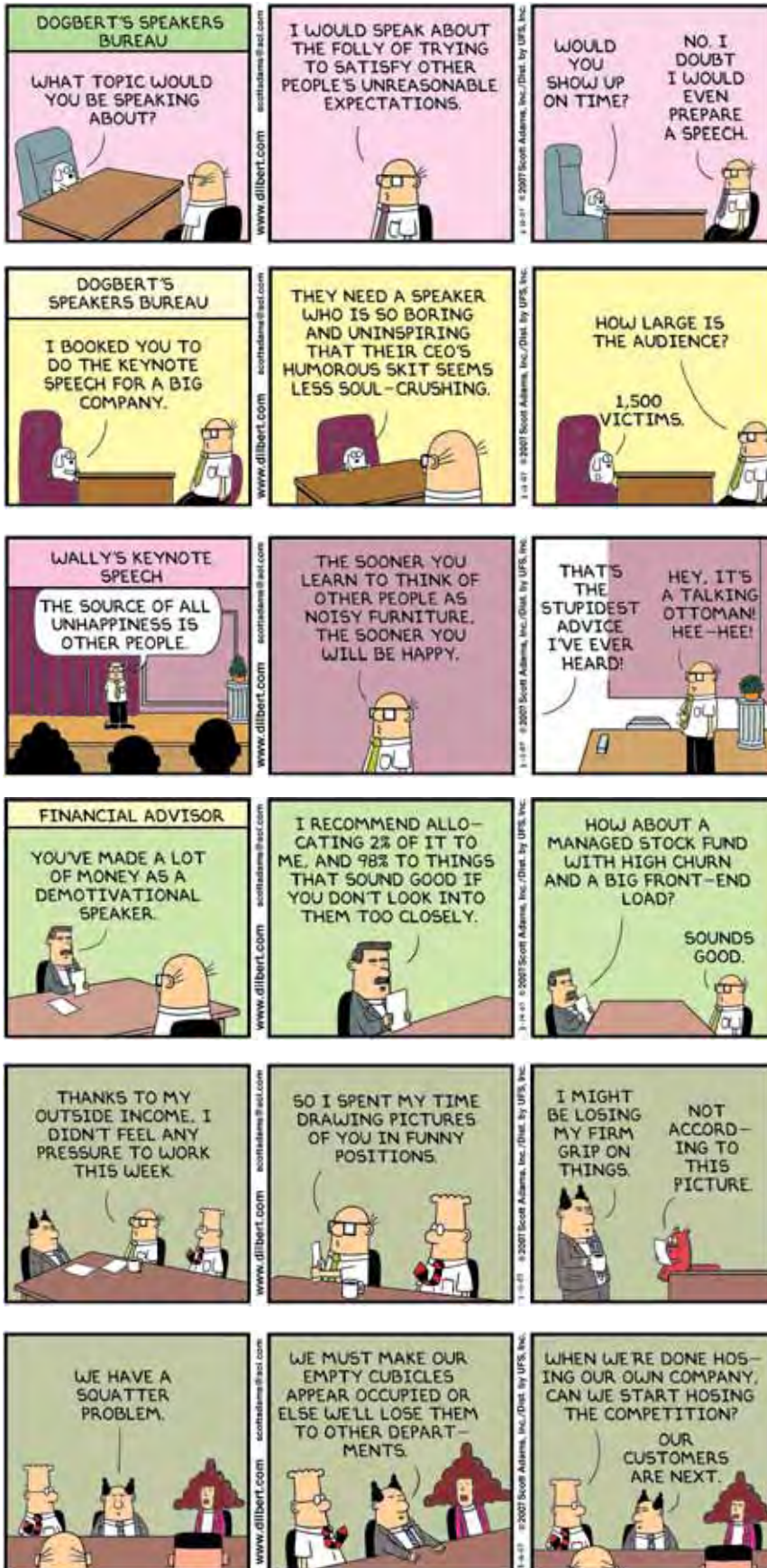
MOST POPULAR MODELS HIGHLIGHTED!

To Order (Specify Model Number)

Watts	Volts	W/in ²	Dimensions cm (in)		Steel Sheath		Weight kg (lb)
			Sheath A	Heated B	Model No.	Price	
1600	120	20	191 (74)	171 (67 1/2)	TS-7448/120V	\$136	0.6 (1.3)
1600	240	20	191 (74)	171 (67 1/2)	TS-7448/240V	136	0.6 (1.3)
1600	480	20	191 (74)	171 (67 1/2)	TS-7448/480V	136	0.6 (1.3)
1700	120	20	198 (78)	181 (71 1/2)	TS-7848/120V	142	0.8 (1.8)
1700	240	20	198 (78)	181 (71 1/2)	TS-7848/240V	142	0.8 (1.8)
1700	480	20	198 (78)	181 (71 1/2)	TS-7848/480V	142	0.8 (1.8)
1800	120	20	208 (82)	185 (75 1/2)	TS-8248/120V	148	0.8 (1.8)
1800	240	20	208 (82)	185 (75 1/2)	TS-8248/240V	148	0.8 (1.8)
1800	480	20	208 (82)	185 (75 1/2)	TS-8248/480V	148	0.8 (1.8)
1850	120	20	218 (86)	195 (79 1/2)	TS-8648/120V	154	0.8 (1.8)
1850	240	20	218 (86)	195 (79 1/2)	TS-8648/240V	154	0.8 (1.8)
1850	480	20	218 (86)	195 (79 1/2)	TS-8648/480V	154	0.8 (1.8)
1950	120	20	228 (90)	205 (83 1/2)	TS-9048/120V	218	0.8 (1.8)
1950	240	20	228 (90)	205 (83 1/2)	TS-9048/240V	218	0.8 (1.8)
1950	480	20	228 (90)	205 (83 1/2)	TS-9048/480V	218	0.8 (1.8)
2050	120	20	239 (94)	215 (87 1/2)	TS-9448/120V	224	0.8 (1.8)
2050	240	20	239 (94)	215 (87 1/2)	TS-9448/240V	224	0.8 (1.8)
2050	480	20	239 (94)	215 (87 1/2)	TS-9448/480V	224	0.8 (1.8)
2150	120	20	245 (98)	225 (91 1/2)	TS-9848/120V	229	0.8 (1.8)
2150	240	20	245 (98)	225 (91 1/2)	TS-9848/240V	229	0.8 (1.8)
2150	480	20	245 (98)	225 (91 1/2)	TS-9848/480V	229	0.8 (1.8)
2250	120	20	259 (102)	234 (95 1/2)	TS-10248/120V	235	1.1 (2.5)
2250	240	20	259 (102)	234 (95 1/2)	TS-10248/240V	235	1.1 (2.5)
2250	480	20	259 (102)	234 (95 1/2)	TS-10248/480V	235	1.1 (2.5)
2350	240	20	269 (106)	244 (99 1/2)	TS-10648/120V	241	1.1 (2.5)
2350	480	20	269 (106)	244 (99 1/2)	TS-10648/480V	241	1.1 (2.5)
2500	240	20	284 (112)	258 (105 1/2)	TS-11248/240V	249	1.1 (2.5)
2500	480	20	284 (112)	258 (105 1/2)	TS-11248/480V	249	1.1 (2.5)
2600	240	20	300 (118)	273 (111 1/2)	TS-11848/240V	258	1.1 (2.5)
2600	480	20	300 (118)	273 (111 1/2)	TS-11848/480V	258	1.1 (2.5)
2750	240	20	315 (124)	289 (117 1/2)	TS-12448/240V	267	1.1 (2.5)
2750	480	20	315 (124)	289 (117 1/2)	TS-12448/480V	267	1.1 (2.5)
2900	240	20	330 (130)	303 (123 1/2)	TS-13048/240V	275	1.1 (2.5)
2900	480	20	330 (130)	303 (123 1/2)	TS-13048/480V	275	1.1 (2.5)
3050	240	20	345 (136)	317 (129 1/2)	TS-13648/240V	284	1.5 (3.3)
3050	480	20	345 (136)	317 (129 1/2)	TS-13648/480V	284	1.5 (3.3)
3200	240	20	360 (142)	332 (135 1/2)	TS-14248/240V	292	1.5 (3.3)
3200	480	20	360 (142)	332 (135 1/2)	TS-14248/480V	292	1.5 (3.3)
3350	240	20	376 (148)	347 (141 1/2)	TS-14848/240V	301	1.5 (3.3)
3350	480	20	376 (148)	347 (141 1/2)	TS-14848/480V	301	1.5 (3.3)
3550	240	20	396 (156)	366 (149 1/2)	TS-15648/240V	312	1.5 (3.3)
3550	480	20	396 (156)	366 (149 1/2)	TS-15648/480V	312	1.5 (3.3)
3700	240	20	417 (164)	386 (157 1/2)	TS-16448/240V	324	1.5 (3.3)
3700	480	20	417 (164)	386 (157 1/2)	TS-16448/480V	324	1.5 (3.3)
3800	240	20	172 (437)	165 1/2 (405)	TS-17248/240V	335	1.5 (3.3)
3800	480	20	172 (437)	165 1/2 (405)	TS-17248/480V	335	1.5 (3.3)

Note: If element is to be bent, specify "must be annealed."

Ordering Example: TS-12448/480V, 2750 W, 480V heater, \$267.



LDP63000 Series
Starts at
\$471



Large Display Meter

LDP63100 Series
Starts at
\$696

Extra Large Display Meter



PTC900/PTC901
Series
Starts at
\$169



Panel-Mount Programmable
Timer and Real-Time Clock

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Applications



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\$1120

Light to Medium
Weight Oils



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NWHJR

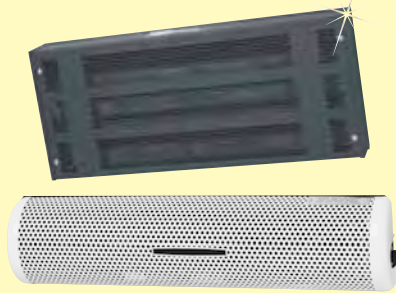
Starts at
\$623

Water Circulation
Heaters



H and V Series

Starts at
\$271



Rugged, Wall-Mounted
Convection Heaters

HF-203, HF-303 and HF-403

Starts at
\$573



Heavy Duty Portable Heaters

LUH Series

Starts at
\$544

Wall or Ceiling Mount
Horizontal Unit Heater



RBC Series

Starts at
\$382

Portable Radiant Heaters

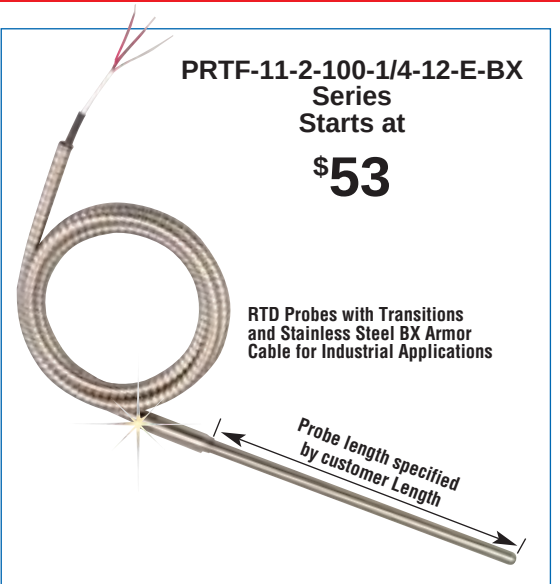
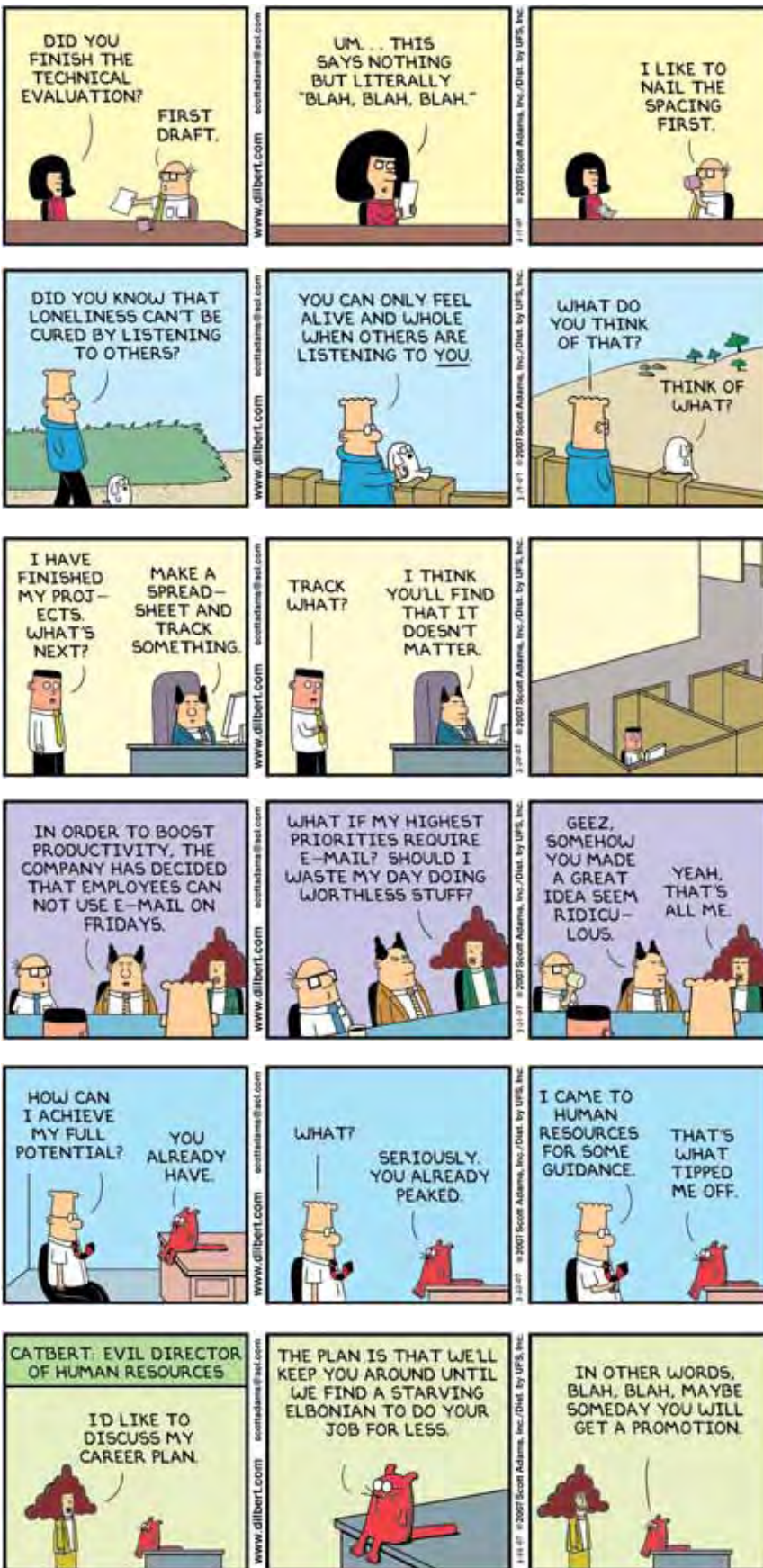


WR-80 and WR-90

Starts at
\$220



Wall-Mounted Room Thermostats



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BENCHTOP MUFFLE FURNACE

LMF Series
Starts at

\$1197



**Cabinet Constructed
of 16-Gage Steel with
Baked Epoxy Finish.**



- ✓ 550 in³
Muffle Chamber
- ✓ 1100°C (2012°F) Max
Operating Temperature
- ✓ Automatic and
Programmable Models
- ✓ Modern Fiber/Firebrick
Muffle Design
- ✓ 120 or 240V

LMF-A550/120, \$1197,
shown smaller than
actual size.

research, and sample ashing determinations in the geological, metallurgical, and wastewater treatment industries. These furnaces are also used in chemistry, physics, and engineering laboratories.

The LMF-A550 has an analog pyrometer that displays temperature, scaled in 50° increments. Temperature is adjusted via a large control dial, scaled in 100° increments. The controller repeatability is excellent.

The LMF-3550 has a 3-stage programmable temperature controller that stores up to 10 programs in memory. Any

LMF Series benchtop muffle furnaces feature a 550 in³ chamber with fiber insulation and firebrick heating plates. The furnace cabinet is constructed of 16-gage steel with a baked epoxy finish. A top exhaust port allows gases to be vented, or it can be plugged during operation. Two temperature controller models are available: automatic and multistage programmable. LMF Series furnaces are ideal for heat-treating applications, material



2 programs can be linked to create a single 6-stage program. One program is dedicated to a single setpoint that holds the setpoint indefinitely. The delay cycle allows the furnace to be set to its heating cycle at a specific time on a future date. The PID controller allows heat increase or decrease rates to be programmed into the cycle.



LMF-3550/120, \$1949, shown smaller than actual size.

550 in³ Chamber.

2 Models:
Automatic and
Programmable.



LMF-3550 models feature digital display with 3-stage programmable temperature controller.



Analog prometer displays temperatures on LMF-A550 models.

Heating and Cooling Times

Heating Temperature			Cooling Temperature		
°C	°F	Time (min)*	°C	°F	Time (min)**
200	392	5	1000	1832	5
400	752	10	800	1472	25
600	1112	20	600	1112	55
800	1472	30	400	752	110
1000	1832	50	200	392	180
1100	2012	65	—	—	—

* Time to heat up from room temperature to indicated temperature with no load.

** Time to cool down from 1100°C (2012°F) to indicated temperature with no load.

MOST POPULAR MODELS HIGHLIGHTED!

To Order (Specify Model Number)

Model No.	Price	Volts	Controller Type	Shipping Wt kg (lb)
LMF-A550/120	\$1197	100 to 125	Analog	23 (50)
LMF-A550/240	1407	200 to 250	Analog	23 (50)
LMF-3550/120	1949	100 to 125	Automatic	23 (50)
LMF-3550/240	1985	200 to 250	Automatic	23 (50)

Includes ceramic floor tray, power cord and complete operator's manual.

Replacement Parts and Accessory

Model No.	Price	Description
LMF-HP	\$159	Heating plate (1 plate)
LMF-TRAY	50	Ceramic floor tray
LMF-TC	45	Thermocouple, Type K, 14 AWG, 48" L
GE-1804	239	Reference Book: Heat Treater's Guide

Ordering Example: LMF-3550/120, 120V automatic control muffle furnace
LMF-TRAY, spare ceramic floor tray, \$1949 + 50 = \$1999.

Specifications

Cabinet Dimensions:

41 H x 40 W x 39 cm D
(16.0 x 15.7 x 15.3")

Cabinet Construction: 16-gage steel with baked epoxy finish

Chamber Size: 9.13 L (550 in³)

Chamber Dimensions:

18 H x 23 W x 23 cm D (7 x 9 x 9")

Electrical Requirements:

15 A @ 120V, 50/60 Hz;
7.5 A @ 240V, 50/60 Hz

Power Consumption: 1800 W

Watts to Maintain 1000°C: 1025 W

Operating Temp Range:

LMF-A550: 200 to 1100°C
(392 to 2012°F)

LMF-3550: 50 to 1100°C
(122 to 2012°F)

Air Circulation: Top exhaust port

Muffle: Fiber insulation with firebrick heating plates



CONSTANT TEMPERATURE HEATED DRY BATHS

HDB Series
Starts at
\$833



- ✓ Uniform Heating for Test Tubes, Cuvettes, and Other Sample Containers
- ✓ Interchangeable Insert Blocks
- ✓ Models for 2 or 3 Insert Blocks
- ✓ Solid State Temperature Control

Omega® HDB Series heated dry baths provide a safe, dry, constant temperature source in laboratory applications involving incubation, boiling, inactivation, wet ashing, and enzyme analysis, as well as in a variety of clinical and industrial applications.

Interchangeable aluminum insert blocks accept tubes or containers ranging from 6 to 26 mm in diameter. A close fit of the tubes in the block ensures high heat transfer, and the heater's design, thermistor temperature sensor, and solid state circuitry provide exceptionally good temperature stability and uniformity. Temperature stability is $\pm 0.1^{\circ}\text{C}$, and uniformity between blocks is $\pm 0.2^{\circ}\text{C}$ (both at 40°C).

On the HDB-2 and HDB-3, temperatures are adjusted with a dial calibrated in $^{\circ}\text{C}$. On the HDB-3D, the dial and digital display are used to set the temperature. The digital indicator continuously displays the temperature.

A block extraction tool, and threaded fitting built into the block, allow easy removal. The user can also insert glass thermometers into the block for accurate temperature measurement.

SPECIFICATIONS

Temperature Range:

HDB-2: 1.25 to 105°C (75 to 219°F)

HDB-3: 1.25 to 200°C (75 to 392°F)

HDB-3D: 1.25 to 200°C (75 to 392°F)

Temperature Stability (at 40°C):

HDB-2, HDB-3, HDB-3D, $\pm 0.1^{\circ}\text{C}$

Maximum Temperature Variation Between Blocks (at 40°C): 0.2°C

Block extraction tool with threaded fitting included.

HDB-3D, 3 blocks, 650 W, \$1435.

Temperature Setting and Resolution:

HDB-2, HDB-3, Rotary Dial, 2°C increments; HDB-3D, 3 digit display, 1°C resolution

Control Accuracy: HDB-2, HDB-3, $\pm 2^{\circ}\text{C}$; HDB-3D, $\pm 1^{\circ}\text{C}$

Aluminum Insert Blocks

Model Number	Price	Tube Size	Number of Holes	Dimensions (mm)
6013501	\$57	Plain block	None	95 x 76 x 51
6013502	61	6 mm	30	95 x 76 x 51
6013503	61	10 mm	20	95 x 76 x 51
6013504	61	12 mm	20	95 x 76 x 51
6013505	61	13 mm	20	95 x 76 x 51
6013506	61	15 mm	12	95 x 76 x 51
6013507	61	16 mm	12	95 x 76 x 51
6013508	61	19 mm	8	95 x 76 x 51
6013509	61	25 mm	6	95 x 76 x 51
6013510	133	10 mm cuvettes, 2 channels	—	95 x 76 x 51
6013512*	262	Plain block thermometer	Hole only	95 x 225 x 51
6014460	72	Plain block thermometer	Hole only	95 x 76 x 51
6014462	130	24 mm	6	95 x 76 x 51
6014463	130	26 mm	6	95 x 76 x 51
6014464	97	1.5 mL eppendorf	20	95 x 76 x 51
6014465	130	0.5 mL eppendorf	30	95 x 76 x 51
6014466	18	Plastic half plain blocks**	—	95 x 37 x 50

* For HDB-3, HDB-3D only. ** If less than the maximum number of blocks is used, it is recommended that the plastic half blocks fill the space on either side of the aluminum block(s) to maintain temperature stability.

Ordering Example: HDB-2, heated dry bath with 2 model 6013503 20-hole insert blocks, \$833 + 61 + 61 = \$955.

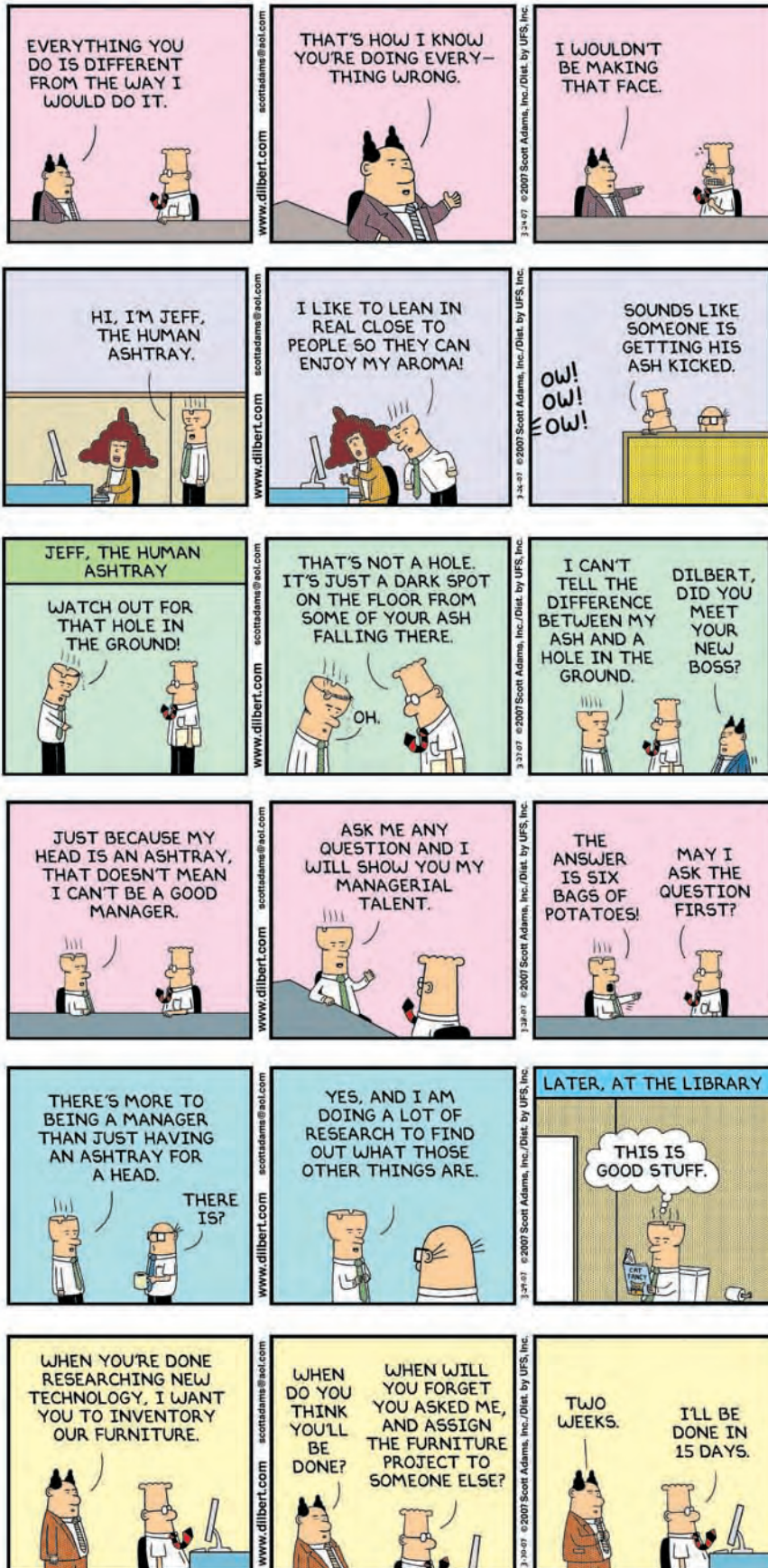
MOST POPULAR MODEL HIGHLIGHTED!

To Order (Specify Model Number)

Model No.	Price	Description
HDB-2	\$833	2 blocks, 25 to 105°C , 450 W, 120V
HDB-3	1064	3 blocks, 25 to 200°C , 650 W, 120V
HDB-3D	1435	3 blocks, 25 to 200°C , 650 W, 120V, temperature and setpoint display

Comes with block extraction tool, power cord and plug, and operator's manual. Aluminum insert blocks are ordered separately (see table at right).

Note: 240V models are also available. To order, add "-240V" suffix to model number.



OS101E Series Starts at \$195

Miniature Industrial, Non-Contact IR Temperature Sensor/Transmitters



PATENTED

Covered by U.S. and International patents and pending applications.

OS533E \$550 other models available starting at \$295

OMEGASCOPE® Handheld Infrared Thermometer Loaded with Features



OS3750 Series Starts at \$1425



OMEGASCOPE® Two-Color and Single-Color Handheld Infrared Pyrometers

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1-800-USA-HEAT
U.S.A. and Canada

LABORATORY HEATING MANTLES

LHM Series
Starts at
\$147



PERFORMANCE CAPABILITIES

- ✓ Temperature Ratings to 482°C (900°F)
- ✓ Low Watt Density
- ✓ Uniform Heat Distribution

FEATURES

- ✓ Custom Designs Available
- ✓ Molded to Fit Flask

LABORATORY SAMPLE HEATERS

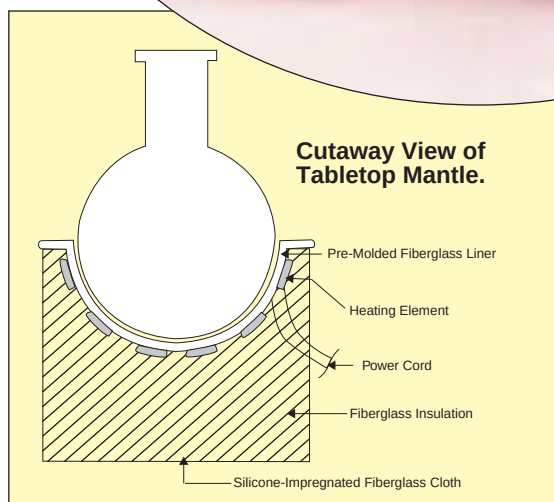
OEM applications often require heating for various laboratory glassware and apparatuses in chromatographic and spectrographic analyses. OMEGA® serves these needs with custom heaters designed to meet the user's requirements.

LABORATORY HEATING MANTLES

OMEGA's heating mantles offer uniform heat distribution for round-bottom flasks. Whether the need is a self-standing mantle, a mantle to fit in a basket ring stand, or a full-coverage zippered mantle, OMEGA® has the solution.

Tabletop Heating Mantles 482°C (900°F) Continuous

TABLETOP HEATING MANTLES are self-supporting mantles that can be placed directly on a countertop or stacked for easy storage. Tabletop mantles permit easy viewing of the flask contents.



MOST POPULAR MODELS HIGHLIGHTED!

To Order (Specify Model Number)

Model No. 120 Vac	Price	Model No 240 Vac	Price	Size mL	Total Watts
LHM-0050-VF1	\$147	LHM-0050-VF2	\$147	50	52
LHM-0100-VF1	159	LHM-0100-VF2	159	100	70
LHM-0250-VF1	174	LHM-0250-VF2	174	250	143
LHM-0500-VF1	197	LHM-0500-VF2	197	500	210
LHM-1000-VF1	218	LHM-1000-VF2	218	1000	377
LHM-2000-VF1	229	LHM-2000-VF2	229	2000	520
LHM-3000-VF1	245	LHM-3000-VF2	245	3000	550
LHM-5000-VF1	274	LHM-5000-VF2	274	5000	620

120V models come with a 1.8 m (6') power cord with a 2 P, 2 W straight-blade plug.

240V models come with a 1.8 m (6') power cord with a 2 P, 3 W straight-blade plug.

Ordering Example: LHM-0050-VF1, 50 mL, 52 W heating mantle, \$147.

SPHERICAL HEATING MANTLES 450°C (842°F) CONTINUOUS

LHMSS1 Series
Starts at

\$198

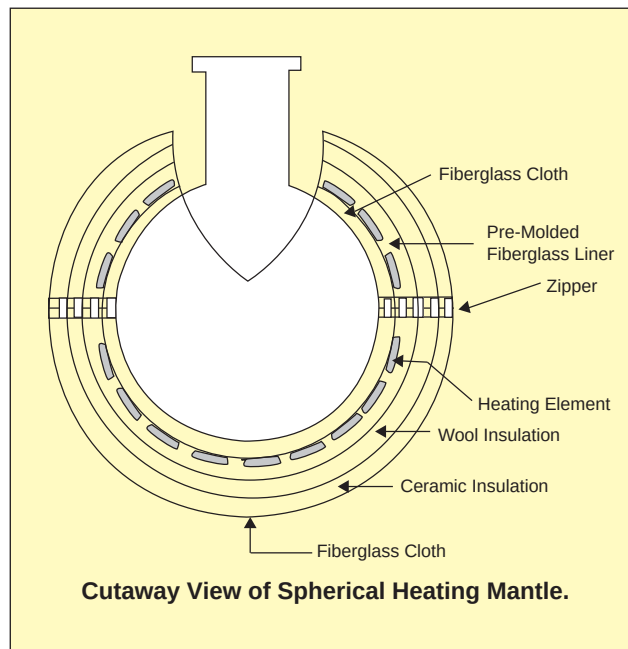


ALL MODELS AVAILABLE FOR FAST DELIVERY!

To Order (Specify Model Number)						
Model No. 120 Vac	Price	Model No. 240 Vac	Price	Size mL	Total Watts	
LHM0500-SS1	\$198	LHM0500-SS2	\$198	500	077	270
LHM1000-SS1	345	LHM1000-SS2	345	1000	140	380
LHM2000-SS1	377	LHM2000-SS2	377	2000	200	500

Comes with complete operator's manual. 120V power cords are 15 cm (6") long with a 2-pole twist-lock power connector and are supplied with a 1.2 m (4') power adaptor cord with a 2 P, 2 W straight-blade plug. 240V power cords are 15 cm (6") long with no plug.

Ordering Example: LHM1000-SS1, 120V, 1000 mL heating mantle, \$345.



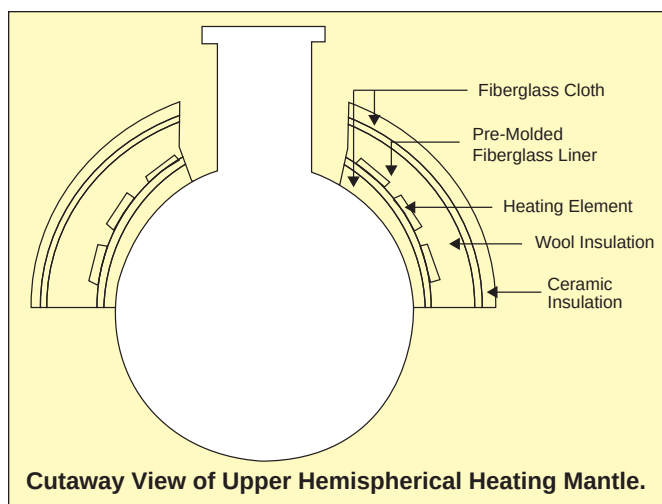
Upper Hemispherical Heating Mantles 450°C (842°F) Continuous

LHMTS Series
Starts at

\$121



ALL MODELS AVAILABLE FOR FAST DELIVERY!



UPPER HEMISPHERICAL MANTLES are ideal for preventing vapor condensation in the upper half of the flask. The opening holds 1-, 2-, or 3-neck flasks.

To Order (Specify Model Number)					
Model No. 120 Vac	Price	Model No. 240 Vac	Price	Size mL	Total Watts
LHM0250-TS1	\$121	LHM0250-TS2	\$121	250	140
LHM0500-TS1	130	LHM0500-TS2	130	500	140
LHM1000-TS1	143	LHM1000-TS2	143	1000	140
LHM2000-TS1	162	LHM2000-TS2	162	2000	20
LHM3000-TS1	162	LHM3000-TS2	162	3000	20
LHM5000-TS1	216	LHM5000-TS2	215	5000	300

Comes with complete operator's manual. 120V power cords are 15 cm (6") long with a 2-pole twist-lock power connector and are supplied with a 1.2 m (4') power adaptor cord with a 2 P, 2 W straight-blade plug. 240V power cords are 15 cm (6") long with no plug.
Ordering Example: LHM0250-TS1, 120V, 250 mL heating mantle, \$121.

LABORATORY HEATING MANTLES

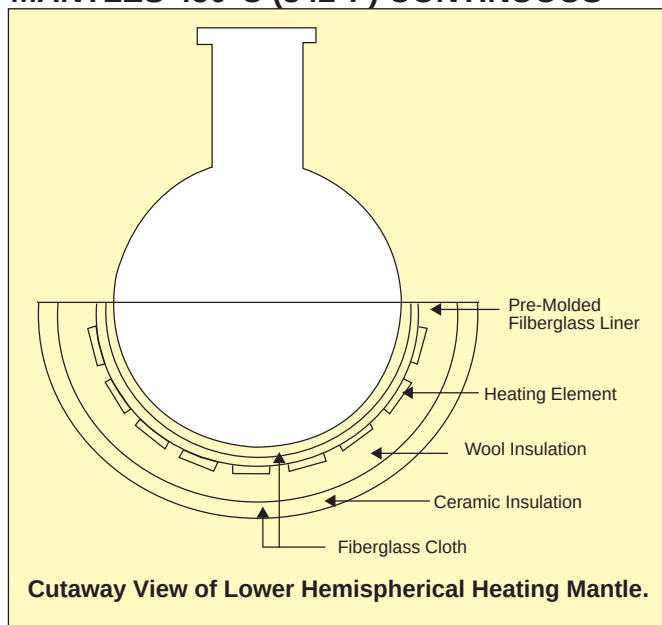


LHMHS Series
Starts at

\$168



LOWER HEMISPHERICAL HEATING MANTLES 450°C (842°F) CONTINUOUS



UPPER HEMISPHERICAL HEATING MANTLES

are the same as the lower half of the spherical mantles, but without the zipper. These mantles are ideal for use with a basket ring and permit easy viewing of the flask contents.

ALL MODELS AVAILABLE FOR FAST DELIVERY!

To Order (Specify Model Number)

Model No. 120 Vac	Price	Model No. 240 Vac	Price	Size mL	Total Watts
LHM0050-HS1	\$168	LHM0050-HS2	\$168	50	60
LHM0100-HS1	188	LHM0100-HS2	188	100	80
LHM0125-HS1	191	LHM0125-HS2	191	125	80
LHM0200-HS1	196	LHM0200-HS2	196	200	100
LHM0250-HS1	199	LHM0250-HS2	199	250	180
LHM0500-HS1	206	LHM0500-HS2	206	500	270
LHM1000-HS1	239	LHM1000-HS2	239	1000	380
LHM2000-HS1	269	LHM2000-HS2	269	2000	500
LHM3000-HS1	300	LHM3000-HS2	300	3000	500
LHM5000-HS1	373	LHM5000-HS2	373	5000	600
LHM12000-HS1	746	LHM12000-HS2	746	12,000	1300

Comes with complete operator's manual. 120V power cords are 15 cm (6") long with a 2-pole twist-lock power connector and are supplied with a 1.2 m (4') power adaptor cord with a 2 P, 2 W straight-blade plug. 240V power cords are 15 cm (6") long with no plug.
Ordering Example: LHM0200-HS2, 120V, 200 mL heating mantle, \$196.

HEAVY DUTY LABORATORY HOT PLATES

ROPH Series
Starts at
\$278



- ✓ Models Available with 3 Heat Setting or with Infinite Control
- ✓ 120 and 240V Models from 660 to 2000 Watts
- ✓ Premium Quality Construction
- ✓ 6', 3-Conductor Cord with Distinct NEMA Type Plug
- ✓ UL Listed



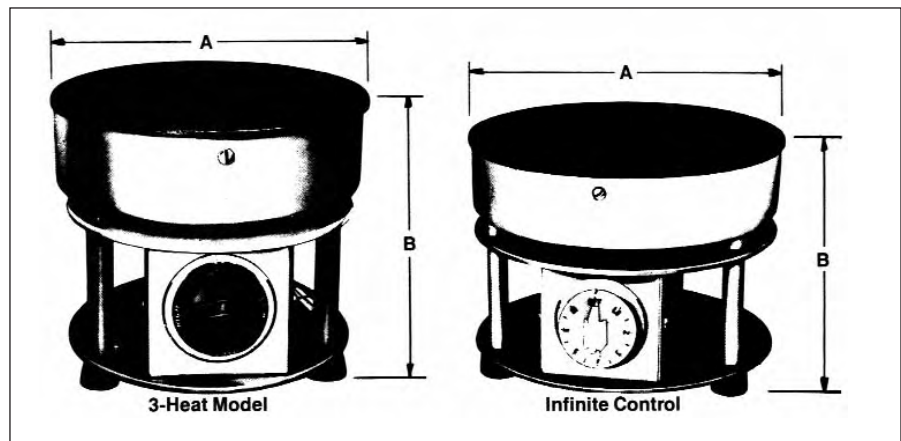
ROPH-193, \$347, shown smaller than actual size.

APPLICATIONS

- ✓ Continuous Heavy Duty Laboratory Work
- ✓ For Heating Beakers and Pans
- ✓ Evaporations
- ✓ Dehydrations

FEATURES

Flat, rugged cast heating element is designed for heavy duty service. It is unaffected by physical and thermal shock. Spill-overs cannot damage the heating unit



STURDY FRAME

Enclosed switch in a terminal box which protects it from excess heat, and assures safety and long life

Six foot, 3-conductor cord, supplied with all models, has NEMA type plug-in device

3-heat switch Low medium or high temperature settings

Infinite control Devices have HI, LO and infinite control positions to 100% of rated wattage. LO provides a nominal output of 5½% rated wattage

MOST POPULAR MODEL HIGHLIGHTED!

To Order (Specify Model Number)

Watts	Volts	Max. Surface Dim. In. (cm)		NEMA Plug	Temp. °F			Model No.	Price	Weight	
		A	B		Hi.	Med.	Lo.			lb	(kg)
With Infinite Control											
600	120	7(18)	6 ³ / ₁₆ (15.7)	5-15P	700	-	-	ROPH-64	313	6.5	(2)
1000	120	7(18)	6 ³ / ₁₆ (15.7)	5-15P	900	-	-	ROPH-104	313	6.5	(2)
1200	120	7(18)	6 ³ / ₁₆ (15.7)	5-15P	970	-	-	ROPH-124	313	6.5	(2)
1400	120	8½(22)	6 ³ / ₁₆ (15.7)	5-15P	875	-	-	ROPH-144	364	10.0	(4.5)
2000	240	8½(22)	6 ³ / ₁₆ (15.7)	6-15P	1000	-	-	ROPH-204	364	10.0	(4.5)

Comes with: Power cord and operators manual.

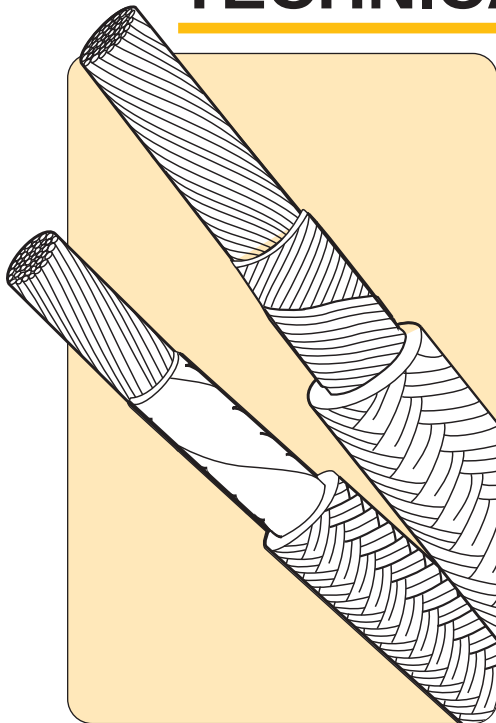
Ordering Example: ROPH-193, hot plate 1900w, \$347

To Order, Call **1-800-872-4328** or Shop Online at **omega.comSM**

HEATER HOOK-UP WIRE TECHNICAL DATA



Additional heater
hook-up wire available.
Visit omega.com



The use of this table for establishing ampacity ratings is an inexact procedure. This table should only be used as a starting point when establishing ratings for any given situation. Values may be lesser or greater than those given in the table because of the influence of installation method, environment, number of conductors, conductor composition and size, ambient temperatures, insulation types, etc. It is recommended that design engineers desiring accurate ampacity data closely study the 1990 National Electrical Code Handbook Article 310-15-310-84. Additional information can be derived from AIEE, paper number 57-660, "The calculation of the temperature rise and load capability of cable systems" by J. H. Neher and M. H. McGrath. This paper was presented to the AIEE general meeting in Montreal, Quebec, Canada on June 24-28, 1956 and was published in the "AIEE transactions," part 3 (power apparatus and systems), Volume 76, October, 1957, pp. 752-772.

Conductor Types:

tc = tinned copper
npc = nickel plated copper
npi = nickel plated iron
A-nickel = Type 'A' 100% nickel

Current Carrying Capacity Base Temperature at 40°C (104°F) (Values tabulated are In Amperes)						
Wire Gage, AWG	Conductor Type					
	200°C (390°F)	250°C (480°F)	250°C (480°F)	250°C (480°F)	450°C (840°F)	450°C (840°F)
	tc, npc	npc-7%	A-nickel	npi	npc-27%	A-nickel
24	7.2	8.0	4.0	3.3	9.0	4.3
22	9.6	10.8	5.0	4.4	12.0	5.6
20	14.0	15.0	7.0	6.0	18.0	8.0
18	18.0	20.0	9.4	8.0	23.0	11.0
16	24.0	26.0	12.0	11.0	30.0	14.0
14	36.0	39.0	18.0	16.0	45.0	21.0
12	45.0	49.0	23.0	20.0	56.0	26.0
10	60.0	66.0	31.0	27.0	75.0	35.0
8	83.0	91.0			104.0	49.0
6	110.0	121.0			138.0	65.0

Temperature Correction Factors For ambient temperatures other than 40°C (100°F), multiply the ampacities shown above by the appropriate factor shown below				
Ambient	Temperature	Wire Temperature Rating		
°C	°F	200°C (390°F)	250°C (480°F)	450°C (840°F)
41 to 50	106 to 122	0.97	0.98	0.99
51 to 60	124 to 140	0.94	0.95	0.99
61 to 70	142 to 158	0.90	0.93	0.96
71 to 80	160 to 176	0.87	0.90	0.95
81 to 90	177 to 194	0.83	0.87	0.93
91 to 100	195 to 212	0.72	0.85	0.92
101 to 120	213 to 248	0.71	0.79	0.89
121 to 140	249 to 284	0.61	0.71	0.86
141 to 160	285 to 320	0.50	0.65	0.84
161 to 180	321 to 356	0.35	0.58	0.81
181 to 200	357 to 392	-	0.49	0.78
201 to 225	393 to 437	-	0.35	0.74
226 to 250	439 to 482	-	-	0.69
251 to 275	483 to 527	-	-	0.65
276 to 300	528 to 572	-	-	0.60
301 to 325	573 to 617	-	-	0.55
326 to 350	618 to 662	-	-	0.49
351 to 375	663 to 707	-	-	0.42
376 to 400	708 to 752	-	-	0.34

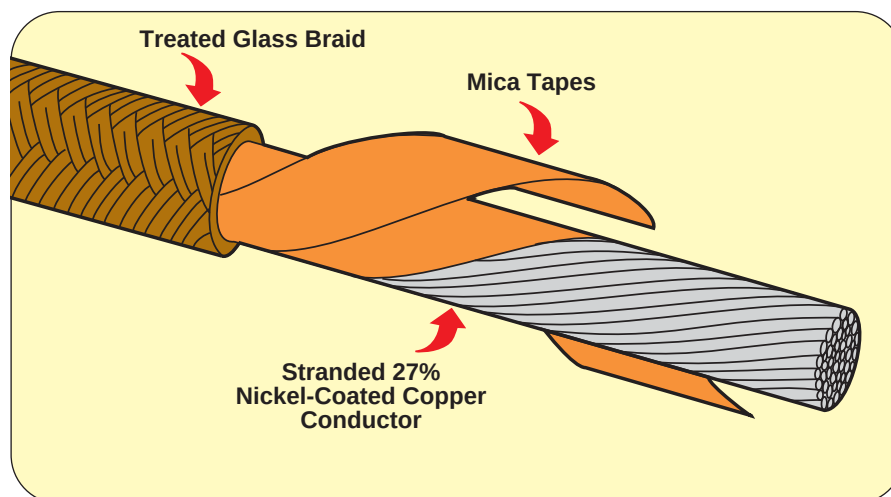
Example: The current carrying capacity (ampacity) rating of a 16 AWG 200°C npc conductor at 40°C is 24.0 A.

MICA-GLASS INSULATED HIGH TEMPERATURE HEATER HOOK-UP WIRE

HTMG Series
Starts at
\$1
Per Foot



- ✓ 450°C (842°F)
Temperature Rating
- ✓ CSA Certified, NRTL
and UL Listed
- ✓ Single Stranded 27%
Nickel Coated Copper
Conductor
- ✓ Mica Tape Insulation
with Treated Glass
Overbraid



HTMG high-temperature lead wires are designed for appliances and industrial heating products—such as commercial food service equipment, heaters, heat treating furnaces, kilns, heater elements and other applications up to 450°C (842°F).

Discount Schedule	
50 to 99 ft.	20%
100 to 199 ft.	30%
200 to 499 ft.	40%
499 ft. and up	60%

 MOST POPULAR MODELS HIGHLIGHTED!

To Order (Specify Model Number)						
Gage	Model No.	Type Price/ft	Stranded	Volts	Nominal OD mm (in)	Approx Wt kg/300 m (lb/1000')
22	HTMG-1CU-322S/C	\$1.00	7 x 30	300	2.0 (0.08)	2.5 (5.5)
22	HTMG-1CU-622S/C	1.45		600	2.6 (0.10)	3.2 (7.0)
20	HTMG-1CU-320S/C	1.35	10 x 30	300	2.1 (0.08)	3.2 (7.0)
20	HTMG-1CU-620S/C	1.65		600	2.8 (0.11)	4.1 (9.0)
18	HTMG-1CU-318S/C	1.45	16 x 30	300	2.4 (0.10)	4.3 (9.5)
18	HTMG-1CU-618S/C	1.85		600	3.0 (0.12)	5.2 (11.5)
16	HTMG-1CU-316S/C	1.85	26 x 30	300	2.7 (0.11)	5.9 (13.0)
16	HTMG-1CU-616S/C	2.25		600	3.3 (0.13)	6.8 (15.0)
14	HTMG-1CU-314S/C	2.45	41 x 30	300	3.0 (0.12)	8.4 (18.5)
14	HTMG-1CU-614S/C	2.90		600	3.7 (0.14)	9.5 (21.0)
12	HTMG-1CU-312S/C	3.35	65 x 30	300	3.5 (0.14)	12.2 (27.0)
12	HTMG-1CU-612S/C	3.85		600	4.1 (0.16)	13.4 (29.5)
10	HTMG-1CU-310S/C	5.65	105 x 30	300	5.1 (0.20)	21.1 (46.5)
10	HTMG-1CU-610S/C	6.20		600	5.7 (0.22)	22.9 (50.5)
8	HTMG-1CU-308S/C	8.95	133 x 29	300	6.0 (0.23)	31.8 (70.0)
8	HTMG-1CU-608S/C	9.85		600	6.1 (0.26)	34.2 (75.5)

Standard Color: Natural (tan).

Ordering Example: HTMG-1CU-322S/C, 100' spool of 22 gage stranded wire, \$1.00 x 100 = \$100 (less 30% discount) = \$70.

See heater hook-up wire introduction for current carrying capacity and derating.

PFA GLASS INSULATED HIGH TEMPERATURE HEATER HOOK-UP WIRE

HTTG Series
Starts at

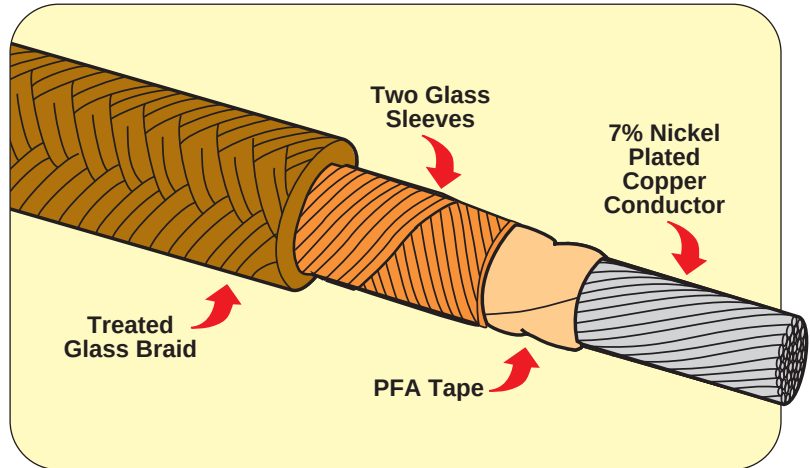
\$0.95
Per Foot



- ✓ 250°C (482°F) Temperature Rating
- ✓ UL & CSA Certified*
- ✓ Single Stranded 7% Nickel-Plated Copper Conductor
- ✓ PFA Tape and Glass Insulation with PFA Treated Glass Overbraid
- ✓ Two Glass Sleeveings

HTTG high-temperature lead wires are ideal for appliances, consumer and commercial heating and cooling equipment, ovens, kilns, band, strip and cartridge heaters, and similar applications up to 250°C (482°F).

HTTG has excellent stripping and cutting capabilities, making it ideal for high-volume manufacturing and assembly. The tough treated glass braid and servings permit the product to withstand repeated flexing and severe mechanical abuse. HTTG is moisture resistant, chemically inert and manufactured of heat-stable materials.



CAUTION AND WARNING!
Fire and electrical shock may result if products are used improperly or installed or used by nonqualified personnel.

Discount Schedule

50 to 99 ft.	20%
100 to 199 ft.	30%
200 to 499 ft.	40%
499 ft. and up	60%

MOST POPULAR MODELS HIGHLIGHTED!

To Order (Specify Model Number)

Gage	Model No.	Type Price/ft	Stranded	Volts	Nominal OD mm (in)	Approx Wt kg/300 m (lb/1000' ft)
22	HTTG-1CU-322S	\$0.95	7 x 30	300	2.0 (0.08)	3.4 (7.5)
22	HTTG-1CU-622S	1.05		600	2.4 (0.10)	3.9 (85)
20	HTTG-1CU-320S	0.95	10 x 30	300	2.1 (0.08)	4.1 (9.0)
20	HTTG-1CU-620S	1.15		600	2.6 (0.10)	4.5 (10.0)
18	HTTG-1CU-318S	1.15	16 x 30	300	2.3 (0.09)	5.0 (11.0)
18	HTTG-1CU-618S	1.35		600	2.7 (0.11)	5.7 (12.5)
16	HTTG-1CU-316S	1.50	26 x 30	300	2.7 (0.11)	7.5 (16.5)
16	HTTG-1CU-616S	1.65		600	3.1 (0.12)	7.7 (17.0)
14	HTTG-1CU-314S	1.95	41 x 30	300	3.1 (0.12)	10.2 (22.5)
14	HTTG-1CU-614S	2.10		600	3.4 (0.14)	10.7 (23.5)
12	HTTG-1CU-312S	2.60	65 x 30	300	3.5 (0.14)	14.5 (32.0)
12	HTTG-1CU-612S	2.80		600	3.9 (0.15)	15.0 (33.0)
10	HTTG-1CU-310S	3.60	105 x 30	300	4.5 (0.18)	21.50 (47.5)
10	HTTG-1CU-610S	3.85		600	4.9 (0.19)	22.0 (48.5)
8	HTTG-1CU-608S	6.20	133 x 29	600	5.8 (0.23)	32.9 (72.5)

* Note: HTTG wire carries both UL listing and CSA certification. **Standard Color:** natural (tan).

Ordering Example: HTTG-1CU-614S, 200' spool of 14 gage stranded wire, \$2.10 x 200 = \$420 (less 40% discount) = \$252.

See heater hook-up wire introduction for current carrying capacity and derating.

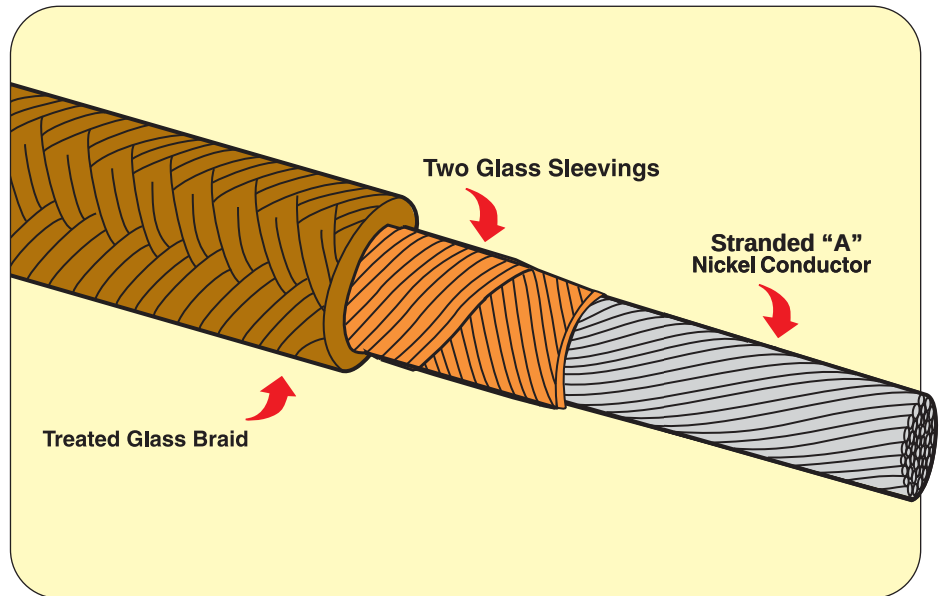
GLASS INSULATED HIGH TEMPERATURE HEATER HOOK-UP WIRE

HTGG Series
Starts at
\$1.05
Per Foot



- ✓ 250°C (482°F) Temperature Rating
- ✓ UL & CSA Certified
- ✓ Single Stranded "A" Nickel Conductor
- ✓ Glass Insulation with Treated Glass Overbraid
- ✓ Ideal for Applications Where Outgassing May Be a Problem
- ✓ Treated Glass Braid

HTGG high-temperature lead wire is specifically engineered for cartridge, band and strip heaters in 250°C (482°F) applications where outgassing may be a problem. This product is also commonly used in higher temperature applications.



Additional Heater Hook-up Wire available. Visit omega.com for details.

CAUTION AND WARNING!

Fire and electrical shock may result if products are used improperly or installed or used by nonqualified personnel.

Discount Schedule

50 to 99 ft.	20%
100 to 199 ft.	30%
200 to 499 ft.	40%
499 ft. and up	60%

MOST POPULAR MODELS HIGHLIGHTED!

To Order (Specify Model Number)

Gage	Model No.	Type Price/ft	Stranded	Volts	Nominal OD mm (in)	Approx. Wt. kg/300 m (lb/1000')
22	HTGG-1NI-322S/C	\$1.05	7 x 30	300	2.2 (0.09)	3.4 (7.5)
20	HTGG-1NI-320S/C	1.15	10 x 30	300	2.4 (0.09)	4.1 (9.0)
18	HTGG-1NI-318S/C	1.45	16 x 30	300	2.6 (0.10)	5.2 (11.5)
16	HTGG-1NI-316S/C	2.05	26 x 30	300	2.8 (0.11)	7.0 (15.5)
14	HTGG-1NI-314S/C	3.15	41 x 30	300	3.2 (0.13)	11.8 (26.0)
12	HTGG-1NI-312S/C	4.55	65 x 30	300	3.7 (0.15)	16.3 (36.0)
10	HTGG-1NI-310S/C	6.80	105 x 30	300	4.6 (0.18)	23.4 (51.5)

Standard Color: Natural (off-white).

Ordering Example: HTGG-1NI-322S/C, a 50' spool of 22 gage stranded wire, \$1.05 x 50 = \$105 (less 20% discount) = \$42.
See heater hook-up wire introduction for current carrying capacity and derating.

To Order, Call **1-800-872-4328** or Shop Online at omega.comSM

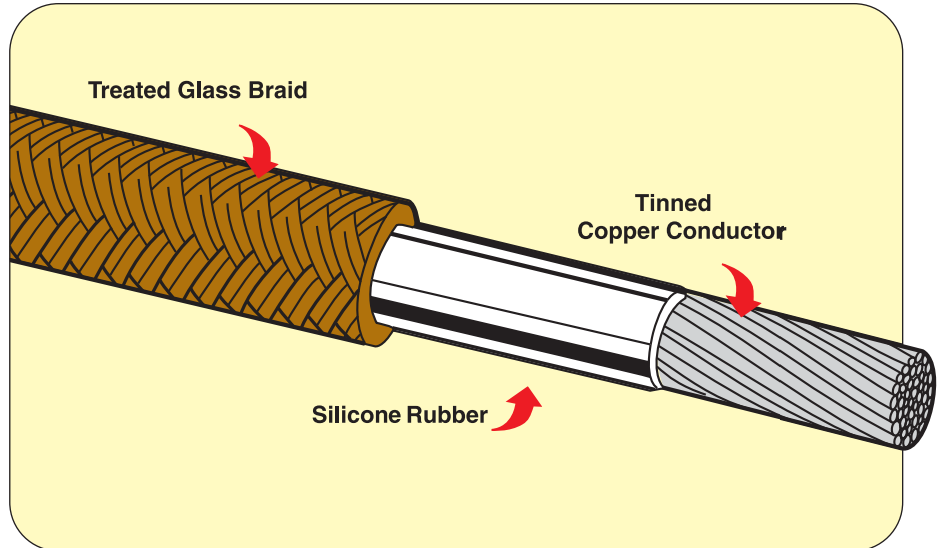
SILICONE RUBBER INSULATED HIGH TEMPERATURE HEATER HOOK-UP WIRE

HTRG Series
Starts at
\$0.45
Per Foot



- ✓ 200°C (392°F) Temperature Rating
- ✓ UL & CSA Certified*
- ✓ Silicone Rubber Insulated with Treated Glass Overbraid
- ✓ Tinned Copper Conductor

Braided silicone rubber insulated high-temperature lead wires are well suited for use as the exposed leads in appliances and lighting fixtures. HTRG Series wire is also used for range top burners and back panels, steam irons, toasters, broiler ovens, gas dryers, kilns, recessed lighting fixtures and similar applications up to 200°C (392°F).



CAUTION AND WARNING!
Fire and electrical shock may result if products are used improperly or installed or used by nonqualified personnel.

Additional Heater Hook-up Wire available. Visit omega.com for details.

Discount Schedule

50 to 99 ft.	20%
100 to 199 ft.	30%
200 to 499 ft.	40%
499 ft. and up	60%

MOST POPULAR MODELS HIGHLIGHTED!

To Order (Specify Model Number)

Gage	Model No.	Price/ft	Type	Volts	Nominal OD mm (in)	Approx Wt kg/300 m (lb/1000')	Color
18	HTRG-1CU-618SW	\$0.45	7 x 26	600	3.2 (0.13)	5.7 (12.5)	White
18	HTRG-1CU-618SBK	0.45	7 x 26	600	3.2 (0.13)	5.7 (12.5)	Black
16	HTRG-1CU-616SW	0.50	7 x 24	600	3.4 (0.13)	7.5 (16.5)	White
16	HTRG-1CU-616SBK	0.50	7 x 24	600	3.4 (0.13)	7.5 (16.5)	Black
14	HTRG-1CU-614SW	0.65	7 x 22	600	3.8 (0.15)	10.0 (22.0)	White
14	HTRG-1CU-614SBK	0.65	7 x 22	600	3.8 (0.15)	10.0 (22.0)	Black
12	HTRG-1CU-612SW	0.90	19 x 25	600	4.2 (0.17)	14.3 (31.5)	White
12	HTRG-1CU-612SBK	0.90	19 x 25	600	4.2 (0.17)	14.3 (31.5)	Black
10	HTRG-1CU-610SW	1.35	19 x 23	600	5.6 (0.22)	23.1 (51.0)	White
10	HTRG-1CU-610SBK	1.35	19 x 23	600	5.6 (0.22)	23.1 (51.0)	Black

Ordering Example: HTRG-1CU-616SW, a 50' spool of 16 gage stranded wire with white jacketing, \$0.50 x 50 = \$25 (less 20% discount) = \$20.

Standard Conductors: AWG 22-20: Nickel Plated Copper or AWG 18-8: Tinned Copper.

Standard Color: White or black. Other colors available; contact Sales.

*HTRG Series wire is both UL listed and CSA certified.

See heater hook-up wire introduction for current carrying capacity and derating.

HIGH TEMPERATURE FURNACE CABLE

Ceramic-Mica Silica Insulated with Stainless Steel Overbraid

HTCM/HTSM Series
Starts at

\$7

10' 18 AWG
HTCM-1NI-618S



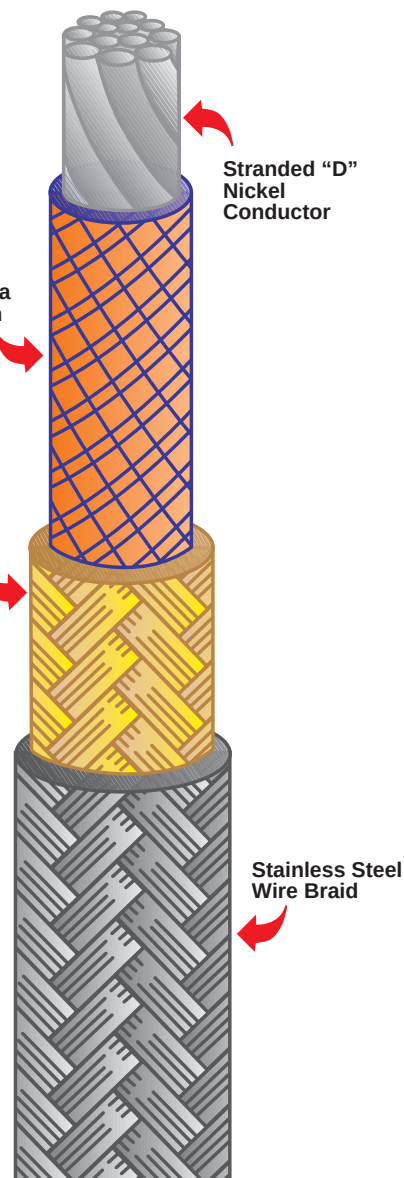
- ✓ 700°C (1292°F) Temperature Rating
- ✓ For Use in Non-Flexing Applications
- ✓ Single Stranded, "D" Nickel Conductor
- ✓ Mica Tape Insulation with Ceramic Fiber or Silica
- ✓ Jacket and Stainless Steel Overbraid

OMEGALUX® HTCM/HTSM high temperature lead wire is designed for use in very high temperature applications as a single conductor lead wire. It is recommended for use in areas that are exposed to high temperatures but with a minimum of flexing after installation. Such applications include ovens, kilns or furnaces. The stainless steel outer braid provides mechanical protection.

Discount Schedule	
25 to 99 ft.	5%
100 to 249 ft.	7%
250 and up	10%

CAUTION AND WARNING!

Fire and electrical shock may result if products are used improperly or installed or used by nonqualified personnel.



MOST POPULAR MODELS HIGHLIGHTED!

To Order (Specify Model Number)

Wire Gage	Description	Model No.	Price per foot	Type Stranded	Volts	Wt. per Nominal OD mm (in)	1000' kg/300 m (lb/1000')
18	Ceramic Fiber	HTCM-1NI-618S	\$7.00	16 x 30	300	3.4 (0.14)	12.2 (27)
16	Ceramic Fiber	HTCM-1NI-616S	7.50	26 x 30	300	3.7 (0.15)	15.4 (34)
14	Ceramic Fiber	HTCM-1NI-614S	8.50	41 x 30	300	4.1 (0.16)	19.1 (42)
12	Ceramic Fiber	HTCM-1NI-612S	11.00	65 x 30	300	4.5 (0.18)	24.5 (54)
10	Ceramic Fiber	HTCM-1NI-610S	13.50	105 x 30	300	5.6 (0.22)	32.7 (72)
18	Ceramic Fiber	HTSM-1NI-618S	\$7.00	19 x 30	300	3.4 (0.14)	12.2 (27)
16	Ceramic Fiber	HTSM-1NI-616S	7.50	26 x 30	300	3.7 (0.15)	15.4 (34)
14	Ceramic Fiber	HTSM-1NI-614S	8.50	41 x 30	300	4.1 (0.16)	19.1 (42)
12	Ceramic Fiber	HTSM-1NI-612S	11.00	65 x 30	300	4.5 (0.18)	24.5 (54)
10	Ceramic Fiber	HTSM-1NI-610S	13.50	105 x 30	300	5.6 (0.22)	32.7 (72)

Minimum order is 10'.

Note: UL listing and CSA certification are not available for HTCM/HTSM series wire.

Ordering Example: HTCM-1NI-616S, a 50' spool of 16 gage stranded heater hook-up wire, $\$7.50 \times 50 = \375 (less 5% discount) = **\$356**.

To Order, Call **1-800-872-4328** or Shop Online at **omega.comSM**

HEATER HOOK-UP WIRE ACCESSORIES

Crimping Tool

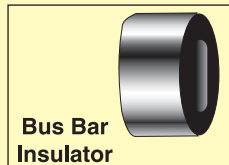
- ✓ Heavy Duty
- ✓ Also Serves as a Wire Cutter (Copper and Aluminum Wire Only)
- ✓ Crimps Lugs onto 10 Through 22 AWG Solid or Stranded Wire



Bus Bars

High-temperature wire and bus bars are recommended for connections to heater terminals and for runs in heated zones. When ambient temperature exceeds the maximum allowed for insulated wire, use a bus bar wire or a bar with porcelain insulators. Current-carrying capacities should be carefully noted. A bus bar is solid or perforated to facilitate wiring, especially when terminals are in line. The perforated bus bar has $\frac{1}{32} \times \frac{1}{32}$ slots on $\frac{1}{16}$ centers. When connecting elements with a bus bar, provide expansion loops between elements. Bus bars can be used in multiples for higher amperage capacity (approximately 33.5% per bus bar) than listed to the right. Specify the number of feet of bus bar required for your application.

Porcelain Hi-Temp Insulation for Bus Bars: Porcelain insulators 13 mm ($\frac{1}{2}$ " long) x 21 mm ($\frac{13}{16}$ " wide) with 3 mm ($\frac{1}{8}$ " x 14 mm ($\frac{9}{16}$ " slot; 95 pieces per lb.



Bus Bar Insulator

To order bus bar insulators, ask for model no. **BBINS**, price \$0.25 each.

Flexible Metal Armor

- ✓ For Abrasion and Flexing Protection

Model No.: THE-0043 Price: \$1.50/ft
Dimensions: 5 mm ($\frac{3}{16}$ " ID, 6.8 ± 15 mm (0.269 ± 0.006" OD

Accessory

Model No.	Price	Description
ME-1212	\$100	Reference Book: Steam Plant Calculations Manual

Bus Bars

MOST POPULAR MODELS HIGHLIGHTED!

To Order (Specify Model Number)

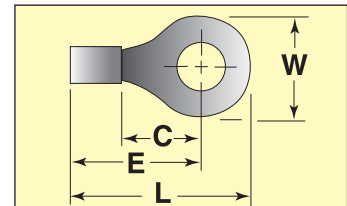
Model No.	Price/ft	Monel	Dimensions: mm (in)		(Amps)*
			Width	Thickness	
BB5-A	\$8	Solid	13 (0.5)	0.08 (0.032)	18
BB5-B	8	Solid	13 (0.5)	1.63 (0.064)	28
BBP-A	10	Perforated†	13 (0.5)	0.08 (0.032)	9
BBP-B	10	Perforated†	13 (0.5)	1.63 (0.064)	16

Specify number of feet: 10' minimum.

† Slot Size = $\frac{1}{32}$ diameter. * These current values will cause the conductor to operate at 38°C (100°F) above surrounding ambient; values can also be used for bare wire with porcelain tubes or bead insulation.

High-Temperature Ring Terminals

- ✓ 345°C (650°F) Temperature Rating
- ✓ Nickel-Plated Copper
- ✓ Uninsulated

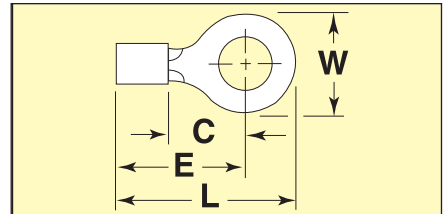


High-Temperature Ring Terminals (pkg of 10)

Model No.	Price	Dimensions: mm (in)				Stud Size	Use with Wire AWG
		C (min)	W	E (max)	L (max)		
RLNC-22	\$6	6 (0.25)	10 (0.38)	11 (0.43)	15 (0.57)	10	22 to 16
RLNC-16	5	7 (0.28)	9 (0.34)	12 (0.46)	16 (0.64)	10	16 to 14
RLNC-12	4	8 (0.30)	10 (0.38)	14 (0.57)	19 (0.76)	10	12 to 10

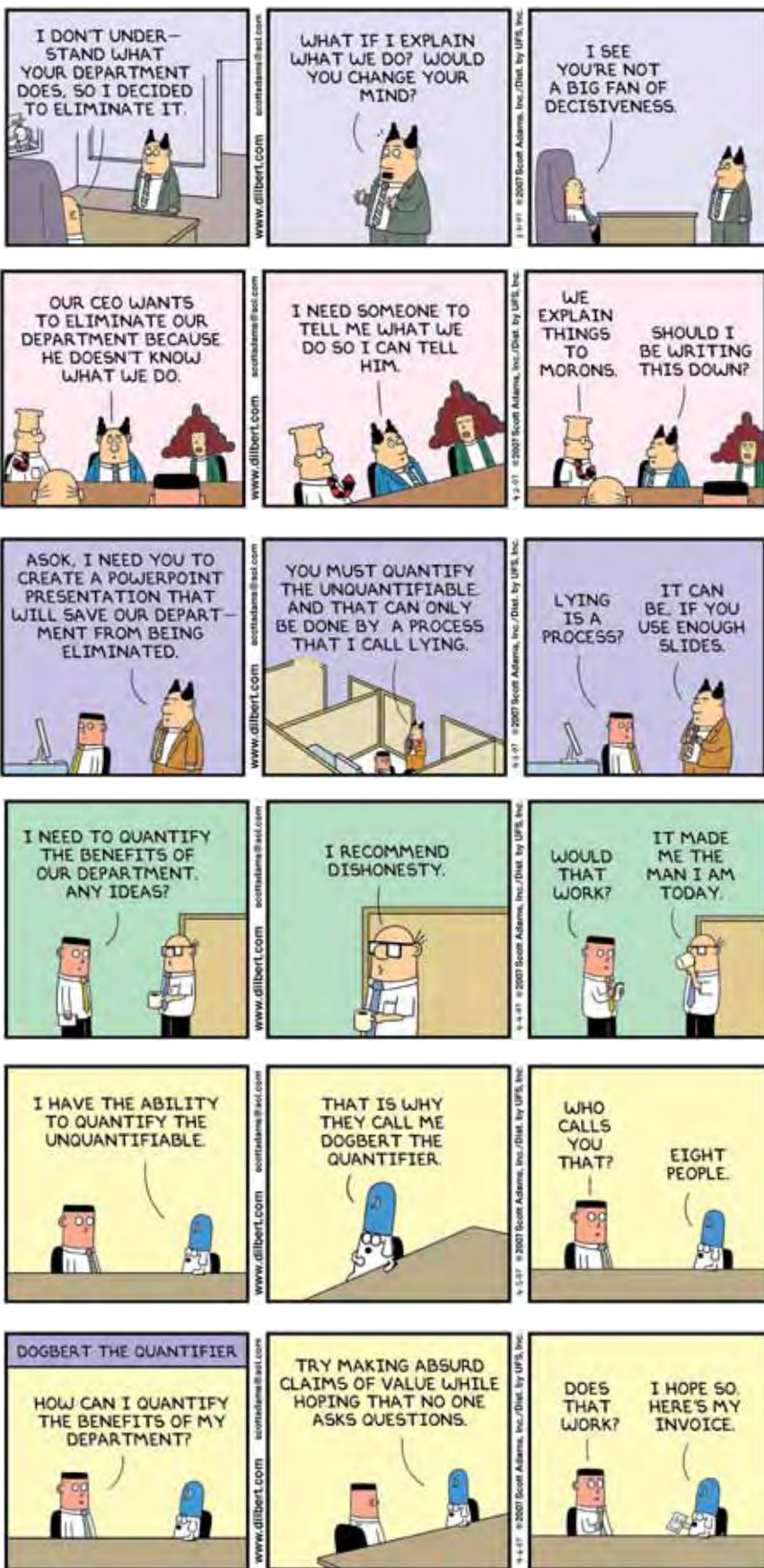
Ultra-High-Temperature Ring Terminals

- ✓ 650°C (1200°F) Temperature Rating
- ✓ 100% Nickel
- ✓ Uninsulated



Ultra-High-Temperature Ring Terminals (pkg of 10)

Model No.	Price	Dimensions: mm (in)				Stud Size	Use with Wire AWG
		C (min)	W	E (max)	L (max)		
RLNI-22	\$10	7 (0.28)	8 (0.31)	12 (0.46)	16 (0.62)	10	22 to 16
RLNI-16	11	7 (0.28)	34 (1.34)	12 (0.46)	16 (0.64)	10	16 to 14
RLNI-12	16	7 (0.28)	35 (1.38)	14 (0.54)	19 (0.73)	10	12 to 10



OS-PP
\$49

OMEGAETTE™ POCKET PAL®
Infrared Thermometer



CL300A
\$705

Multifunction
Thermocouple/mV
Calibrator



CL-355A
\$1933

Compact, Portable
Temperature Calibrator

**Please search omega.com
for more details on these
featured products!**

COILED NICKEL-CHROMIUM ALLOY RESISTANCE WIRE

Exclusively
from OMEGA!

Continuous Lengths to 3500 m (10,000')

80% Nickel/20% Chromium and 60% Nickel/16% Chromium (Balance Iron)

NIC80 and NIC60
Starts at

\$10

7.5 m (25')
(spooled length)



- ✓ Most Popular Sizes and Gages Supplied Off-the-Shelf!
- ✓ Available in English Sizes
- ✓ Consult Factory for Your Special Requirements or OEM Needs

Our nickel-chromium alloy resistance heating wire is now available coiled for ready use. Coiled heating wire is used in many high-temperature applications, including electric furnaces, radiant heating, and air heating.

NIC80 is an alloy of 80% nickel and 20% chromium and represents the highest standard in materials for use in elevated temperature environments. It is useable at temperatures up to 1150°C (2100°F).

NIC60 contains 60% nickel and 16% chromium, with the balance iron, and can be used up to 1000°C (1850°F). It is the benchmark material, most widely accepted and employed in electrical heating.

Both of these alloys also provide excellent corrosion resistance.

Coils using 18 to 30 AWG wire with 25 to 100 turns per inch are standard. Custom coil dimensions are also available.



Specifications

NIC80

Composition: 80% Ni, 20% Cr

Specific Resistance: 650 Ω per circular mil-foot at 20°C (68°F); see table for straight nickel-chromium wire multiplication factors to obtain resistance at other temperatures

Specific Gravity: 8.41

Density: 0.304 lb/in³

Melting Point: $\approx$ 1400°C (2550°F)

Nominal Coefficient of Linear Expansion: 0.000017 (10 to 1000°C)

Nominal Temperature Coefficient of Resistance: 0.00011 $\Omega/\Omega/^{\circ}\text{C}$ (20 to 500°C)

Tensile Strength (lb/in²) @ 20°C (68°F):

Hard Drawn: 200,000

Soft Annealed: 100,000

NIC60

Composition: 60% Ni, 16% Cr, 24% Fe

Specific Resistance: 675 Ω per circular mil-foot at 20°C (68°F); see table for straight nickel-chromium wire multiplication factors to obtain resistance at other temperatures

Specific Gravity: 8.25

Density: 0.298 lb/in³

Melting Point: $\approx$ 1350°C (2450°F)

Nominal Coefficient of Linear Expansion: 0.000017 (20 to 1000°C)

Nominal Temperature Coefficient of Resistance: 0.00015 $\Omega/\Omega/^{\circ}\text{C}$ (20 to 500°C)

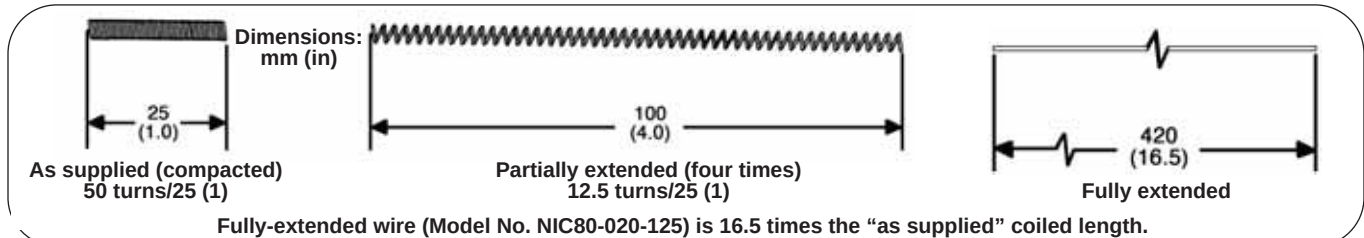
Tensile Strength (lb/in²) @ 20°C (68°F):

Hard Drawn: 200,000

Soft Annealed: 95,000

CAUTION AND WARNING!

Spools of wire are supplied tightly compacted. Never use precoiled wire without extending to at least three times the compacted (spooled) length.



NIC80: 80% Nickel, 20% Chromium

MOST POPULAR MODELS HIGHLIGHTED!

To Order (Specify Model Number)										
Model Number	Price				AWG	Wire Dia. mm (")	OD of Compacted Coil mm (") ±10%	Turns/in.	25 mm (1") Fully Extended Length mm (in)	Ω per inch of Coil @ 20°C (68°F)
	7.5 m (25')	15 m (50')	30 m (100')	60 m (200')						
NIC80-040-250	\$95	\$190	\$381	\$761	18	1.0 (0.040)	6.4 (0.250)	25	418 (16.5)	0.558
NIC80-032-250	73	146	292	584	20	0.81 (0.032)	6.4 (0.250)	31	538 (21.2)	1.132
NIC80-032-188	53	106	212	424	20	0.81 (0.032)	4.8 (0.188)	31	389 (15.3)	0.810
NIC80-025-250	64	128	256	512	22	0.64 (0.253)	6.4 (0.250)	40	119 (28.3)	2.450
NIC80-025-188	47	94	188	376	22	0.64 (0.253)	4.8 (0.188)	40	521 (20.5)	1.775
NIC80-020-156	56	112	224	448	24	0.51 (0.0201)	4.0 (0.156)	50	541 (21.3)	3.000
NIC80-020-188	47	94	188	376	24	0.51 (0.0201)	4.8 (0.188)	50	671 (26.4)	3.574
NIC80-020-125	43	86	172	344	24	0.51 (0.0201)	3.2 (0.125)	50	419 (16.5)	2.233
NIC80-015-125	39	78	156	312	26	0.40 (0.0159)	3.2 (0.125)	66	579 (22.8)	5.546
NIC80-012-125	24	43	76	152	28	0.32 (0.0126)	3.2 (0.125)	83	749 (29.5)	11.128
NIC80-010-125	21	38	72	144	30	0.25 (0.010)	3.2 (0.125)	100	917 (36.1)	19.570
NIC80-010-093	13	26	52	104	30	0.25 (0.010)	2.4 (0.093)	100	663 (26.1)	14.138
NIC80-010-062	10	17	32	64	30	0.25 (0.010)	1.6 (0.062)	100	414 (16.3)	8.849

Consult Sales Department for quantity discount over 200'.

Ordering Example: NIC80-010-125-200 is 30-gage 80% nickel/20% chromium alloy resistance cable, precoiled in 0.125" OD coils, 200' (spooled length), \$90.

Exclusively from OMEGA!

Note: Published prices are based on market value at time of printing and are subject to change due to Nickel surcharges, Chromium and precious-metal market fluctuations.

NIC60: 60% Nickel, 16% Chromium

To Order (Specify Model Number)										
Model Number	Price				AWG	Wire Dia. mm (")	O.D. of Compacted Coil mm (") ±10%	Turns/in.	25 mm (1") Fully Extended Length mm (")	Ω per inch of Coil @ 20°C (68°F)
	7.5 m (25')	15 m (50')	30 m (100')	60 m (200')						
NIC60-040-250	\$134	\$268	\$536	\$1072	18	1.0 (0.040)	6.4 (0.250)	25	419 (16.5)	0.580
NIC60-032-250	104	208	416	832	20	0.81 (0.032)	6.4 (0.250)	31	538 (21.2)	1.176
NIC60-032-188	75	150	300	600	20	0.81 (0.032)	4.8 (0.188)	31	389 (15.3)	0.841
NIC60-025-250	51	102	204	408	22	0.64 (0.253)	6.4 (0.250)	40	119 (28.3)	2.545
NIC60-025-188	37	74	148	296	22	0.64 (0.253)	4.8 (0.188)	40	521 (20.5)	1.843
NIC60-020-188	42	84	168	336	24	0.51 (0.0201)	4.8 (0.188)	50	671 (26.4)	3.711
NIC60-020-156	34	68	136	272	24	0.51 (0.0201)	4.0 (0.156)	50	541 (21.3)	2.966
NIC60-020-125	27	54	108	216	24	0.51 (0.0201)	3.2 (0.125)	50	419 (16.5)	2.319
NIC60-015-125	27	49	84	168	26	0.40 (0.0159)	3.2 (0.125)	66	579 (22.8)	5.760
NIC60-012-125	24	43	72	144	28	0.32 (0.0126)	3.2 (0.125)	83	749 (29.5)	11.556
NIC60-010-125	21	38	72	144	30	0.25 (0.010)	3.2 (0.125)	100	917 (36.1)	20.322
NIC60-010-093	12	24	48	96	30	0.25 (0.010)	2.4 (0.093)	100	663 (26.1)	14.681
NIC60-010-062	12	24	48	96	30	0.25 (0.010)	1.6 (0.062)	100	414 (16.3)	9.189

Consult Sales Department for quantity discount over 200'.

Ordering Example: NIC60-010-125-50 is 18-gage 60% nickel/16% chromium alloy resistance cable, precoiled in 0.125" OD coils, 50' (spooled length), \$38.

Current Temperature Characteristics*

		NIC80 Coiled Wire Current Characteristics (Amps)						NIC60 Coiled Wire Current Characteristics (Amps)					
AWG	Wire Dia. mm (")	425°C (800°F)	540°C (1000°F)	650°C (1200°F)	760°C (1400°F)	875°C (1600°F)	1100°C (2000°F)	425°C (800°F)	540°C (1000°F)	650°C (1200°F)	760°C (1400°F)	875°C (1600°F)	1100°C (2000°F)
18	1.0 (0.040)	5.41	6.93	8.48	10.41	12.48	16.70	5.20	6.65	8.14	10.00	11.92	16.03
20	0.81 (0.032)	3.72	4.84	6.01	7.44	8.96	12.20	3.56	4.64	5.77	7.15	8.60	11.71
22	0.64 (0.0253)	2.48	3.15	3.84	4.93	6.13	8.81	2.39	3.03	3.69	4.74	5.89	8.46
24	0.51 (0.0201)	2.05	2.59	3.13	3.82	4.55	6.07	1.96	2.47	3.00	3.67	4.36	5.83
26	0.40 (0.0159)	1.50	1.93	2.37	2.87	3.39	4.47	1.44	1.86	2.28	2.76	3.26	4.29
28	0.32 (0.0126)	0.93	1.22	1.51	1.87	2.26	3.09	0.89	1.18	1.45	1.80	2.17	2.97
30	0.25 (0.010)	0.63	0.82	1.02	1.32	1.64	2.38	0.62	0.79	0.98	1.26	1.58	2.28

* Showing approximate current in amperes necessary to raise a coil of arbor size of 1/8" diameter, to a given temperature, when stretched twice the close-wound length in open air.

ADJUSTABLE TEMPERATURE SWITCHES

TSW Series
Starts at
\$155



TSW-11, \$160, shown actual size.



- ✓ **Compact and Economical**
- ✓ **Ideal for Economical Temperature Switching Applications**
- ✓ **External Temperature Scale for Easy Setpoint Adjustments**
- ✓ **1 A Gold Contacts for TTI and Dry Contact Closures**
- ✓ **5 A Silver Contacts for Larger Electrical Loads**
- ✓ **Vibration Resistant**

OMEGA's TSW Series adjustable temperature switch is perfect for applications that require an economical solution to temperature control. The stainless steel stem of the TSW Series switch is sealed and filled with a gas that expands as process temperature rises. A membrane within the switch body mechanically causes closure of a 5 A Form "C" relay.

The 9.7 mm (0.38") diameter of the probe is designed to mate with OMEGA's standard 385 Series thermowells for your most rugged applications.

SPECIFICATIONS

Temperature Range: -43 to 266°C (-45 to 510°F)

Temperature Sensor: Limit filled, saturated vapor sensor

Ambient Temperature Limits for Switch Body:

-55 to 105°C (-67 to 221°F)

Max System Temperature Capillary: 425°C (797°F)

Max System Pressure: 68.9 bar @ 425°C (1000 psi @ 798°F)

Electrical:

1 A Rated Contacts: 115 Vac/28 Vdc

5 A Rated Contacts: 250 Vac/28 Vdc

Max Switch Cycle Rate: Not to exceed 20 cycles per minute

Wiring Code: Black = common, white = normally open, red = normally closed

Construction Materials

Wetted Parts:

Temperature Sensor: 316 SS

Non-Wetted Parts:

Body: 303 SS

Lock Ring: Zinc alloy, chromate finish

Switch Housing: Zinc alloy, chromate finish

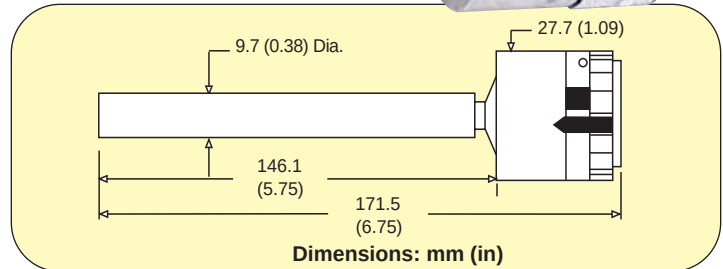
Caps and Accessories: Black valox and brass terminals

Indicator: 303 SS

Indicator Ring: Black nylon

Wire Interface: 3-wire pigtail, furnished 300 mm (12") long, 20 AWG insulated with PVC, 300 V rating

Weight: 113 g (0.25 lb)



MOST POPULAR MODELS HIGHLIGHTED!

To Order (Specify Model Number)

Model No.	Price	Temp. Range °C/°F	Rating (A)	Contact Repeatability °C/°F
TSW-11	\$160	-45 to -5 (-49 to 23)	1	±0.7 (1.3)
TSW-15	155	-45 to -5 (-49 to 23)	5	±0.7 (1.3)
TSW-21	160	-25 to 20 (-13 to 63)	1	±0.9 (1.6)
TSW-25	155	-25 to 20 (-13 to 63)	5	±0.9 (1.6)
TSW-31	160	-5 to 35 (23 to 95)	1	±0.8 (1.4)
TSW-35	155	-5 to 35 (23 to 95)	5	±0.8 (1.4)
TSW-41	160	25 to 70 (77 to 158)	1	±0.9 (1.6)
TSW-45	155	25 to 70 (77 to 158)	5	±0.9 (1.6)
TSW-51	160	55 to 105 (131 to 221)	1	±1.0 (1.8)
TSW-55	155	55 to 105 (131 to 221)	5	±1.0 (1.8)
TSW-61	160	80 to 125 (176 to 257)	1	±.9 (1.6)
TSW-65	155	80 to 125 (176 to 257)	5	±.9 (1.6)
TSW-71	160	115 to 175 (239 to 347)	1	±1.2 (2.2)
TSW-75	155	115 to 175 (239 to 347)	5	±1.3 (2.3)
TSW-81	160	175 to 230 (347 to 456)	1	±1.2 (2.1)
TSW-85	155	175 to 230 (347 to 456)	5	±1.2 (2.1)
TSW-91	160	200 to 265 (392 to 509)	1	±1.3 (2.4)
TSW-95	155	200 to 265 (392 to 509)	5	±1.3 (2.4)

Accessories

Model Number	Price	Description
3/4-385S-U21/2-304SS	\$22.00	Stainless steel thermowell
3/4-385S-U21/2-BRASS	16.50	Brass thermowell
SSLK-38-12	15.50	Stainless steel compression fitting
BRLK-38-12	5.50	Brass compression fitting

Comes with complete operator's manual.
Other thermowells available; see Section B.

Ordering Example: TSW-71, adjustable temperature switch with a 115 to 175°C (239 to 347°F) range, 1 A contact rating and 3/4-385S-U21/2-304SS, stainless steel thermowell, \$160 + 22 = **\$182.**

COMPACT, ECONOMICAL TEMPERATURE CONTROLLERS

CCD101N Series

\$36

All Models



CCD101N-050, \$36, shown smaller than actual size.

- ✓ Low Cost
- ✓ Heavy-Duty Switch

Only 30 mm (1.2") Tall

Applications

The CCD100N temperature controllers are weatherproof remote control thermostats for individual circuits. They feature a temperature-sensitive bimetal disk in an epoxy-sealed housing. On reaching the non-adjustable calibrated setpoint, the disk activates a plunger, causing the heavy-duty switch contacts to open. The CCD101N is normally used as an across-the-line switch, but it may be used to operate contactor coils and other similar devices.

The CCD101N can also be used to operate external alarm devices or as a limit controller in conjunction with other CCD Series thermostats.

SPECIFICATIONS

Switch: CCD101N, SPDT

Switch Rating: 25 A, 277V max

Maximum Exposure Temperature: 105°C (220°F)

Leads: 14 AWG copper—1.2 m (48") L

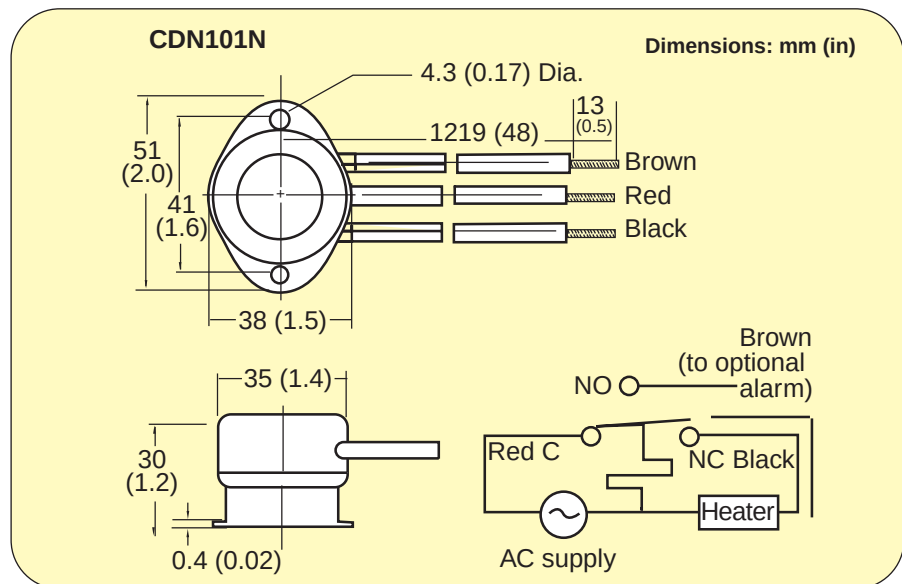
Housing: Plenco phenolic with annealed 304 SS mounting flange; epoxy resin seal protects switch from dirt and moisture

FM Approvals for these Locations:

Class I, Division II, Groups B, C and D;
Class II, Division II,
Groups F and G;
Class III, Division II

Attachment to Pipe:

2 pipe clamps are required to attach controller to pipe (see ordering table)



MOST POPULAR MODELS HIGHLIGHTED!

To Order (Specify Model Number)

Model Number	Price	Open Setpoint (°F)	Close Setpoint (°F)
CCD101N-050	\$36	50 ±5	35 ±5
CCD101N-060	36	60 ±5	45 ±5
CCD101N-075	36	75 ±5	60 ±5
CCD101N-105	36	105 ±5	90 ±5
CCD101N-200	36	200 ±5	185 ±5
CCDPS-2	3	Adjustable pipe straps from 2 to 6"	

Comes with complete operator's manual.

* Insert nominal pipe size in inches.

Ordering Example: CCD101N-075, compact, economical temperature controller, \$36.



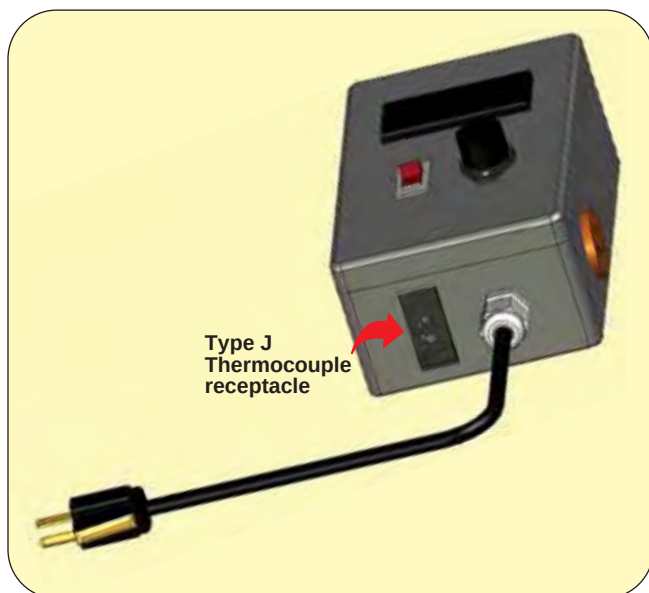
PORTABLE THERMOCOUPLE TEMPERATURE CONTROLLER

CN-TOT
Starts at
\$239

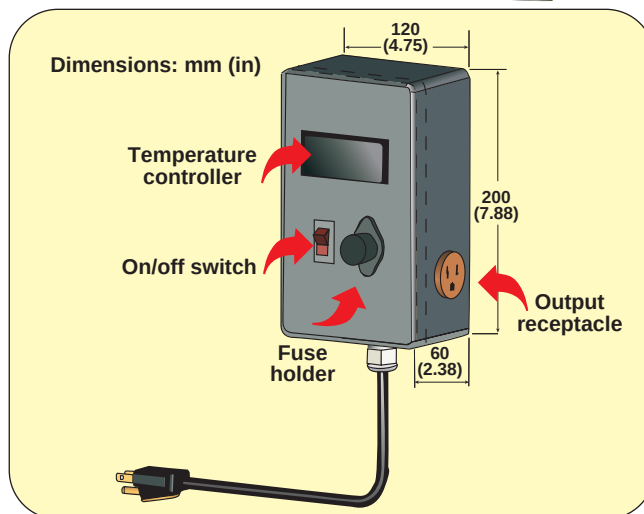


- ✓ Portable, Plug and Play
- ✓ Easy-to-Use Digital On/Off Controller
- ✓ Type J Thermocouple Mini Connector Input
- ✓ 5°C (9°F) Differential
- ✓ Audible Alarm
- ✓ Operating Exposure Temperature -10 to 55°C (-14 to 131°F)
- ✓ 1.8 m (6') Input Power Cord with Standard Plug (120 Vac, NEMA 5 to 15; 240 Vac, NEMA 6 to 15)
- ✓ Output Receptacle (120 Vac, NEMA 5 to 15R; 240 Vac, NEMA 6 to 15R)
- ✓ Average Accuracy of $\pm 1\%$ FS
- ✓ 120 or 240 Vac
- ✓ 15 A Capacity
- ✓ For Indoor Use

The CN-TOT portable thermocouple temperature controller is designed for indoor, general purpose use. It can control the temperature of small tanks, drums, pipes, intermediate bulk containers (IBCs), and other objects that require automatic control.



CN-TOT-A-175JF-120V, \$239, shown smaller than actual size.

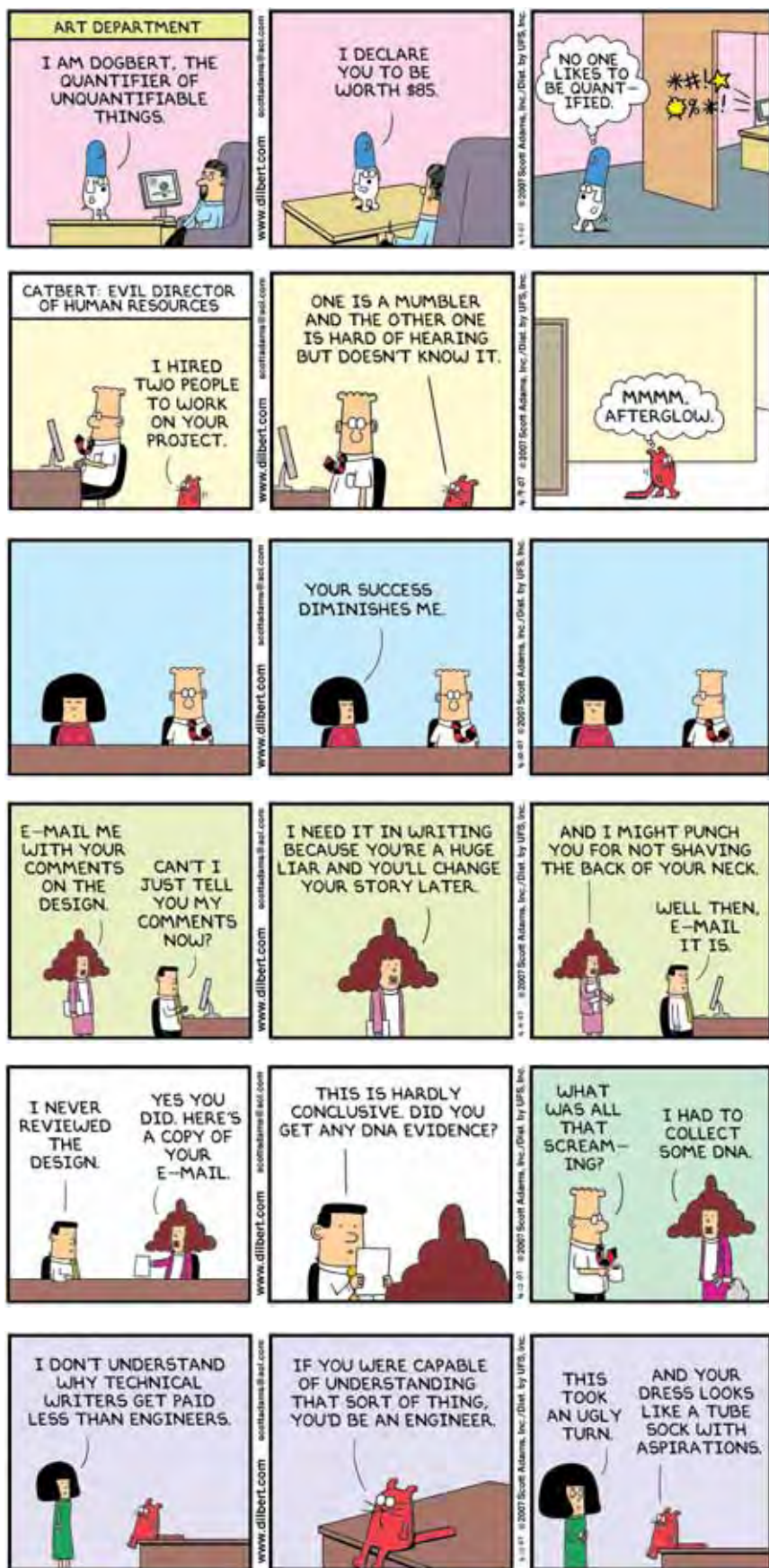


MOST POPULAR MODELS HIGHLIGHTED!

To Order (Specify Model Number)

Model No.	Price	Description
CN-TOT-A-175JF-120V	\$239	Controller, 10 to 79°C (50 to 175°F) range, 120V, 15 A
CN-TOT-A-175JF-240V	239	Controller, 10 to 79°C (50 to 175°F) range, 240V, 15 A
OP-4	12	Reference Book: Thermocouple Elements

Ordering Example: CN-TOT-A-175JF-120V, thermocouple temperature controller, 10 to 79°C (50 to 175°F) range, 120V, 15 A, \$239.



SPHT Series
Starts at
\$45

Economical,
High-Temperature
Surface Probe

5SRTC
Starts at
\$48
5 Pack

Ready-Made
Insulated Thermocouples

Bead Type
Thermocouple

Snap-On
Strain Relief

SA1-RTD
Starts at
\$50
Each

Advanced-Design
Surface-Mount
RTD Provides
Class A Accuracy!
"Stick-On" or "Cement-On"

**Please search omega.com
for more details on these
featured products!**

Digital Panel Meters For AC True RMS Voltage and Current

DP63700-AC
Starts at

\$317



DP63700-AC,
\$317, shown
smaller than
actual size.



- ✓ AC True RMS Voltage and Current Meter
- ✓ ½ DIN (50 x 97 mm)
- ✓ 4½-Digit, 14 mm (0.56") LED
- ✓ Green Display or Red Sunlight-Readable Display
- ✓ 4 Voltage Ranges (300 Vac Max) and 5 Current Ranges (5A Max)

- ✓ Field-Upgradeable Option Cards
- ✓ 3-Way Isolation: Power, Input and Outputs
- ✓ NEMA 4X (IP65)

The DP63700 Series panel meters offer many features and performance capabilities to suit a wide range of industrial applications.

Models include AC true RMS voltage/current inputs. The optional plug-in output cards allow the opportunity to configure the meter for present applications while providing easy upgrades for future needs. The meters have a bright 14 mm (0.56") LED display. The unit is available with a red, sunlight-readable or a standard green LED.

MOST POPULAR MODELS HIGHLIGHTED!

To Order (Specify Model Number)

Model No.	Price	Description (Display Meter Only, No Outputs)
DP63700-AC	\$317	AC inputs, red display, 85 to 250 Vac, 50/60 Hz
DP63700-AC-GN	334	AC inputs, green display, 85 to 250 Vac, 50/60 Hz
EE-1319	70	Reference Book: Grounding and Shielding Techniques

Optional Plug-in Output Cards (Field Installable)

Model No.	Price	Description
Setpoint Alarms (Only 1 Alarm Card Can Be Installed Into Base Meter)		
LDP6-CDS10	\$37	Dual setpoint relay output card
LDP6-CDS20	48	Quad setpoint relay output card
LDP6-CDS30	37	Quad setpoint sinking open collector output card
LDP6-CDS40	37	Quad setpoint sourcing open collector output card
Analog Output		
LDP6-CDL10	\$74	Analog output card
Communications (Only 1 Communications Card Can Be Installed Into Base Meter)*		
LDP6-CDC10	\$48	RS485 serial communications output card with terminal block
LDP6-CDC1C	48	Extended RS485 serial communications output card with dual RJ11 connector
LDP6-CDC20	48	RS232 serial communications output card with terminal block
LDP6-CDC2C	48	Extended RS232 serial communications output card with 9-Pin D connector
LDP6-CDC40	58	MODBUS communications card
LDP6-CDC4C	58	Extended MODBUS communications card with dual RJ11 connector

*Software is free. Download from omega.com
Comes with complete operator's manual.

Note: Adding option cards—meters can be fitted with up to 3 optional plug-in cards, however, only 1 card from each function type can be installed at a time. The function types include setpoint alarms, analog output and communications. The cards can be installed initially or at a later date. Each optional plug-in card is shipped with installation and programming instructions.

Ordering Example: DP63700-AC, AC inputs, red display, 85 to 250 Vac, 50/60 Hz, LDP6-CDC20 RS232 serial communications output card with terminal block and operator's manual, \$317 + 48 = **\$365.**



OTHER FEATURED PRODUCTS

1/32 DIN Ramp/Soak Controllers

CN7500 Series

\$89



- ✓ Dual 4-Digit LED Display
- ✓ 8 Ramp/Soak Programs, 8 Segments Each
- ✓ Universal Inputs
- ✓ Autotune
- ✓ Dual Control Outputs
- ✓ RS485 Communications Standard
- ✓ Alarm Functions
- ✓ Free Software

The CN7500 Series temperature/process controller's advanced control features can handle the most demanding temperature or process applications. Enclosed in a compact 1/32 DIN housing, the CN7500 has dual, 4-digit LED displays for local indication of process value and setpoint.

Control methods include on/off, PID, autotune, and manual tune. PID control is supported with 64 temperature and time (ramp/soak) control actions. The dual-loop output control allows simultaneous heating and cooling. The second output can be configured as an alarm mode using one of the 13 built-in alarm functions. RS485 communications is standard. Up to two 47 communication addresses are available, with transmission speeds of 2400 to 38,400 bps. Other features include universal inputs, selectable temperature units (°C/°F), selectable resolution, quick sampling rate, and security protection.



CN7533, \$89, shown larger than actual size.

Visit omega.com for full specifications

MOST POPULAR MODELS HIGHLIGHTED!

To Order (Specify Model Number)

Model No.	Price	Description
CN7523	\$89	Dual output, DC pulse/relay, RS485*
CN7533	89	Dual output, relay/relay, RS485*
CN7553	89	Dual output, 4 to 20 mA/relay, RS485*

Comes with complete operator's manual.

*Free CN7-B software download available at omega.com.

Ordering Example: CN7523, dual-output controller, DC pulse and a mechanical relay output, RS485 communications, \$89.

1/16 DIN Ramp/Soak Controllers

CN7800 Series

\$99



- ✓ Dual Display
- ✓ Autotune
- ✓ Universal Input
- ✓ 8 Ramp/Soak Programs, 8 Segments Each
- ✓ Programmable Repeat and Linking Features
- ✓ RS485 Communications
- ✓ Free Software
- ✓ 2 Alarm Standard

Monitor and control temperature or process applications with precision using the CN7800 Series controllers. The CN7800 Series provides dual LED displays for local indication of process value and setpoint value.

Control methods include on/off, PID, auto-tune and manual-tune. PID control is supported with 64 ramp/soak control actions. Two additional alarm outputs are standard on the CN7800 Series. The alarm outputs can be quickly configured by using the 13 built-in alarm functions. The controller communicates easily with the built-in RS485 interface.



CN7833, \$99, shown larger than than actual size.

MOST POPULAR MODELS HIGHLIGHTED!

To Order (Specify Model Number)

Model No.	Price	Description
CN7833	\$99	Dual output, relay/relay, 2 alarms, RS485*
CN7823	99	Dual output, DC pulse/relay, 2 alarms, RS485*
CN7853	99	Dual output, 4 to 20 mA/relay, 2 alarms, RS485*

Comes with complete operator's manual.

* Free CN7-B software download available on omega.com.

Ordering Example: CN7823, dual-output controller, DC pulse, mechanical relay output, and RS485 communications, \$99.

1/32 DIN Ramp/Soak Controllers with Fuzzy Logic

CN74000 Series
Starts at

\$180



- ✓ Large Dual Display
- ✓ Autotune
- ✓ Universal Inputs
- ✓ 16-Segment Ramp/Soak Function
- ✓ Illuminated Keypad
- ✓ Free Software

CN74020, \$180, shown smaller than actual size.

Visit omega.com
for full
specifications



MOST POPULAR MODELS HIGHLIGHTED!

To Order (Specify Model Number)

Model No.	Price	Description
CN74020	\$180	Single output, DC pulse
CN74030	180	Single output, relay
CN74033	197	Dual output, relay/relay
CN74123	197	Dual output, DC pulse/relay and alarm
CN74133	197	Dual output, relay/relay and alarm

Comes with complete operator's manual.

Options

Ordering Suffix	Add'l Price	Description
-C4*	\$70	RS485 communications
-LV	40	12 to 24 Vdc/Vac power

* Free CN7-A software download available at omega.com.

Ordering Example: CN74123-C4, dual-output controller, DC pulse and a mechanical relay output, alarm, RS485 communications, \$267.

1/16 DIN Temperature/Process Controllers with Fuzzy Logic

CN78000 Series
Starts at

\$190



- ✓ Dual Display
- ✓ Autotune
- ✓ Universal Input
- ✓ Illuminated Keypad
- ✓ Free Software

Visit omega.com
for full
specifications

CN78030,
\$190, shown
larger than
actual size.



MOST POPULAR MODELS HIGHLIGHTED!

To Order (Specify Model Number)

Model Number	Price	Description
CN78030	\$190	Single output, relay
CN78133	222	Dual output, relay/relay and alarm
CN78020	190	Single output, DC pulse
CN78050	218	Single output, 4 to 20 mA

Comes with complete operator's manual.

Options

Ordering Suffix	Additional Price	Description
-C4*	\$66	RS485 communications**
-C2*	66	RS232 communications**

* Only 1 option can be ordered.

** Free CN7-A software download available on omega.com.

Ordering Example: CN78133-PV1, dual output controller, relay/relay and alarm, 0 to 20 mA isolated retransmission output, \$276.

OTHER FEATURED PRODUCTS

1/32 DIN Dual-Zone Controllers with Fuzzy Logic

CN79000
Starts at
\$239



- ✓ Thermocouple Inputs Only
- ✓ Large Dual Display
- ✓ Illuminated Keypad
- ✓ Free Software

The CN79000 controller set a new standard in 1/32 DIN power, flexibility, and value. The CN79000 is a dual zone controller in the 1/32 DIN size. The CN79000 Series offers 5 thermocouple input types and each zone offers a single setpoint. Standard features include independent fuzzy logic, autotune, and peak/valley indication for each zone. RS485 Serial communication is optional.

SPECIFICATIONS

Display: Two 4-digit, 7 segment, 6.35 mm H (0.25") LEDs

Accuracy: ±0.25% of span, ±1 least significant digit

Supply Voltage: 100 to 240 Vac, nominal, 10 to 15%, 50 to 400 Hz

Single Phase: 132 to 240 Vdc, nominal, 10 to 20%

Power Consumption: 5 VA maximum

Operating Temperature: -10 to 55°C (14 to 131°F)

Memory Backup: Nonvolatile memory, no batteries required

Control Output Ratings:

Relay (Resistive): SPST, 3 A @ 240 Vac

Relay (Inductive): 1.5 A @ 240 Vac

Pilot Duty Rating: 250 VA, 2 A @ 120 Vac or 1 A @ 240 Vac

DC Pulse: 5 Vdc @ 20 mA (non-isolated)

Current: 4 to 20 mA

Weight: 114 g (4 oz)

Panel Cut-Out: 45 x 22 mm (1.772 x 0.874")

Maximum Panel Thickness: 6.35 mm (0.25")

Panel Depth: 111.60 mm (4.395")



CN79033, \$239, shown actual size.

Inputs

Input Types	Range
K Thermocouple	-200 to 2500°F (-129 to 1371°C)
J Thermocouple	-100 to 1600°F (-73 to 871°C)
E Thermocouple	-100 to 1800°F (-73 to 982°C)
N Thermocouple	-100 to 2372°F (-73 to 1300°C)
L (J DIN) Thermocouple	-100 to 1600°F (-73 to 871°C)

Note: All thermocouple inputs can be set for 0.1° display. If temperature goes above 999.9° or less than -199.9° the display will return to whole degree resolution.

Inputs are not isolated, must use ungrounded thermocouples.

AVAILABLE FOR FAST DELIVERY!

To Order (Specify Model Number)		
Model No.	Price	Description
CN79022	\$239	Dual-zone, DC pulse/DC pulse
CN79033	239	Dual-zone, relay/relay
CN79053	264	Dual-zone, 4 to 20 mA/relay

Comes with complete operator's manual.

Options

Ordering Suffix	Add'l Price	Description
-C4	\$60	RS485 communications*
-LV	35	12 to 24 Vdc/Vac

Ordering Example: CN79033-C4, dual-zone, dual-mechanical relay outputs, RS485 communications, \$299.

* Free CN7-A software download available at omega.com.

Accessories (Field Installable)

Model Number	Price	Description
CNQUENCHARC	\$8	Noise suppression kit, 110 to 230 Vac
GE-2117	20	Reference Book: Controller Tuning, PID



1/16 DIN Autotune Temperature Controllers

CN63100 Series
Starts at

\$197



- ✓ PID Control With Reduced Overshoot
- ✓ On-Demand Auto-Tuning of PID Control Settings
- ✓ NEMA 4X (IP65) Bezel
- ✓ Dual LED Displays for Simultaneous Indication of Temperature and Setpoint
- ✓ Status Indicators for Outputs and Control Modes
- ✓ Thermocouple or RTD Inputs

- ✓ Optional Dual Alarm Inputs
- ✓ Optional Linear DC Output, Control or Retransmission (0 to 10V, 0/4 to 20 mA)
- ✓ Manual/Automatic Control Modes
- ✓ Setpoint Ramping for Process Startup
- ✓ Sensor Error Compensation (Offset and Break Detection)
- ✓ Heating and Optional Cooling Outputs
- ✓ Parameter Security Via Programmable Lockouts
- ✓ Field-Replaceable Output Board
- ✓ Optional RS485 Serial Communications



CN63100-R1, \$197, shown smaller than actual size.

MOST POPULAR MODELS HIGHLIGHTED!

To Order (Specify Model Number)

Model No.	Price	Description
Standard Power Models, 85 to 250 Vac, 50 to 60 Hz, 8 VA Max		
CN63100-R1	\$197	Single output, relay
CN63100-R1-R2-AL	238	Dual output, relay/relay, alarm
CN63100-R1-R2-AL-RSP	285	Dual output, relay/relay, alarm, remote setpoint
CN63100-DC1	197	Single output, DC pulse
CN63100-DC1-R2-AL	238	Dual output, DC pulse/relay, alarm
CN63100-R1-R2-AL-C4	301	Dual output, relay/relay, alarm, RS485
CN63100-DC1-R2-AL-C4	301	Dual output, DC pulse/relay, alarm, RS485
CN63100-R1-R2-F3	321	Dual output, relay/relay, analog control or re-transmission
CN63100-R1-R2-F3-RSP	301	Dual output, relay/relay, analog control or re-transmission, remote setpoint
CN63100-R1-R2-F3-C4	311	Dual output, relay/relay, analog control or re-transmission, RS485
Low-Voltage Models, 18 to 36 Vdc; 7 W		
CN63100-R1-LV	\$197	Single output, relay
CN63100-R1-R2-AL-LV	238	Dual output, relay/relay, alarm
CN63100-R1-R2-AL-RSP-LV	285	Dual output, relay/relay, alarm, remote setpoint
CN63100-DC1-LV	224	Single output, DC pulse
CN63100-DC1-R2-AL-LV	255	Dual output, DC pulse/relay, alarm
CN63100-R1-R2-AL-C4-LV	317	Dual output, relay/relay, alarm, RS485
CN63100-DC1-R2-AL-C4-LV	317	Dual output, DC pulse/relay, alarm, RS485
CN63100-R1-R2-F3-LV	338	Dual output, relay/relay, analog control or re-transmission
CN63100-R1-R2-F3-RSP-LV	317	Dual output, relay/relay, analog control or re-transmission, remote setpoint
CN63100-R1-R2-F3-C4-LV	333	Dual output, relay/relay, analog control or re-transmission, RS485

Comes with complete operator's manual.

For "-C4" RS485 option, software is a free download from omega.com.

Ordering Example: CN63100-R1-R2-AL, 85 to 250 Vac, dual output, relay/relay, with alarm, \$238.

OTHER FEATURED PRODUCTS

1/16 DIN Autotune Temperature and Process Controllers

CN63200 and
CN63400 Series
Starts at

\$125

CN63200-R1, \$125, shown
larger than actual size.



- ✓ PID Control With Reduced Overshoot
- ✓ CN63200 Accepts Thermocouples and RTDs
- ✓ CN63400 Accepts 0 to 10 V and 0/4 to 20 mA Signals
- ✓ On-Demand Auto-Tuning of PID Settings
- ✓ DC Analog Output (Optional)
- ✓ User Programmable Function Button
- ✓ PC or Front Panel Programming



MOST POPULAR MODELS HIGHLIGHTED!

To Order (Specify Model Number)

Model No.	Price	Description
Temperature Inputs: Standard Power Models (85 to 250 Vac, 50 to 60 Hz, 8 VA max)		
CN63200-R1	\$125	Single output, relay
CN63200-R1-AL	145	Single output, relay, 2 alarms
CN63200-DC1	125	Single output, DC pulse
CN63200-DC1-AL	145	Single output, DC pulse, 2 alarms
CN63200-F1-AL	175	Single output, analog control or re-transmission, 2 alarms
Temperature Inputs: Low Voltage Models (18 to 36 Vdc; 7 W)		
CN63200-R1-LV	\$125	Single output, relay
CN63200-R1-AL-LV	145	Single output, relay, 2 alarms
CN63200-DC1-LV	125	Single output, DC pulse
CN63200-DC1-AL-LV	145	Single output, DC pulse, 2 alarms
CN63200-F1-AL-LV	175	Single output, analog control or re-transmission, 2 alarms
Process Inputs: Standard Power Models (85 to 250 Vac, 50 to 60 Hz, 8 VA max)		
CN63400-R1	\$125	Single output, relay
CN63400-R1-AL	145	Single output, relay, 2 alarms
CN63400-DC1	125	Single output, DC pulse
CN63400-DC1-AL	145	Single output, DC pulse, 2 alarms
CN63400-F1-AL	175	Single output, analog control or re-transmission, 2 alarms
Process Inputs: Low-Voltage Models (18 to 36 Vdc; 7 W)		
CN63400-R1-LV	\$125	Single output, relay
CN63400-R1-AL-LV	145	Single output, relay, 2 alarms
CN63400-DC1-LV	125	Single output, DC pulse
CN63400-DC1-AL-LV	145	Single output, DC pulse, 2 alarms
CN63400-F1-AL-LV	175	Single output, analog control or re-transmission, 2 alarms

Comes with complete operator's manual.

* Analog out may be used for retransmitted signals. When using analog output for retransmitted signals, AL1 becomes main control O1, if selected for heating in the analog out models.

Ordering Examples: CN63400-DC1-AL, 18 to 36 Vdc power, process inputs, single DC pulse output with 2 alarms, \$145.
CN63200-R1-AL, 85 to 250 Vac power, temperature inputs, single relay output with 2 alarms, \$145.

1/8 DIN Autotune
Temperature Controllers

CN63100 Series
Starts at
\$197



CN63200 and
CN63400 Series
Starts at
\$125



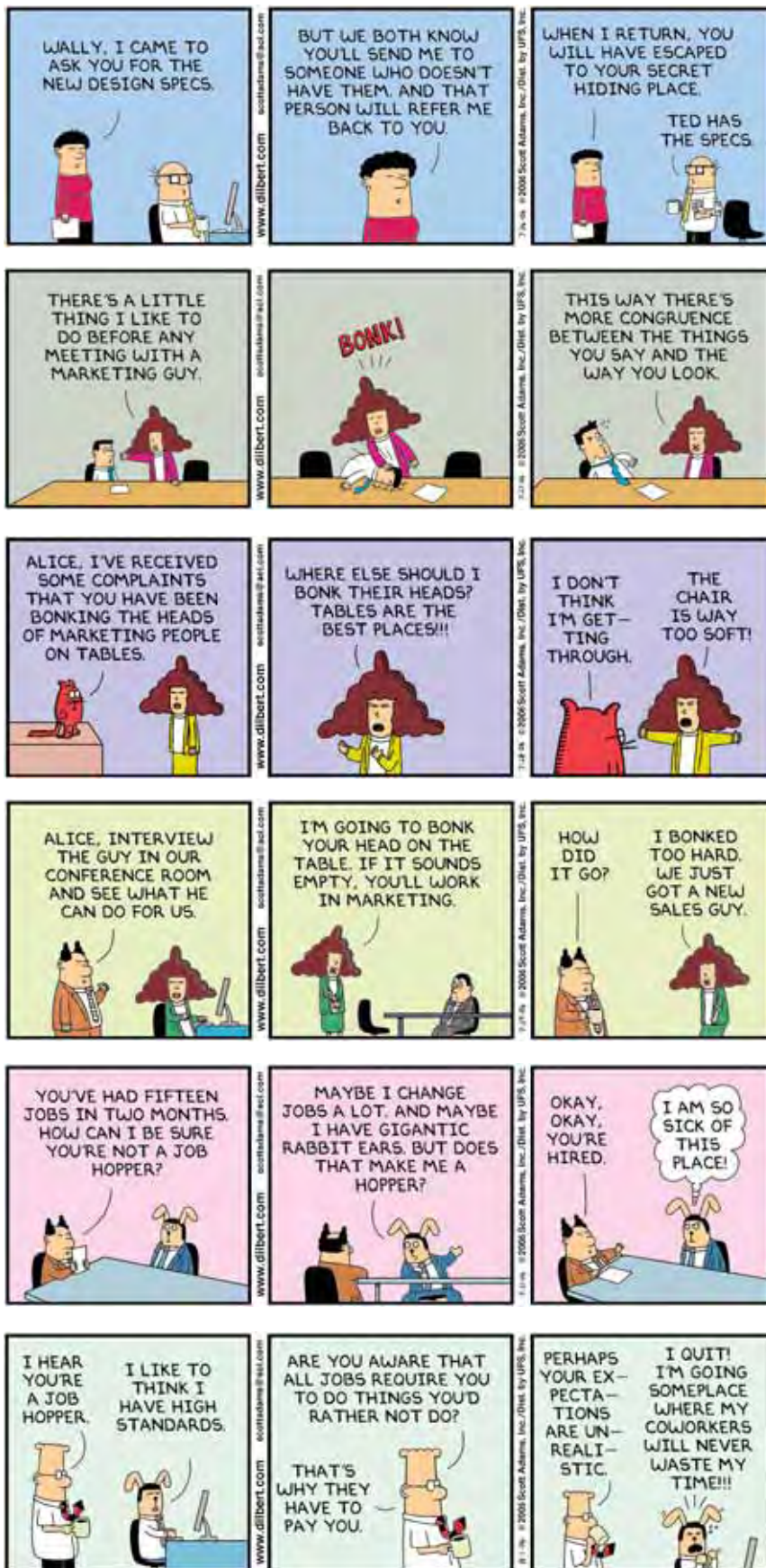
1/8 DIN Autotune Temperature
and Process Controllers

CN63300 Series
Starts at
\$197

1/8 DIN Process Controllers



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for more details on these
featured products!**



Single- and Three-Phase DIN Rail Mount Solid State Relays

SSRDIN Series
Starts at

\$53



- ✓ Ratings Up to 30 A (22.5 mm), 45 A (45 mm), or 25 A 3-Phase
- ✓ LED Input Status Indicator
- ✓ Integral Heat Sink Eliminates the Need for Complex Thermal Calculations
- ✓ DBC Substrate for Superior Thermal Performance
- ✓ Epoxy-Free Design Minimizes Internal Component Stress
- ✓ Standard Ratings Up to 30 A @ 600 Vac
- ✓ No External Transient Protection Required (Internal TVS)
- ✓ IP20 Touch-Safe Housing
- ✓ AC or DC Inputs
- ✓ 4000 Vac Optical Isolation
- ✓ Zero-Voltage Switching
- ✓ Mounts on DIN Rail or Panel

Designed for superior thermal performance in harsh industrial environments, OMEGA's new SSRDIN/SSR3PH relay is the most advanced DIN rail solid state relay in its range. The epoxy-free design eliminates stress on internal components, preventing damage to the encapsulant during load failure.

The vertical placement of the direct-bond substrate allows the SCR die to efficiently transfer heat to the heat sink and into ambient air. As a result, these relays can operate at a lower temperature than their competitors, which accounts for the higher I²T and surge-current ratings.



OTHER FEATURED PRODUCTS

The SSRDIN's internal transient protection is fully repeatable, making MOVs or other external suppressors unnecessary. This feature allows the output to conduct load-current when a transient is detected across the output terminals, rather than forcing load-current through the protection circuit. Thus, no degradation of protection occurs.

These relays are ideal for numerous commercial and industrial applications, including mercury relay replacement, professional food-service equipment (ovens, fryers, dispensing equipment, conveyors, etc.), sterilizers, temperature control systems, plastic extrusion/thermoforming machinery, HVAC and R, kilns, packaging equipment, sorting equipment, wave solder and reflow systems, lighting systems, pump controls, incubators, motor-switching, and UPS systems.

SPECIFICATIONS

Operating Temperature:

-20 to 80°C* (-4 to 176°F)

Storage Temperature:

-40 to 100 °C (-40 to 212°F)

Input-to-Output Isolation: 4000 Vrms

Input/Output-to-Ground Isolation:

4000 Vrms

Input-to-Output Capacitance:

8 pF (typical)

Operating Frequency: 40 to 63 Hz

Housing Material:

UL 940VD (self-extinguishing)

Weight: 600 g (1.3 lb)

* For 108 to 280 Vac input.

90 mm 3-Phase DIN Rail SSR

Output Specifications			
Voltage Range (Vrms)		48 to 600 Vac	
Output Current		25	
Peak Voltage (Vp , t = 1 min)		1100	
Off-State Leakage μ Arms (@ Max Line Voltage and T _a = 25°C)		250	
Minimum Current (mArms)		100	
Maximum 1-Cycle Surge Current (Ap, T _a = 25°C)		500	
Maximum 1 s Surge Current (Ap, T _a = 25°C)		100	
Forward Voltage Drop (Vp @ I _{max} , T _a = 25°C)		1.35	
I ² T (60 Hz, 1/2 Cycle)		1040	
Static Off-State dv/dt V μ s, T _a = 25°C)		500	
hp Ratings at 480 V		3	
Output Type		SCR	
Min/Max Stranded Wire		16/8 AWG	
Min/Max Solid Wire		16/10 AWG	
Input Specifications			
Input Voltage	4 to 32 Vdc	90 to 140 Vac	180 to 280 Vac
Dropout Voltage	1 Vdc	10 Vac	10 Vac
Minimum Input Current (for On-State)	50 mA	15 mA	19 mA
Maximum Input Current	62 mA	19 mA	24 mA
Input Resistance (Ω)	Current Regulated		
Turn-On Time*	8.33 ms	20 ms	20 ms
Turn-Off Time	8.33 ms	30 ms	30 ms
Min/Max Stranded/Solid Wire		12/16 AWG	
* Random SSRs turn on in less than 100 μ s.			

 **MOST POPULAR MODELS HIGHLIGHTED!**

To Order (Specify Model Number)

Model Number	Price	Description	Nominal Rating (A)
SSRDIN280DC10	\$53	DC control signal, 24 to 280 Vac line	10
SSRDIN600DC20	60	DC control signal, 48 to 600 Vac line	20
SSRDIN600DC30	66	DC control signal, 48 to 600 Vac line	30
SSRDIN280AC10	56	AC control signal, 24 to 280 Vac line	10
SSRDIN600AC20	68	AC control signal, 48 to 600 Vac line	20
SSRDIN600AC30	75	AC control signal, 48 to 600 Vac line	30
SSRDIN600DC35	76	DC control signal, 48 to 600 Vac line	35
SSRDIN600DC45	79	DC control signal, 48 to 600 Vac line	45
SSRDIN600AC35	79	AC control signal, 48 to 600 Vac line	35
SSRDIN600AC45	86	AC control signal, 48 to 600 Vac line	45
SSR3PH600DC25	189	DC control signal, 48 to 600 Vac line, 3 phase	25
SSR3PH600AC25	193	AC control signal, 48 to 600 Vac line, 3 phase	25

Comes with operator's manual.

Ordering Example: SSR3PH600DC25, DC input, 25 A, 3-phase relay, \$189.

OMEGA's ICONS

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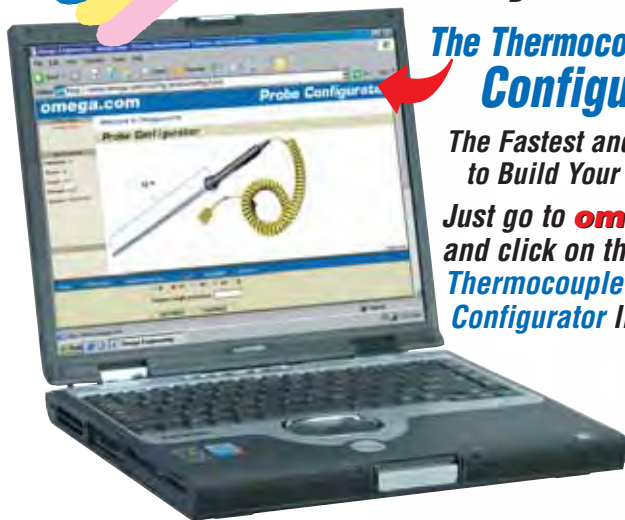


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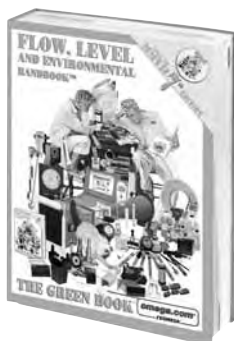
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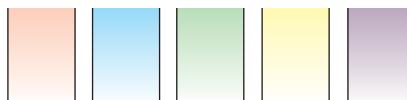
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Book

Applied Process Design	27
Controller Tuning, PID	179
Elasticity in Engineering Mechanics	17
Electric Machinery Fundamentals	31
Engineering Design Process	7, 81, 92, 102
Engineering Economy: Applying Theory to Practice	4
Grounding and Shielding Techniques	176
Heat Treater's Guide	155
Industrial Robotics	12
Instrumentation Process Measurement	105, 106
Maintenance Engineering Handbook	43
Manual on the Use of Thermocouples	35
Process Control System	30
Steam Plant Calculations Manual	168
The Control Handbook	25, 27
The Control of Boilers	24
Theory Design of PID Controllers	23
Thermocouple Elements	174

Cartridge Heaters

High Watt Density Cartridge Heaters with Incoloy Sheathing 1/4" (1 cm) Diameter	62, 63, 64, 65, 66
High Watt Density Cartridge Heaters with Incoloy Sheathing 3/8" (1 cm) Diameter	62, 63, 64, 65, 66
High Watt Density Cartridge Heaters with Incoloy Sheathing 1/2" (1 cm) Diameter	62, 63, 64, 65, 66
High Watt Density Cartridge Heaters with Incoloy Sheathing 3/4" (1 cm) Diameter	62, 63, 64, 65, 66
High Watt Density Cartridge Heaters with Incoloy Sheathing 1" (1 cm) Diameter	62, 63, 64, 65, 66
Stainless Steel Sheath Cartridge Heaters Standard and High Watt Density Construction	70, 71, 72, 73

Featured Products

1/8" DIN AutoTune Temperature and Process Controllers	181
1/8" DIN AutoTune Temperature Controllers	180
1/8" DIN Ramp/Soak Controllers	177
1/8" DIN Ramp/Soak Controllers with Fuzzy Logic	178
1/4" DIN Dual-Zone Controllers with Fuzzy Logic	179
1/4" DIN Ramp/Soak Controllers	177
1/4" DIN Ramp/Soak Controllers with Fuzzy Logic	178
Digital Panel meters for AC True RMS Voltage and Current	176
Single- and Three-Phase DIN Rail Mount Solid State Relays	182, 183

Flexible Heaters

Drum Heaters	24, 25
Dual Zone Drum Heater	24, 25
Explosion-Resistant Drum Heaters	20, 21, 22
Flexible Silicone Rubber Fiberglass Insulated Heaters	9, 10, 11, 12
Flexible Silicone Rubber Fiberglass Insulated Heaters with adhesive	9, 10, 11, 12
Gas Cylinder Warmers	23
Heating Cords	34, 35
Heating Tapes with Built-In Adjustable Thermostat	28, 30, 31, 32, 33
Heating Tapes with Built-in Thermostat	28, 30, 31, 32, 33
Heavy-Duty, Explosion-Resistant Heating Blankets	17, 19
High Temperature Heating Tapes	28, 30, 31, 32, 33
High Watt Drum Heaters and Insulation Blankets	26, 27
Kapton® Heater Kit	7
Kapton® Insulated Flexible Heaters	3, 4
Medium Temperature Heating Tapes	28, 30, 31, 32, 33
Omegalux® Rope Heaters	34, 35
Rugged Low Cost Flexible Heating Blankets	17, 19
Silicone Rubber Enclosed Heaters	16
Silicone Rubber Heaters	13, 14, 15, 16
Silicone Rubber Laminated Drum Heaters	20, 21, 22
Standard Drum Heaters	20, 21, 22
Wrap-Around Tote Tank Heaters	26, 27

Heaters Accessories

Adjustable Temperature Switches	172
Coiled Nickel-Chromium Alloy Resistance Wire	170, 171
Compact Temperature Controllers	173
Heater Hoop-Up Wire Accessories	168
High Temperature Furnace Cable	167
MICA-Glass Insulated High Temperature Heater Hook-Up Wire	163
PFA Glass Insulated High Temperature Heater Hook-Up Wire	164
Portable Thermocouple Temperature Controller	174
Silicone Rubber Insulated High Temperature Heater Hook-Up Wire	166

Heating Cable Systems

Air-Sensing Thermostats For Heating Cable	52, 53
Constant Wattage Heat Cable	46
Heat Cable Accessories	50, 51
High Temperature Constant Wattage Heating Cable	54, 55
Medium Temperature Constant Wattage Heating Cable	54, 55
Pipe-Wall Sensing Bulb and Capillary Thermostats for Heating Cables	52, 53
Self-Regulating Heating Cable/Low Temperature	43, 44
Self-Regulating Rapid-Trace Heating Cable/Medium Temperature	46

Immersion Heaters

Corrosion Resistant Over-The-Side Immersion Heaters	113, 114
Field Adjustable Screw Plug Immersion Heater	100, 101
Fluoropolymer Covered Immersion Heaters	116
Heavy Duty Soft Metal Heaters with Cast Iron Sheath	118
Over-The-Side Immersion Heaters for Clean Water Applications	109, 110, 111, 112
Portable Tank Heater	108
Screw Plug Immersion Heaters	102, 104
Screw Plug Immersion Heaters for Clean Water Applications	94, 95, 96, 97, 98
Self-Regulating Immersion Heaters	105, 106
Side Mount Fluoropolymer Covered Heaters	115
Thermostat Kits	109, 110, 111, 112

Laboratory Equipment

Accessories for Benchtop Muffle Furnace	154, 155
Accessories for Constant Temperature Heated Dry Baths	156
Benchtop Muffle Furnace	154, 155
Constant Temperature Heated Dry Baths	156
Heavy Duty Laboratory Hot Plates	161
Laboratory Heating Mantles	158, 160
Upper Hemispherical Heating Mantles	159

Process Air and Duct Heaters

"T" Type Air Process Heaters	119, 120
Low Flow Air Process and Liquid Circulation Heaters	122
Maximum Flow Air Heaters	121

Radiant Heaters

Ceramic Heater Plates	127, 128
Ceramic Ribbon Heaters	125
High-Temperature, Low-Mass Vacuum-Formed Ceramic Radiant Heaters	123
Semi-Cylindrical Ceramic Heaters	124

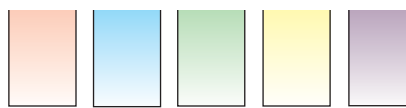
Strip Heaters

Ceramic-Insulated Finned Strip Heaters	92
Ceramic-Insulated Strip Heaters	81, 82, 83, 84, 85, 86, 87
Finned Strip Heaters	89, 90, 91
Seamless Incoloy Sheath Strip Heaters	81, 82, 83, 84, 85, 86, 87
Seamless Strip Heaters Without Mounting Tabs	89, 90, 91
Strip Heaters	81, 82, 83, 84, 85, 86, 87
Strip Heaters-3 Terminals/3 Heat	81, 82, 83, 84, 85, 86, 87
Strip Heater-One Terminal At Each End	81, 82, 83, 84, 85, 86, 87

Tubular Heaters

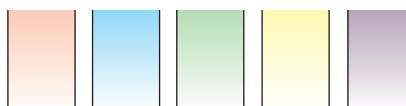
0.200" Diameter Round Cross-Section	140
0.246" Diameter Round Cross-Section	139
0.260" Diameter Round Cross-Section	138
0.315" Diameter Round Cross-Section	136, 137
0.375" Diameter Round Cross-Section	135
0.430" Diameter Round Cross-Section	134
0.475" Diameter Round Cross-Section	132, 133
0.8 cm Diameter Round Cross-Section	144
0.95 cm Diameter Heart Cross-Section	149, 150
1.2 cm Diameter Heart Cross-Section	148
1.2 cm Diameter Round Cross-Section	141, 142, 143
1/2" Diameter Heart Cross-Section	145, 146

Model Number Index



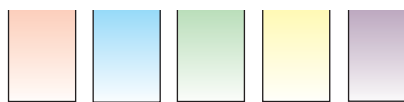
6013500 Series	156	CIR-2027/240	62, 63, 64, 65, 66	CIR-2120/*	62, 63, 64, 65, 66
6014460 Series	156	CIR-2028/*	62, 63, 64, 65, 66	CIR-2121/240	62, 63, 64, 65, 66
AHF Series.	121	CIR-2029/*	62, 63, 64, 65, 66	CIR-2122/120	62, 63, 64, 65, 66
AHP Series	119, 120	CIR-2030/*	62, 63, 64, 65, 66	CIR-2123/*	62, 63, 64, 65, 66
AHPF Series	122	CIR-20301/*	62, 63, 64, 65, 66	CIR-2150/240	62, 63, 64, 65, 66
AR-115-KIT-4	109, 110, 111, 112	CIR-20302/*	62, 63, 64, 65, 66	CIR-2200/240	62, 63, 64, 65, 66
AR-219-KIT-4	109, 110, 111, 112	CIR-20303/240	62, 63, 64, 65, 66	CIR-2240/240	62, 63, 64, 65, 66
AR-519-KIT-4	109, 110, 111, 112	CIR-2031/*	62, 63, 64, 65, 66	CIR-3012/120	62, 63, 64, 65, 66
AT-1	50, 51	CIR-2032/*	62, 63, 64, 65, 66	CIR-30121/240	62, 63, 64, 65, 66
BBP	168	CIR-2033/*	62, 63, 64, 65, 66	CIR-30122/240	62, 63, 64, 65, 66
BBS	168	CIR-2034/*	62, 63, 64, 65, 66	CIR-3013/*	62, 63, 64, 65, 66
CCD101N Series	173	CIR-2035/*	62, 63, 64, 65, 66	CIR-3014/120	62, 63, 64, 65, 66
CCDPS-*	173	CIR-2036/240	62, 63, 64, 65, 66	CIR-3015/*	62, 63, 64, 65, 66
CCH-2	50, 51	CIR-2037/*	62, 63, 64, 65, 66	CIR-30151/120	62, 63, 64, 65, 66
CH-OTS Series	108	CIR-2038/*	62, 63, 64, 65, 66	CIR-3016/120	62, 63, 64, 65, 66
CIR 1/4" Dia.Series	62, 63, 64, 65, 66	CIR-2039/120	62, 63, 64, 65, 66	CIR-3017/*	62, 63, 64, 65, 66
CIR-2012/*	62, 63, 64, 65, 66	CIR-2040/*	62, 63, 64, 65, 66	CIR-3018/*	62, 63, 64, 65, 66
CIR-2013/120	62, 63, 64, 65, 66	CIR-20401/*	62, 63, 64, 65, 66	CIR-3019/*	62, 63, 64, 65, 66
CIR-20131/120	62, 63, 64, 65, 66	CIR-20402/*	62, 63, 64, 65, 66	CIR-3020/*	62, 63, 64, 65, 66
CIR-2014/*	62, 63, 64, 65, 66	CIR-20403/240	62, 63, 64, 65, 66	CIR-30201/*	62, 63, 64, 65, 66
CIR-2015/*	62, 63, 64, 65, 66	CIR-20404/240	62, 63, 64, 65, 66	CIR-30202/*	62, 63, 64, 65, 66
CIR-20151/*	62, 63, 64, 65, 66	CIR-2041/*	62, 63, 64, 65, 66	CIR-30203/*	62, 63, 64, 65, 66
CIR-20152/240	62, 63, 64, 65, 66	CIR-2042/*	62, 63, 64, 65, 66	CIR-30204/120	62, 63, 64, 65, 66
CIR-2016/120	62, 63, 64, 65, 66	CIR-2043/*	62, 63, 64, 65, 66	CIR-3021/*	62, 63, 64, 65, 66
CIR-2017/120	62, 63, 64, 65, 66	CIR-2044/240	62, 63, 64, 65, 66	CIR-3022/*	62, 63, 64, 65, 66
CIR-20171/120	62, 63, 64, 65, 66	CIR-2045/*	62, 63, 64, 65, 66	CIR-30221/120	62, 63, 64, 65, 66
CIR-20172/*	62, 63, 64, 65, 66	CIR-2046/120	62, 63, 64, 65, 66	CIR-30222/120	62, 63, 64, 65, 66
CIR-20173/120	62, 63, 64, 65, 66	CIR-2047/*	62, 63, 64, 65, 66	CIR-30223/*	62, 63, 64, 65, 66
CIR-2018/120	62, 63, 64, 65, 66	CIR-2048/240	62, 63, 64, 65, 66	CIR-30224/*	62, 63, 64, 65, 66
CIR-2019/*	62, 63, 64, 65, 66	CIR-2049/120	62, 63, 64, 65, 66	CIR-3023/*	62, 63, 64, 65, 66
CIR-20191/*	62, 63, 64, 65, 66	CIR-2050/*	62, 63, 64, 65, 66	CIR-30231/*	62, 63, 64, 65, 66
CIR-2020/*	62, 63, 64, 65, 66	CIR-2051/*	62, 63, 64, 65, 66	CIR-3024/*	62, 63, 64, 65, 66
CIR-20201/120	62, 63, 64, 65, 66	CIR-2052/*	62, 63, 64, 65, 66	CIR-3025/*	62, 63, 64, 65, 66
CIR-20202/*	62, 63, 64, 65, 66	CIR-2053/*	62, 63, 64, 65, 66	CIR-30251/*	62, 63, 64, 65, 66
CIR-20203/*	62, 63, 64, 65, 66	CIR-2054/240	62, 63, 64, 65, 66	CIR-30252/*	62, 63, 64, 65, 66
CIR-20204/*	62, 63, 64, 65, 66	CIR-2055/*	62, 63, 64, 65, 66	CIR-30253/*	62, 63, 64, 65, 66
CIR-20205/*	62, 63, 64, 65, 66	CIR-2056/240	62, 63, 64, 65, 66	CIR-30254/*	62, 63, 64, 65, 66
CIR-20206/*	62, 63, 64, 65, 66	CIR-2057/240	62, 63, 64, 65, 66	CIR-30254/240	62, 63, 64, 65, 66
CIR-20207/*	62, 63, 64, 65, 66	CIR-2058/240	62, 63, 64, 65, 66	CIR-30255/*	62, 63, 64, 65, 66
CIR-20209/120	62, 63, 64, 65, 66	CIR-2059/240	62, 63, 64, 65, 66	CIR-3026/*	62, 63, 64, 65, 66
CIR-2021/*	62, 63, 64, 65, 66	CIR-2060/*	62, 63, 64, 65, 66	CIR-3027/*	62, 63, 64, 65, 66
CIR-2022/*	62, 63, 64, 65, 66	CIR-2064/120	62, 63, 64, 65, 66	CIR-30271/*	62, 63, 64, 65, 66
CIR-20221/*	62, 63, 64, 65, 66	CIR-2070/*	62, 63, 64, 65, 66	CIR-3028/*	62, 63, 64, 65, 66
CIR-20222/*	62, 63, 64, 65, 66	CIR-2075/240	62, 63, 64, 65, 66	CIR-3029/240	62, 63, 64, 65, 66
CIR-20223/*	62, 63, 64, 65, 66	CIR-2076/*	62, 63, 64, 65, 66	CIR-30291/240	62, 63, 64, 65, 66
CIR-20224/*	62, 63, 64, 65, 66	CIR-2077/240	62, 63, 64, 65, 66	CIR-3030/*	62, 63, 64, 65, 66
CIR-20225/120	62, 63, 64, 65, 66	CIR-2079/240	62, 63, 64, 65, 66	CIR-30301/*	62, 63, 64, 65, 66
CIR-20226/120	62, 63, 64, 65, 66	CIR-2080/*	62, 63, 64, 65, 66	CIR-30302/*	62, 63, 64, 65, 66
CIR-20227/*	62, 63, 64, 65, 66	CIR-2081/*	62, 63, 64, 65, 66	CIR-3031/*	62, 63, 64, 65, 66
CIR-2023/*	62, 63, 64, 65, 66	CIR-2082/120	62, 63, 64, 65, 66	CIR-3033/*	62, 63, 64, 65, 66
CIR-2024/*	62, 63, 64, 65, 66	CIR-2085/*	62, 63, 64, 65, 66	CIR-3034/*	62, 63, 64, 65, 66
CIR-2025/120	62, 63, 64, 65, 66	CIR-2086/*	62, 63, 64, 65, 66	CIR-3035/*	62, 63, 64, 65, 66
CIR-20251/*	62, 63, 64, 65, 66	CIR-2089/240	62, 63, 64, 65, 66	CIR-3037/*	62, 63, 64, 65, 66
CIR-20252/*	62, 63, 64, 65, 66	CIR-2090/240	62, 63, 64, 65, 66	CIR-3038/*	62, 63, 64, 65, 66
CIR-20253/120	62, 63, 64, 65, 66	CIR-2091/240	62, 63, 64, 65, 66	CIR-3039/*	62, 63, 64, 65, 66
CIR-20254/240	62, 63, 64, 65, 66	CIR-2100/*	62, 63, 64, 65, 66	CIR-3040/*	62, 63, 64, 65, 66
CIR-2026/*	62, 63, 64, 65, 66	CIR-2102/120	62, 63, 64, 65, 66	CIR-30401/240	62, 63, 64, 65, 66

Model Number Index



CIR-30402/*	62, 63, 64, 65, 66	CIR-3103/*	62, 63, 64, 65, 66	CIR-5033/*	62, 63, 64, 65, 66
CIR-30403/240	62, 63, 64, 65, 66	CIR-3105/240	62, 63, 64, 65, 66	CIR-5068/240	62, 63, 64, 65, 66
CIR-30404/240	62, 63, 64, 65, 66	CIR-3120/240	62, 63, 64, 65, 66	CIR-5069/240	62, 63, 64, 65, 66
CIR-3041/*	62, 63, 64, 65, 66	CIR-3121/*	62, 63, 64, 65, 66	CIR-5072/240	62, 63, 64, 65, 66
CIR-3042/*	62, 63, 64, 65, 66	CIR-3122/*	62, 63, 64, 65, 66	CIR-5075/*	62, 63, 64, 65, 66
CIR-3043/*	62, 63, 64, 65, 66	CIR-3125/240	62, 63, 64, 65, 66	CIR-5076/*	62, 63, 64, 65, 66
CIR-3044/*	62, 63, 64, 65, 66	CIR-3140/240	62, 63, 64, 65, 66	CIR-5077/240	62, 63, 64, 65, 66
CIR-3045/*	62, 63, 64, 65, 66	CIR-3141/240	62, 63, 64, 65, 66	CIR-5080/240	62, 63, 64, 65, 66
CIR-3046/*	62, 63, 64, 65, 66	CIR-3142/240	62, 63, 64, 65, 66	CIR-5081/240	62, 63, 64, 65, 66
CIR-3047/*	62, 63, 64, 65, 66	CIR-3150/240	62, 63, 64, 65, 66	CIR-5091/240	62, 63, 64, 65, 66
CIR-3048/*	62, 63, 64, 65, 66	CIR-3160/240	62, 63, 64, 65, 66	CIR-5100	62, 63, 64, 65, 66
CIR-3049/*	62, 63, 64, 65, 66	CIR-3180/240	62, 63, 64, 65, 66	CIR-5100/240	62, 63, 64, 65, 66
CIR-3050/*	62, 63, 64, 65, 66	CIR-3182/240	62, 63, 64, 65, 66	CIR-5102/240	62, 63, 64, 65, 66
CIR-30501/*	62, 63, 64, 65, 66	CIR-3582/240	62, 63, 64, 65, 66	CIR-5106/240	62, 63, 64, 65, 66
CIR-30502/240	62, 63, 64, 65, 66	CIR-4011/120	62, 63, 64, 65, 66	CIR-5150/240	62, 63, 64, 65, 66
CIR-3051/*	62, 63, 64, 65, 66	CIR-4012/120	62, 63, 64, 65, 66	CIR-5162/240	62, 63, 64, 65, 66
CIR-3052/*	62, 63, 64, 65, 66	CIR-4013/120	62, 63, 64, 65, 66	CIR-5165/240	62, 63, 64, 65, 66
CIR-3053/*	62, 63, 64, 65, 66	CIR-4015/*	62, 63, 64, 65, 66	CIR-5177/240	62, 63, 64, 65, 66
CIR-3054/*	62, 63, 64, 65, 66	CIR-4016/*	62, 63, 64, 65, 66	CIR-5180/240	62, 63, 64, 65, 66
CIR-3055/*	62, 63, 64, 65, 66	CIR-4016/120	62, 63, 64, 65, 66	CIR-5182/240	62, 63, 64, 65, 66
CIR-3056/240	62, 63, 64, 65, 66	CIR-4017/*	62, 63, 64, 65, 66	CIR-5185/240	62, 63, 64, 65, 66
CIR-3057/*	62, 63, 64, 65, 66	CIR-4020/*	62, 63, 64, 65, 66	CIR-5200/240	62, 63, 64, 65, 66
CIR-3058/*	62, 63, 64, 65, 66	CIR-40201/120	62, 63, 64, 65, 66	CIR-5201/240	62, 63, 64, 65, 66
CIR-3060/*	62, 63, 64, 65, 66	CIR-4021/*	62, 63, 64, 65, 66	CIR-5202/240	62, 63, 64, 65, 66
CIR-30601/*	62, 63, 64, 65, 66	CIR-4022/*	62, 63, 64, 65, 66	CIR-5203/240	62, 63, 64, 65, 66
CIR-3061/*	62, 63, 64, 65, 66	CIR-4054/*	62, 63, 64, 65, 66	CIR-5205/240	62, 63, 64, 65, 66
CIR-3062/*	62, 63, 64, 65, 66	CIR-4055/*	62, 63, 64, 65, 66	CIR-5240/240	62, 63, 64, 65, 66
CIR-3063/*	62, 63, 64, 65, 66	CIR-4060/*	62, 63, 64, 65, 66	CIR-5241/240	62, 63, 64, 65, 66
CIR-3064/*	62, 63, 64, 65, 66	CIR-4061/*	62, 63, 64, 65, 66	CIR-5242/240	62, 63, 64, 65, 66
CIR-3065/240	62, 63, 64, 65, 66	CIR-4062/*	62, 63, 64, 65, 66	CIR-5243/240	62, 63, 64, 65, 66
CIR-3066/*	62, 63, 64, 65, 66	CIR-4063/240	62, 63, 64, 65, 66	CIR-5244/240	62, 63, 64, 65, 66
CIR-3067/*	62, 63, 64, 65, 66	CIR-4065/*	62, 63, 64, 65, 66	CIR-5245/240	62, 63, 64, 65, 66
CIR-3068/240	62, 63, 64, 65, 66	CIR-4066/*	62, 63, 64, 65, 66	CIR-5300/240	62, 63, 64, 65, 66
CIR-3070/*	62, 63, 64, 65, 66	CIR-4067/*	62, 63, 64, 65, 66	CIR-5360/240	62, 63, 64, 65, 66
CIR-3071/*	62, 63, 64, 65, 66	CIR-4068/*	62, 63, 64, 65, 66	CIR-5362/240	62, 63, 64, 65, 66
CIR-3072/*	62, 63, 64, 65, 66	CIR-4070/240	62, 63, 64, 65, 66	CIR-5480/240	62, 63, 64, 65, 66
CIR-3075/240	62, 63, 64, 65, 66	CIR-4071/240	62, 63, 64, 65, 66	CIT Series	118
CIR-3076/240	62, 63, 64, 65, 66	CIR-4072/*	62, 63, 64, 65, 66	CN63100 Series.	180
CIR-3077/*	62, 63, 64, 65, 66	CIR-4080/*	62, 63, 64, 65, 66	CN63200 Series.	181
CIR-3080/*	62, 63, 64, 65, 66	CIR-40801/240	62, 63, 64, 65, 66	CN63400 Series.	181
CIR-30801/*	62, 63, 64, 65, 66	CIR-4081/240	62, 63, 64, 65, 66	CN74000 Series.	178
CIR-3081/240	62, 63, 64, 65, 66	CIR-4082/240	62, 63, 64, 65, 66	CN7500 Series.	177
CIR-3082/240	62, 63, 64, 65, 66	CIR-4083/240	62, 63, 64, 65, 66	CN7800 Series.	177
CIR-3083/*	62, 63, 64, 65, 66	CIR-4084/240	62, 63, 64, 65, 66	CN78000 Series.	178
CIR-3084/*	62, 63, 64, 65, 66	CIR-4085/*	62, 63, 64, 65, 66	CN79000	179
CIR-3085/*	62, 63, 64, 65, 66	CIR-4087/240	62, 63, 64, 65, 66	CNQUENCHARC.	179
CIR-3086/240	62, 63, 64, 65, 66	CIR-4088/240	62, 63, 64, 65, 66	CN-TOT-175JF-120V	174
CIR-3087/240	62, 63, 64, 65, 66	CIR-4100 5/8		CN-TOT-175JF-240V	174
CIR-3088/240	62, 63, 64, 65, 66	Dia. Series	62, 63, 64, 65, 66	COVER-IB-55.	26, 27
CIR-3089/240	62, 63, 64, 65, 66	CIR-4200 5/8		CRFC Series	123
CIR-3090/240	62, 63, 64, 65, 66	Dia. Series	62, 63, 64, 65, 66	CRFP Series	126
CIR-3091/240	62, 63, 64, 65, 66	CIR-4360/240	62, 63, 64, 65, 66	CRHF Series	127, 128
CIR-3092/240	62, 63, 64, 65, 66	CIR-4361/240	62, 63, 64, 65, 66	CRHP Series	127, 128
CIR-3093/240	62, 63, 64, 65, 66	CIR-5022/120	62, 63, 64, 65, 66	CRRS Series	125
CIR-3100/240	62, 63, 64, 65, 66	CIR-5023/*	62, 63, 64, 65, 66	CRWS Series.	124
CIR-3101/*	62, 63, 64, 65, 66	CIR-5030/*	62, 63, 64, 65, 66	CSH Series	70, 71, 72, 73
CIR-3102/240	62, 63, 64, 65, 66	CIR-5031/*	62, 63, 64, 65, 66	CSS Series	70, 71, 72, 73

Model Number Index



CWM Series	46	LHM Series	160	SRFR Series	9, 10, 11, 12
DP63700-AC	176	LHM Spherical Series	158	SRL Series	43, 44
DP63700-AC-GN	176	LMF Series	154, 155	SRM Series	13,14,15,16
DRUM-DHW-55-115-TS	26, 27	LMF-HP	154, 155	SRM/E Series	46
DRUM-DHW-55-230-TS	26, 27	LMF-TC	154, 155	SRT Series	28, 30, 31, 32, 33
EE-1319	176	LMF-TRAY	154, 155	SSDH Series	20, 21, 22
EMH Series	102	ME-1212	168	SSE Series	89, 90, 91
EMTI Series	94, 95, 96, 97, 98	ME-1726	17	SSEM Series	89, 90, 91
EMTO Series	94, 95, 96, 97, 98	MP-1	50, 51	SSHB Series	17, 19
FCDDH-3200-240	24, 25	MS-0345	43	SSNHM Series	89, 90, 91
FCDG-TOP	24, 25	MT Series	94, 95, 96, 97, 98	SSR3PH Series	182, 183
FCDH Series	24, 25	MTS Series	94, 95, 96, 97, 98	SSRDIN Series	182, 183
FE Series	54, 55	NIC60 Series	170, 171	SST Series	28, 30, 31, 32, 33
FGH Series	28, 30, 31, 32, 33	NIC80 Series	170, 171	STH Series	28, 30, 31, 32, 33
FGR Series	34, 35	NS Series	81, 82, 83, 84, 85, 86, 87	STTH Spherical Series	81, 82, 83, 84, 85, 86, 87
FGS Series	28, 30, 31, 32, 33	NSL Series	81, 82, 83, 84, 85, 86, 87	SWH Series	28, 30, 31, 32, 33
FSH Series	92	OP-4	174	TH Series	81, 82, 83, 84, 85, 86, 87
FT-3	50, 51	OP-5A	35	TLC Series	109, 110, 111, 112
FWH Series	28, 30, 31, 32, 33	OT Series	81, 82, 83, 84, 85, 86, 87	TLO Series	109, 110, 111, 112
GCW Series	23	OTF Series	89, 90, 91	TLS Series	109, 110, 111, 112
GE-1301	23	PE-1010	7, 81, 92, 102	TLS-330A-036/120	109, 110, 111, 112
GE-1401	105, 106	PE-1018	25, 27	TOTE Series	26, 27
GE-1804	155	PE-1022	30	TOTE-BH-55-115-TS	26, 27
GE-2117	179	PE-1038	27	TOTE-BH-55-230-TS	26, 27
GRCW	50, 51	PE-1405	24	TPF Series	113, 114
GRO	50, 51	PE-1408	12	TPR Series	113, 114
GRS	50, 51	PE-1409	31	TRC 0.8 cm Dia. Series	144
GRSR	50, 51	PE-1414	4	TRC 1.2 cm Dia. Series	142, 143
GTF Series	116	PS-1	50, 51	TRCC Series	142, 143
GTF6 Series	115	PS-10	50, 51	TRI 0.246 Diameter Series	139
GTF9 Series	115	PS-3	50, 51	TRI 0.260 Diameter Series	138
GTFL Series	116	RIN Series	104	TRI 0.315 Diameter Series	136, 137
HCS Series	81, 82, 83, 84, 85, 86, 87	RINO Series	104	TRI 0.375 Diameter Series	135
HDB-2	156	RLNC-12	168	TRI 0.430 Diameter Series	134
HDB-3	156	RLNC-16	168	TRI 0.475 Diameter Series	132, 133
HDB-3D	156	RLNC-22	168	TRID Series	132, 133
HTC Series	34, 35	RLNI-12	168	TRIW Series	132, 133
HTCM Series	167	RLNI-16	168	TRSS Series	141
HTMG Series	163	RLNI-22	168	TS .95 cm Dia. Series	149, 150
HTRG Series	166	ROPH Series	161	TS 1.2 cm Dia. Series	148
HTSM Series	167	RTAS	52, 53	TSSM Series	140
HTTG Series	164	RTAS-EP	52, 53	TSW Series	172
HTWAT Series	28, 30, 31, 32, 33	RTBC	52, 53	VP Series	105, 106
HTWC101 Series	28, 30, 31, 32, 33	RTBC-EP	52, 53	VTS Series	100, 101
HTWC102 Series	28, 30, 31, 32, 33	RTPC Series	50, 51	WS Series	81, 82, 83, 84, 85, 86, 87
KE Series	54, 55	RTST Series	50, 51		
KH Series	3, 4	RTU Series	145, 146		
KH-KIT-EFH-15001	7	S Series	81, 82, 83, 84, 85, 86, 87		
KHLV Series	3, 4	SEPDH Series	20, 21, 22		
KHR Series	3, 4	SEPHB Series	17, 19		
KTLC Series	109, 110, 111, 112	SHDH Series	20, 21, 22		
KTLO Series	109, 110, 111, 112	SN Series	81, 82, 83, 84, 85, 86, 87		
KTLS Series	109, 110, 111, 112	SNH Series	81, 82, 83, 84, 85, 86, 87		
LDP6-CDC Series	176	SREH Series	16		
LDP6-CDL10	176	SRF Series	43, 44		
LDP6-CDS Series	176	SRFG Series	9, 10, 11, 12		
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