

MILLED GROOVE HEATER

Custom, Precision-Formed Tubular Heaters Delivered *FAST*



Your hot runner mold requires uniform heat. It has been machined so that only a complex tubular formation can fit. The heater must install quickly and easily. And you want it now.

No problem.

WATROD milled groove heaters are precision-formed and customized to your hot runner mold application. Even tight radius bends of 0.250 inch maintaining tolerances of ± 0.062 to ± 0.002 inch are possible. This capability not only allows you freedom to design for the optimum uniform heating pattern for your plastics process, but also guarantees quick and easy installation.

Simply send us your groove dimensions in a detailed drawing or on CAD disc. Depending on your heater formation requirements, our resulting CAD design will be transferred to either our CNC bending equipment or one of our highly skilled bending operators.

A variety of sheath materials are available including Incoloy®, 304 stainless steel and 316 stainless steel; each offering unique advantages of long life in high temperature molds, rigidity to maintain shape during shipment, and corrosion resistance.

Watlow not only delivers the heat fast to your process with efficient heat transfer, but guarantees the heater's fast delivery, too. While we guarantee our standard delivery within three to four weeks, tough delivery schedules are our specialty. We promise to meet any agreed upon deadline.

UL® is a registered trademark of the Underwriter's Laboratories, Inc.

Incoloy® is a registered trademark of the Inco family of companies.

Call us. Our milled groove application engineer - 573-221-2816, extension 285 - can assist you in meeting your specifications.

Features

- Precision formed heaters
- Formed to milled groove
- Precision wound, custom engineered resistance wire
- Incoloy or stainless steel sheath
- UL® and CSA component recognition
- Metric diameters available

Benefits

- Quick and easy installation; heater efficiency
- Puts heat where you want it
- Evenly distributed heat, heater efficiency and reliability
- High temperature; retains shape
- Safety and agency approval
- Worldwide applications



WATLOW

HAN-MGH-54

Watlow Industries

A subsidiary of Watlow, Designer and Manufacturer of Industrial Heaters, Sensors and Controls

6 Industrial Loop Road

Hannibal, MO 63401

Phone: 573-221-2816

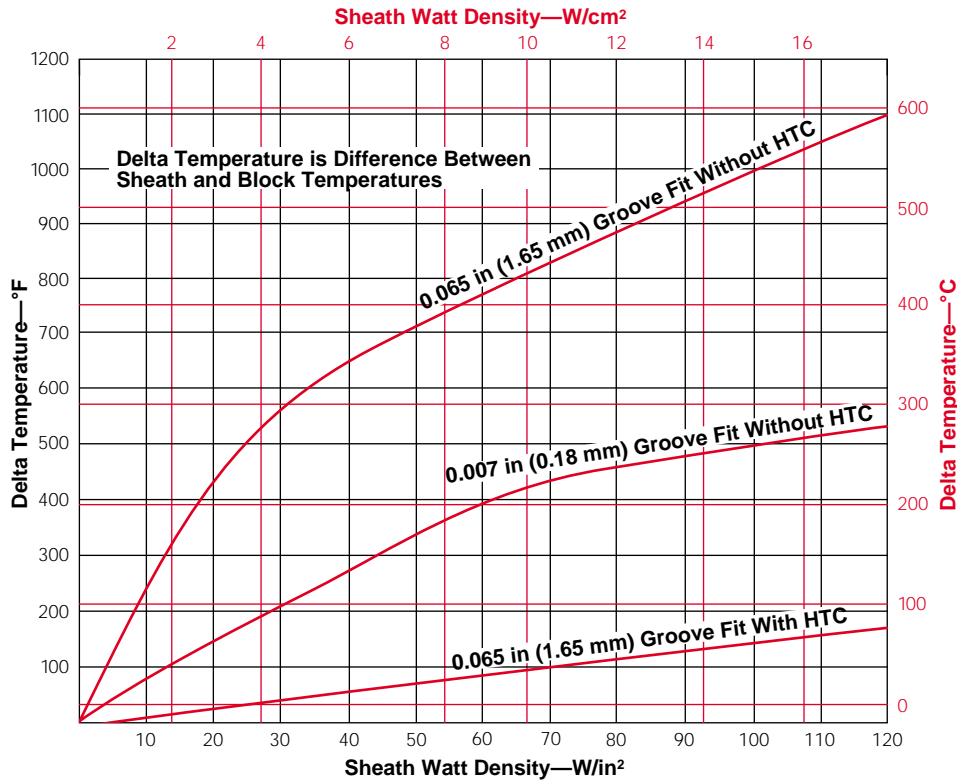
Fax: 573-221-3723

Internet: <http://www.watlow.com>

Watlow Sales Engineers:

Atlanta/Greenville, (770)908-9164 • **Austin**, (512)249-1900 • **Charlotte/Columbia**, (704)847-4000 • **Chicago**, (847)490-3900
Cincinnati, (513)398-5500 • **Cleveland**, (216)467-1423 • **Dallas**, (972)422-4988 • **Denver**, (303)665-2001 • **Detroit**, (248)651-0500
Houston, (281)355-6015 • **Indianapolis**, (317)575-8932 • **Kansas City**, (913)897-3973 • **Los Angeles**, (714)935-2999
Maryland/Virginia, (410)840-8034 • **Minneapolis**, (612)431-5700 • **Nashville**, (615)264-6148 • **New England**, (603)882-1330
New York/New Jersey, (732)549-0060 • **New York, Upstate**, (716)438-0454 • **Orlando**, (407)351-0737 • **Philadelphia**, (215)345-8130
Phoenix, (602)708-1995 • **Pittsburgh**, (412)323-0548 • **Portland**, (503)245-9037 • **St. Louis**, (314)878-4600
Sacramento, (916)451-0104 • **San Diego**, (619)728-9188 • **San Francisco**, (408)980-9355 • **Seattle**, (206)861-8109
Tampa/St. Petersburg, (813)577-4511 • **Tulsa**, (918)496-2826 • **Winston Salem/Raleigh**, (910)766-9659 • **Wisconsin**, (414)723-5990

Milled Groove Sheath Watt Density and Groove Fit Size



HTC = Heat transfer cement

Recommended watt density: 40 to 70W/in²

Though we recommend the use of heat transfer cement for maximum heater performance and long life, proper groove fit even without HTC can still assure good heater performance as well as easier installation.

With or without heat transfer cement, use the graph above to select the sheath watt density or the tightest groove fit for your hot runner mold application.

Optimum groove fit without heat transfer cement is determined by plotting the intersect point between the required sheath watt density and the Delta temperature. If the Delta T is known, simply subtract the mold temperature from the maximum 1000°F sheath temperature. Any combination of watt density and groove fit which results in a Delta T below the recommended maximum will maximize heater life. Conversely, the greater the Delta T, the shorter the heater life.

Common Diameters

- 0.260 inch
- 0.315 inch (8 mm)
- 0.335 inch (8.5 mm)
- 0.375 inch
- 0.430 inch

For other diameters, consult our milled groove application engineer, 573-221-2816, extension 285.

Ordering Information

To order a replacement heater, specify the existing Watlow code number.

To order a heater for your application, specify:

- Type of application
- Operating temperature
- Volts
- Watts
- Termination
- Bend configuration and dimensions
- Groove cross section dimensions
- Diameter
- Sheath material
- Hot and cold junctions

Due to precision forming requirements, please provide a detailed drawing or CAD disc.

Your Authorized Watlow Distributor Is:

