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Cable Heaters

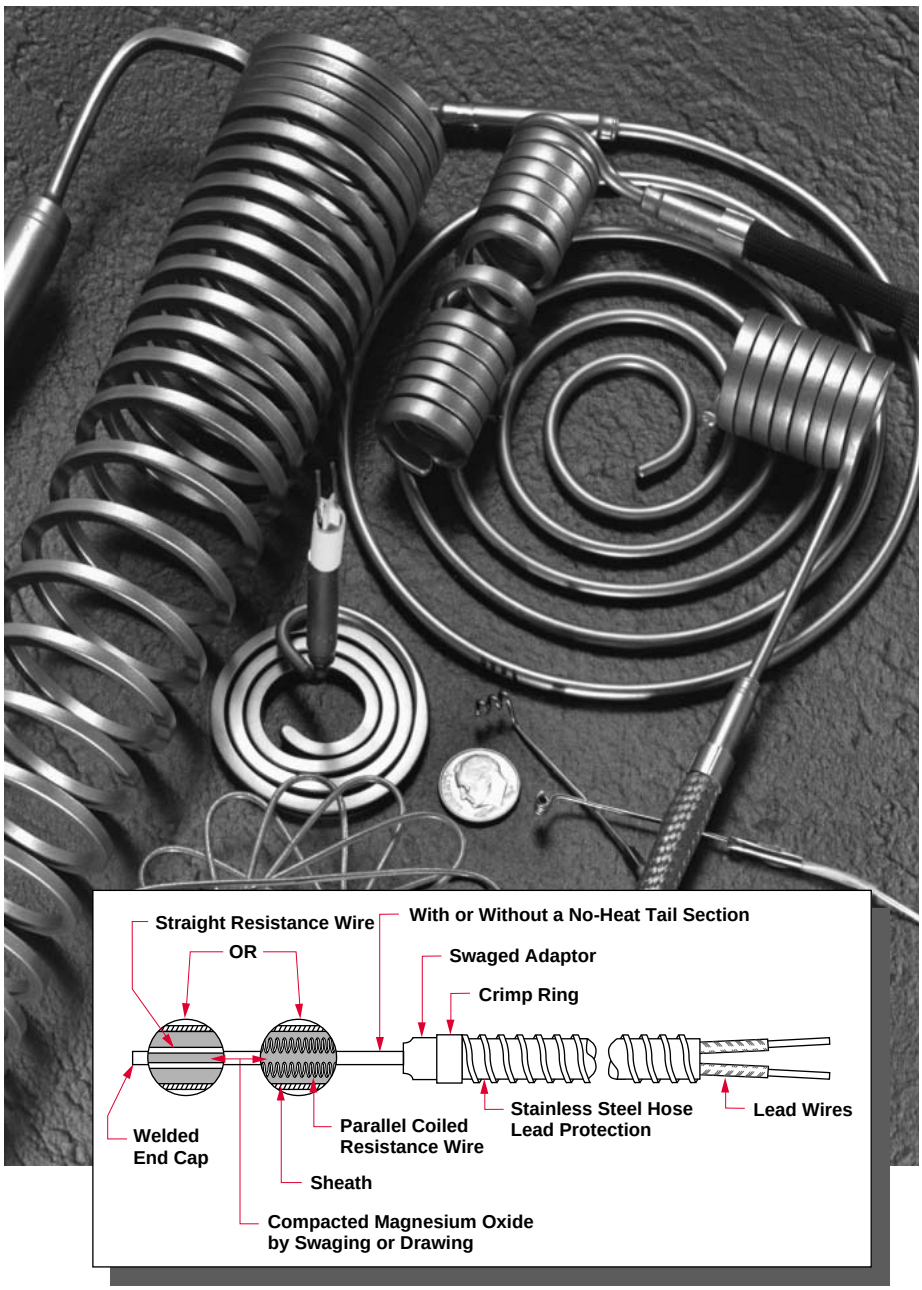
Versatile, Standard Cable Heaters

The versatile Watlow cable heater can be formed to a variety of shapes as dictated by its many applications. Cable heaters are small diameter, high performance units, fully annealed and readily bent to a multitude of configurations.

The heater can be formed into a compact coiled nozzle heater for use on plastic injection molding equipment supplying a full 360 degrees of heat with optional distributed wattage. A straight cable can snake through a sealing bar in packaging equipment. Flat spiral configurations are used in semiconductor manufacturing while a star wound cable is used for air and gas heating.

Different applications require different construction methods, including one, two, three or four resistance wires; parallel coil or straight wire; drawn or swaged sheaths; with or without internal thermocouples; leads exiting from one or both ends, and round, rectangular or square cable sheaths.

Whatever the application, the Watlow cable heater can be shaped to fit your application needs.



Performance Capabilities

- Continuous operating temperatures to 1200°F (650°C) with intermittent operating periods achieving up to 1500°F (815°C). Dependant on type of element wire used.
- Sheath watt densities on the cable to 30 W/in^2 (4.65 W/cm^2), and as high as 75 W/in^2 (11.62 W/cm^2) within factory approved conditions.

Features and Benefits

- **High ductility** allows the heater to be cold-formed into almost any shape.
- **The heater's low mass** allows for quick response to both heating and cooling.
- **The heater can be isolated or sealed from the process environment** with optional compression fittings or HTF adaptor seals. Cable heaters are constructed with no open seams. Optional testing is available to guarantee the integrity of all surfaces and seams.
- **Standard 304 stainless steel,** or optional 316L stainless steel or Inconel® 600, provide high temperature corrosion and oxidation resistance along with ideal thermal expansion properties.
- **The heater sheath can be brazed** allowing the permanent attachment of mounted fittings to the heater. Consult factory for additional information.

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Cable Heaters

Versatile, Standard Cable Heaters

Features

Continued

- **Ranging from 0.040 inch (1 mm) to 0.188 inch (5 mm) diameter,** the cable heater packs a lot of heat into a tiny space. Lengths range from ¾ inch (19 mm) to over 70 feet (2134 cm).
- **Internal construction options** allow internal thermocouples and no-heat sections. (Not available in all sizes.)
- **Cable heaters can operate in unusual environments,** including cryogenic and sub-freezing temperatures, high vacuum, and gaseous and liquid immersion conditions.

Applications

- Plastic injection molding nozzles
- Semiconductor manufacturing and wafer processing
- Hot metal forming dies and punches
- Sealing and cutting bars
- Medical, analytical and scientific instruments
- Restaurant and food processing equipment
- Cast-in heaters
- Laminating and printing presses
- Air heating
- Textile manufacturing
- Heating in a vacuum environment

Electrical Data and Coiling Limits

Sheath Diameter		Maximum Voltage	Surface Area Per Linear Foot		Minimum Bend Radius		Minimum Coiled Inside Diameter	
inches	(mm)		in	(cm)	in	(mm)	in	(mm)
0.040 ± 0.002	(1.016 ± 0.051)	48	1.51	(9.743)	1/16	(1.588)	⅛	(3.175)
0.062 ± 0.002	(1.575 ± 0.051)	120	2.34	(15.098)	⅛	(3.175)	¼	(6.350)
0.058 ± 0.002	(1.473 ± 0.051)	240	2.18	(14.065)	⅛	(3.175)	¼	(6.350)
0.094 + 0.002 - 0.003	(2.388 + 0.051 - 0.076)	240	3.54	(22.840)	3/16	(4.763)	⅜	(9.525)
0.102 square ± 0.003	(2.591 ± 0.076)	240	4.90	(31.615)	¼	(6.350)	½	(12.700)
0.103 ± 0.003 x 0.153 ± 0.005 rectangular	(2.667 ± 0.076) x (3.886 ± 0.127)	240	6.19	(39.938)	¼	(6.350)	½	(12.700)
0.125 ± 0.003	(3.175 ± 0.076)	240	4.71	(30.389)	¼	(6.350)	½	(12.700)
0.157 ± 0.004	(3.998 ± 0.102)	240	5.92	(38.196)	5/16	(7.938)	⅝	(15.875)
0.188 + 0.003 - 0.006	(4.775 + 0.076 - 0.152)	240	7.09	(45.745)	⅜	(9.525)	¾	(19.050)
0.128 square ± 0.003	(3.353 ± 0.076)	240	6.31	(40.712)	¼	(6.350)	½	(12.700)

In most cases 30 W/in² (4.65 W/cm²) is the safe allowable limit for cable watt density. Please consult factory before ordering >30 WSI cables.
Standard Resistance/Wattage Tolerance ±10 percent.
Cable heaters can run on both ac and dc, 50 or 60Hz. Consult factory for amperage limitations.

Coiling Tolerances

Cable Diameters	Standard Coiled Width Tolerances				Standard Coiled I.D. Tolerances			
	Coiled Width		Tolerances		Coil I.D. Range		Tolerances	
	inches	(mm)	inches	(mm)	inches	(mm)	inches	(mm)
All Diameters	Below 6	(152.4)	+ 0 - ⅛	(+0.000 - 3.175)	Below 0.625	(Below 15.875)	+0.000 - 0.015	(+0 - 0.381)
	6 to 10	(152.4 to 254.0)	+ ⅛ - ⅜	(+3.175 - 9.525)	0.625 to 0.999	(15.875 to 25.375)	+0.000 - 0.030	(+0 - 0.762)
	Over 10	(Over 254.0)	+ ¼ - ¼	(+6.350 - 6.350)	1.000 to 1.999	(25.400 to 50.775)	+0.000 - 0.062	(+0 - 1.575)
					2.000 to 2.999	(50.800 to 76.175)	+0.000 - 0.125	(+0 - 3.175)
					3.000 to 3.999	(76.200 to 101.575)	+0.000 - 0.250	(+0 - 6.350)
					4.000 to 4.999	(101.600 to 126.975)	+0.000 - 0.375	(+0 - 9.525)
					5.000 and Over	(127.000 and Over)	+0.000 - 0.500	(+0 - 12.700)

When the O.D. of the coil is required to be the critical dimension, this fact must be specified at the time of ordering so that proper coiling procedures can be determined. I.D. and O.D. dimensions cannot be held on the same unit. Please consult with the factory before ordering coiled cable heaters requiring other than standard tolerances.

Cable Straight Length Tolerances

Length	≤24"	>24"≤60"	>60"≤100"	>100"
Tolerance	±⅜"	±½"	±1"	±1%

Cable Heaters

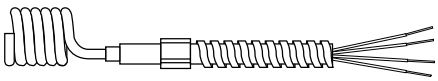
Versatile, Standard Cable Heaters

Formation Options

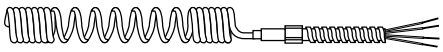
Standard Coil

The standard coil can be tight wound, open pitch or anything in between.

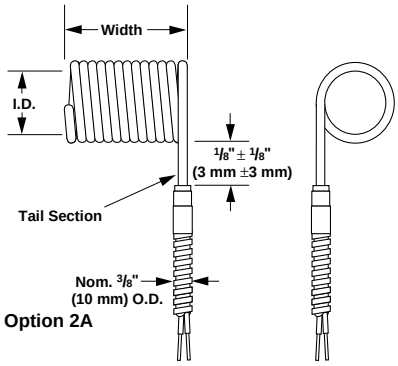
Closed Coil without Distributed Wattage



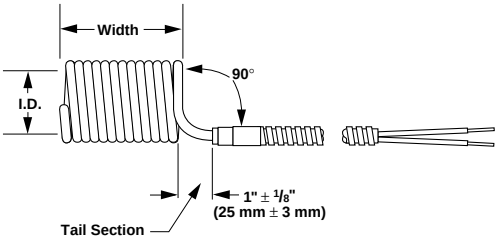
Closed Coil with Distributed Wattage



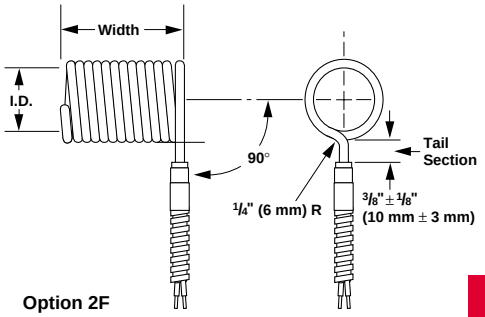
Lead Orientation Options for Coiled Cable Heaters



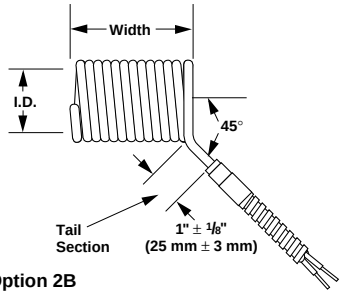
Option 2A



Option 2C



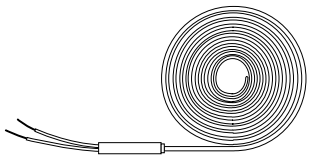
Option 2F



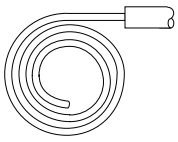
Option 2B

Flat Spiral

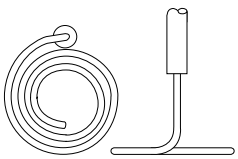
Flat spiral formations are used to heat flat circular surfaces. This formation is often used in semiconductor and medical applications.



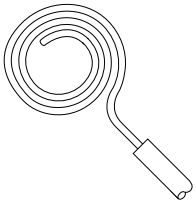
Flat Spiral with 2A Type Lead Orientation

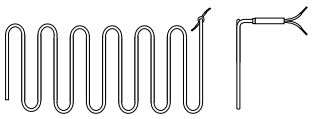


Flat Spiral with 2C Type Lead Orientation



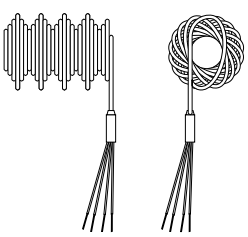
Flat Spiral with 2F Type Lead Orientation





Sinuated

Sinuated cable heaters provide an alternative to the flat spiral coil heater, allowing greater coverage of flat rectangular surfaces. The sinuated formation can also be curved to heat cylindrical shapes. This formation is often used in radiant heating applications.



Star Wound

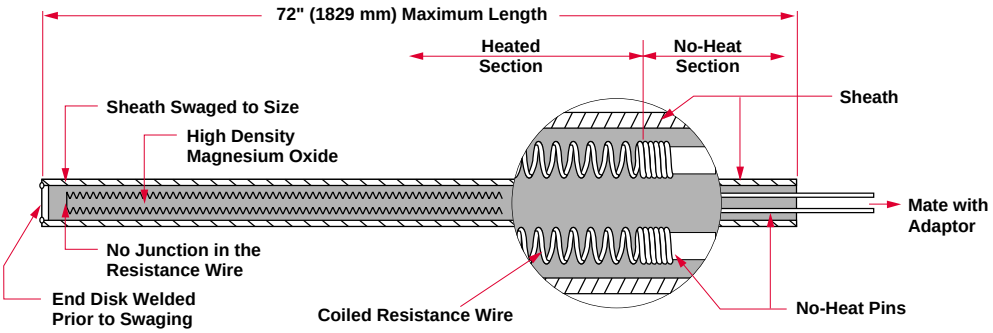
Star wound formations are usually inserted into pipes or ducts and are used to heat moving air or liquids. The offset coils increase/induce turbulent flow. This allows the flowing material to have better contact with the heater surface, resulting in a more efficient heat transfer.

Versatile, Standard Cable Heaters

Standard

Internal Construction

Sheath with Coiled Internal Resistance Wire



Parallel Coil Construction

Resistance wire, wound into a small coil, is loaded into insulating cores, then into metal tubing and swaged to final size. This method of construction is called **parallel coil.**

The parallel coil method allows for a no-heat section in the sheath. The length of either the heated section or no-heat section is variable as long as the combined length does not exceed 72 inches (1830 mm). Other features of this construction method include:

- Variable ohms/foot within a minimum and maximum range
- Variable location of the thermocouple junction
- Grounded or ungrounded thermocouple junction
- No-heat sections
- 304 stainless steel, 316L stainless steel or Inconel® 600 sheath material
- A variety of diameters and shapes:

  0.058 inch (1.473 mm) round

  0.094 inch (2.387 mm) round

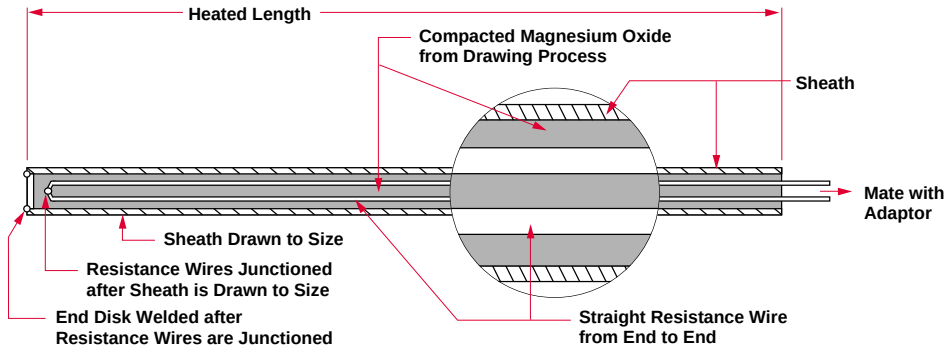
  0.125 inch (3.175 mm) round (min. dia. with internal thermocouple)

  0.102 (2.591 mm) inch square

  0.128 inch (3.251 mm) square

  0.103 inch X 0.153 inch (2.616 mm X 3.886 mm) rectangular

Sheath with Straight (Uncoiled) Resistance Wire



Drawn Cable Construction

Uncoiled resistance wires are positioned inside a large diameter metal tube. The tube assembly is repeatedly pulled through draw dies until the desired diameter is achieved. Though limited to fixed incremental ohms/foot and without no-heat sections, this **drawn cable** construction method does allow:

- Essentially no limit on cable length
- Thermocouple junction only at the disk end of the sheath
- Grounded or ungrounded thermocouple junction
- Sheath heated from end to end
- 304 stainless steel, 316L stainless steel or Inconel® 600 sheath material
- A variety of diameters and shapes:

  0.040 inch (1.016 mm) round

  0.062 inch (1.575 mm) round

  0.094 inch (2.388 mm) round

  0.125 inch (3.175 mm) round (min. dia. with internal thermocouple)

  0.157 inch (3.988 mm) round

  0.188 inch (4.775 mm) round

  0.128 inch (3.251 mm) square

  0.103 inch X 0.153 inch (2.616 mm X 3.886 mm) rectangular

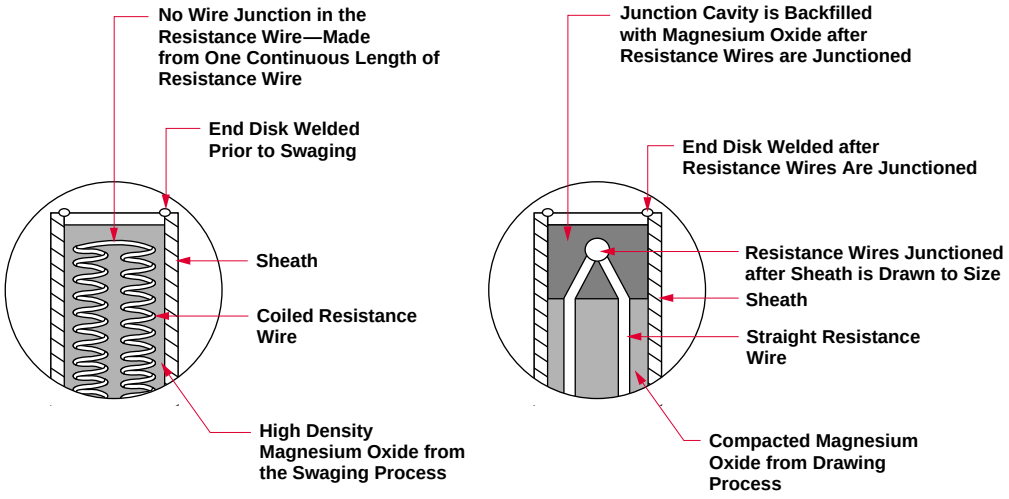
Cable Heaters

Versatile, Standard Cable Heaters

Options

Internal Construction

Disk End of Sheath



The end of the heater sheath opposite from the lead end is called the disk end.

With parallel coil construction methods, the internal resistance wires form a 180 degree bend inside the sheath and, so, do not require a junction. After the end cap has been welded in place, the entire area at the end of the sheath is swaged to provide maximum density of the magnesium oxide.

With drawn cable construction, the internal wires, whether resistance or thermocouple, must be junctioned before the heater sheath can be finished. Magnesium oxide is removed from the tip of the sheath, exposing the wires which are then junctioned by welding. Magnesium oxide powder is backfilled into the cavity surrounding the junctioned wires and lightly compacted. The end cap is inserted and welded into place.

Thermocouples

Internal thermocouples are available in ASTM Type J or K calibration with both the parallel coil or drawn cable construction methods.①

Parallel Coil:

- 0.125 inch round
- 0.128 inch X 0.128 inch square
- 0.103 inch X 0.153 inch rectangular

Drawn Cable:

- 0.125 inch round
- 0.157 inch round
- 0.188 inch round
- 0.128 inch X 0.128 inch square
- 0.103 inch X 0.153 inch rectangular

External thermocouples with Type J or K calibration can be spot welded or brazed to the heater sheath. The sheath size must be a minimum of 0.094 inch in diameter. Hose clamps can more easily be used to secure the thermocouple.

① Other thermocouple types available. Consult factory.

Versatile, Standard Cable Heaters

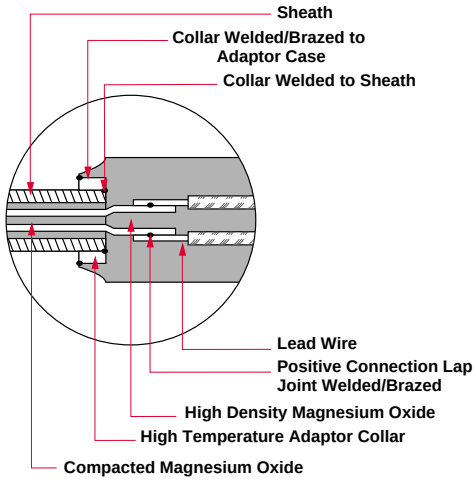
Options

Internal Construction

Continued

Adaptors

Adaptors are the transition sections where the lead wires are attached to the heater sheaths. The lead wires are connected with the internal wires from the sheath.



The **positive connection** lap joint brazes or welds the wire lap joint before the adaptor is swaged. Positive connection is used in all standard applications and provides added protection in high temperature environments and other severe and demanding applications.

An extended length adaptor collar, or **high temperature** collar, is used as a heat sink allowing the heater to be operated in high temperature and other demanding applications.

The positive connection and collar are used in conjunction with both power leads and thermocouple leads.

External Construction

Lead Wire:

100 percent nickel, copper, nickel plated copper or silver plated copper.

Insulation: Teflon®, fiberglass, or a high temperature variety such as MGT or MGE.

Consult factory for other wire options.

Lead Protection:

Stainless steel hose, stainless steel braid or fiberglass braid.

Consult factory for details.

Special Fittings

- VCR® and VCO® vacuum fittings or similar
- Ultra-Torr® compression fittings or similar
- Threaded screw headers
- Flanges
- Heat sinks

Consult factory for details.

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VCR®, VCO® and Ultra-Torr® are registered trademarks of the Swagelok Company.

Cable Heaters

F.O.B.: St. Louis, Missouri

Versatile, Standard Cable Heaters

How to Order

To order your stock cable heater, specify:

- Watlow code number and/or voltage and wattage specifications
- Forming options (required information):

  Straight - standard option unless otherwise specified

  Nozzle - coil I.D., coil width, lead orientation

  Distributed nozzle - coil I.D., coil width, lead orientation, number of zones

  Sinuated - height, width, bend radius, lead orientation

  Starwound - coil O.D., coil width, lead orientation

  Flat spiral - spiral I.D., spiral width, lead orientation
- Lead wire options (required information):

  Standard - 14 inch crimped-on fbg unless otherwise noted

  Fiberglass - various lengths available

  Teflon® - various lengths available
- Lead protection options (required information):

  Standard - 12 inch crimped-on stainless steel hose unless otherwise noted

  SS hose - various lengths available

  SS braid - various lengths available

  Fiberglass braid - various lengths available
- Internal thermocouple option:

  Type J thermocouple

  See stock product list for available units.
- Special adders

If the stock units do not meet application needs, consult factory for a quote on made-to-order units.

Availability

Stock: Straight units can be formed on request requiring one to two working days, contingent upon quantity and required options.

Made-to-Order: Delivery dependent on complexity of order. Consult factory for price and delivery quotations.

Cable Heater Stock Units (Internal Thermocouple Not Available)

Straight Cable Length in (mm)	Volts	Watts	Watt Density W/in² W/cm²	No-Heat Length in (mm)	Lead Wire	Lead Protection	Code Number
0.062-inch Diameter Round (with ±10 percent wattage tolerance)							
24 (609.6)	120	240	51 (7.9)	0.00 (0.00)	14" (355.6 mm)	12" (304.8 mm)	**62H24A6X**
36 (914.4)	120	400	57 (8.8)	0.00 (0.00)	Fiberglass	SS hose	**62H36A5X**
56 (1422.4)	120	330	30 (4.7)	0.00 (0.00)	unless otherwise	unless otherwise	**62H56A4X**
65 (1651.0)	120	500	39 (6.0)	0.00 (0.00)	specified	specified	**62H65A3X**
0.094-inch Diameter Round (with ±5 percent wattage tolerance)							
30 (762.0)	230	125	17 (2.6)	5.00 (127.00)	36" (914.4 mm)	Lead protection	**94PC30A1X**
30 (762.0)	230	250	34 (5.3)	5.00 (127.00)	swaged-in	not available	**94PC30A2X**
					Teflon® leads only		
0.125 inch Diameter Round (with ±10 percent wattage tolerance)							
18 (457.2)	240	250	35 (5.4)	1.50 (38.10)	14" (355.6 mm)	12" (304.8 mm)	**125CH18A4X**
19 (482.6)	120	165	21 (3.3)	1.50 (38.10)	Fiberglass	SS hose	**125CH19A1X**
24 (609.6)	120	275	29 (4.5)	1.50 (38.10)	unless otherwise	unless otherwise	**125CH24A1X**
24 (609.6)	240	275	29 (4.5)	1.50 (38.10)	specified	specified	**125CH24A14X**
38 (965.2)	240	325	21 (3.3)	1.50 (38.10)			**125CH38A1X**
38 (965.2)	120	175	12 (1.9)	1.50 (38.10)			**125CH38A2X**
47 (1193.8)	240	260	14 (2.2)	1.50 (38.10)			**125CH47A1X**
47 (1193.8)	120	235	12 (1.9)	1.50 (38.10)			**125CH47A2X**
47 (1193.8)	120	375	20 (3.1)	1.50 (38.10)			**125CH47A3X**
47 (1193.8)	240	345	19 (2.9)	1.50 (38.10)			**125CH47A4X**
65 (1651.0)	240	420	16 (2.5)	1.50 (38.10)			**125CH65A1X**
65 (1651.0)	240	675	27 (4.2)	1.50 (38.10)			**125CH65A2X**
95 (2413.0)	240	1000	28 (4.3)	0.00 (0.00)			**125CH93A1X**

CONTINUED

Versatile, Standard Cable Heaters

Cable Heater Stock Units (Internal Thermocouple Not Available)

Straight Cable Length in (mm)	Volts	Watts	Watt Density W/in² W/cm²	No-Heat Length in (mm)	Lead Wire	Lead Protection	Code Number
0.125 inch Diameter Round (with ±10 percent wattage tolerance)							
126 (3200.4)	240	1500	30 (4.7)	0.00 (0.00)	48" (1219 mm)	Lead protection	**125H126A4A**
150 (3810.0)	240	2000	34 (5.3)	0.00 (0.00)	swaged-in	is available	**125H150A3A**
223 (5664.2)	240	3000	34 (5.3)	0.00 (0.00)	Fiberglass	upon request	**125H223A1A**
					leads only		
0.128 inch Square Cross-Section (with ±10 percent wattage tolerance)							
12 304.8	120	200	36 5.6	1.50 (38.10)	14" (355.6 mm)	12" (304.8 mm)	**125PS12A24A**
12 304.8	240	200	36 5.6	1.50 (38.10)	Fiberglass	SS hose	**125PS12A23A**
20 508.0	120	300	31 4.8	1.50 (38.10)	unless otherwise	unless otherwise	**125PS20A37A**
20 508.0	240	300	31 4.8	1.50 (38.10)	specified	specified	**125PS20A38A**
30 762.0	120	450	30 4.7	1.50 (38.10)			**125PS30A47A**
30 762.0	240	450	30 4.7	1.50 (38.10)			**125PS30A48A**
38 965.2	240	600	31 4.8	1.50 (38.10)			**125PS38A23A**

Cable Heater Stock Units (Type J Internal Thermocouple)

Straight Cable Length in (mm)	Volts	Watts	Watt Density W/in² (W/cm²)	No-Heat Length in (mm)	Lead Wire	Lead Protection	Code Number
0.125-inch Diameter Round (with ±10 percent wattage tolerance), Thermocouple located in center of heated section.							
24 (609.6)	120	275	29 (4.5)	1.50 (38.10)	48" (1219 mm)	Lead protection	**125CH24A13X**
38 (965.2)	120	175	12 (1.9)	1.50 (38.10)	swaged-in	is available	**125CH38A18X**
47 (1193.8)	120	235	13 (2.0)	1.50 (38.10)	Fiberglass	upon request	**125CH47A21X**
65 (1651.0)	240	675	26 (4.0)	1.50 (38.10)	leads only		**125CH65A26X**
NEW OFFERING							
0.157-inch Diameter Round (with ±10 percent wattage tolerance), Thermocouple located at the disk end of the cable.							
124 (3149.6)	240	1500	25 (3.9)	0.00 (0.00)	48" (1219 mm)	Lead protection	**157CH124AX**
150 (3810.0)	240	2000	27 (4.2)	0.00 (0.00)	swaged-in	is available	**157CH150AX**
220 (5588.0)	240	3000	28 (4.3)	0.00 (0.00)	Fiberglass	upon request	**157CH220AX**
					leads only		
0.128 inch Square Cross-Section (with ±10 percent wattage tolerance), Thermocouple located in center of heated section.							
12 (304.8)	240	200	36 (5.6)	1.50 (38.10)	48" (1219 mm)	Lead protection	**125PS12A22A**
20 (508.0)	120	300	31 (4.8)	1.50 (38.10)	swaged-in	is available	**125PS20A35A**
20 (508.0)	240	300	31 (4.8)	1.50 (38.10)	Fiberglass	upon request	**125PS20A36A**
30 (762.0)	240	450	30 (4.7)	1.50 (38.10)	leads only		**125PS30A46A**
38 (965.2)	240	600	31 (4.8)	1.50 (38.10)			**125PS38A24A**

Quick Ship • *Same day shipment on all stock units.*

Cable Heaters

Coiled Nozzle

The Watlow coiled nozzle heater features a five-inch long no-heat tail section. This design advantage eliminates failures in the adaptor area due to overheating.

Performance Capabilities

- ±5 percent wattage tolerance
- Possible operating temperature to 1200°F (650°C). Dependant on type of element wire used.

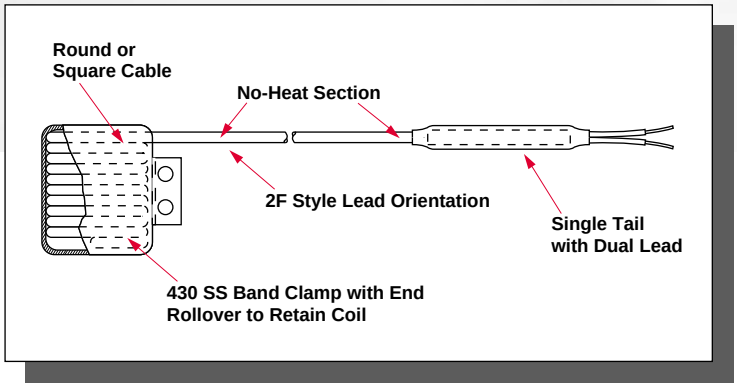
Features and Benefits

- **Low profile construction** provides easy installation in the tight environment of multiple-gate molds.
- **The no-heat tail section** reduces temperature at the adaptor, eliminating failures due to overheating.
- **The single tail with dual lead** feature occupies less space in the wire raceway.
- **Heat is conducted from the entire 360 degree circumference** for even heating.
- **Optional externally welded thermocouples to the sheath** provide temperature measurement capabilities.
- **Stocked sizes** are available for same day shipment.

Applications

- Plastic injection molding equipment
- Hot runner molds

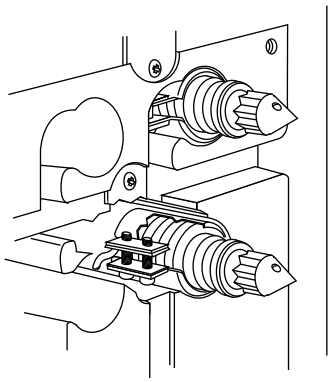




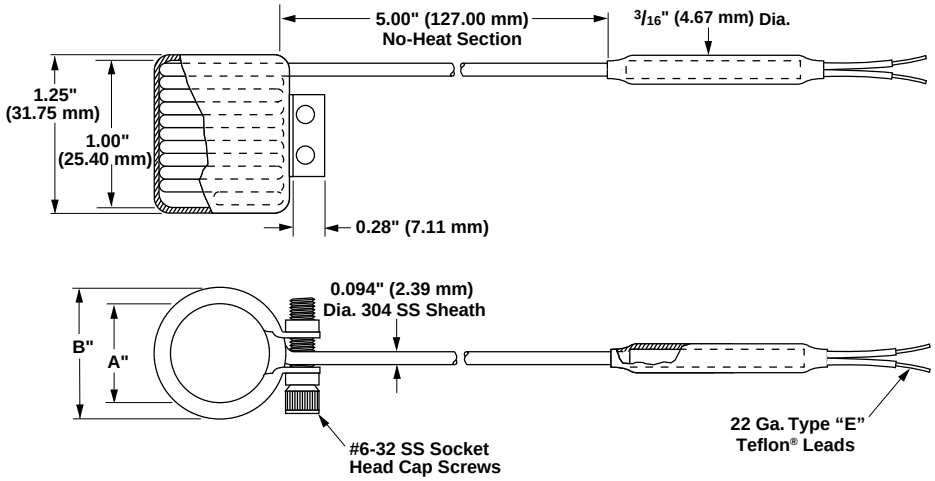
Cable Heaters

Coiled Nozzle

Technical Data



Coiled nozzle heaters mounted on a 64 cavity plastic injection mold.



How to Order

To order your stock coiled nozzle heater, specify:

- Watlow code number
- Voltage
- Wattage
- Quantity

Availability

Stock: Same day shipment

Cable Heater Stock Units (Coiled Nozzle with Clamp Strap)

Volts	Watts	Coiled I.D. in (mm)	Clamp O.D. in (mm)	Clamp Width in (mm)	No-Heat	Lead Wire (Swaged-in) Teflon® Only	Code Number
0.094-inch Diameter Round (with ±5 percent wattage tolerance), no lead protection available.							
230	125	0.75 (19.05)	0.98 (24.89)	1.25 (31.75)	5" (127 mm)	36" (914.4 mm)	**94PC30A1A**
230	125	0.75 (19.05)	0.98 (24.89)	1.25 (31.75)	only	72" (1828.8 mm)	**94PC30A1D**
230	250	0.75 (19.05)	0.98 (24.89)	1.25 (31.75)		36" (914.4 mm)	**94PC30A2A**
230	250	0.75 (19.05)	0.98 (24.89)	1.25 (31.75)		72" (1828.8 mm)	**94PC30A2D**
230	250	0.75 (19.05)	0.98 (24.89)	1.25 (31.75)		36" (914.4 mm)	**94PC30A4A** ①
0.102-inch Square Cross-Section (with ±5 percent wattage tolerance), no lead protection available.							
230	125	0.75 (19.05)	1.00 (25.40)	1.25 (31.75)	5" (127 mm)	36" (914.4 mm)	**102PS28A2B**
230	125	0.75 (19.05)	1.00 (25.40)	1.25 (31.75)	only	72" (1828.8 mm)	**102PS28A2A**
230	250	0.75 (19.05)	1.00 (25.40)	1.25 (31.75)		36" (914.4 mm)	**102PS28A1B**
230	250	0.75 (19.05)	1.00 (25.40)	1.25 (31.75)		72" (1828.8 mm)	**102PS28A4A** ①
230	250	0.875 (22.23)	1.12 (28.45)	1.25 (31.75)		36" (914.4 mm)	**102PS32A1A**

① Units have a 36 inch fiberglass insulated Type J thermocouple externally spot welded to the heater O.D. sheath.

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Quick Ship • *Same day shipment on all stock units.*

Cable Heaters

Mini-Cable Nozzle



The 0.058-inch mini-cable nozzle heater provides “worry-free” heat for hot runner systems. The heater features a no-heat tail section, and the adaptor has a moisture resistant, hermetic seal to virtually eliminate failures due to moisture contamination and overheating in the seal area. An axial access clamp provides easy installation.

Performance Capabilities

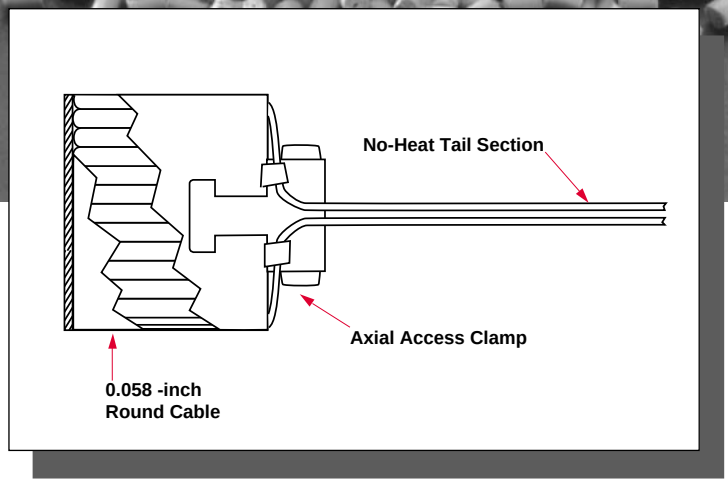
- ±5 percent wattage tolerance
- Watt densities to 40 W/in^2
- Possible sheath temperatures up to 1200°F (650°C) continuously and 1500°F (815°C) intermittent. Dependant on type of element wire used.

Features and Benefits

- **Five-inch no-heat tail section** prevents overheating failure in transition area.
- **Hermetic seal** prevents moisture in adaptor area.
- **304 stainless steel axial access clamp** provides easy installation.
- **Heat is conducted from the entire 360 degree circumference** for even heating.
- **Optional externally welded thermocouples** provide temperature measurement capabilities.
- **72-inch Teflon® lead wire.**

Applications

- Hot runner molds
- Semiconductor fabrication
- Medical instruments
- Packaging
- Environmental
- Small cast-in heaters
- Plastic injection molding



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F.O.B.: St. Louis, Missouri

Mini-Cable Nozzle

0.058 inch Diameter Round Mini-Cable Nozzle Heater

(with ±5 percent wattage tolerance)

Coil I.D. in	Coil I.D. (mm)	Watts	Volts	Lead Length in	Lead Length (mm)	Clamp Width in	Clamp Width (mm)	Cable Type	Code No.
0.75	(19.05)	268	240	72	(1828.8)	1.250	(31.75)	Round	**Z5969**
0.75	(22.20)	149	240	72	(1828.8)	1.250	(31.75)	Round	**Z5968**

Note: An **optional** Type J or Type K thermocouple can be externally spotwelded to the sheath O.D.

How to Order

To order your stock coiled nozzle heater, specify:

- Watlow code number
- Voltage
- Wattage
- Quantity

Availability

Stock: Same day shipment

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