Miniature FIREROD®
Provides Maximum Performance Where Space Is Limited

When an application requires heat delivered into a small space with minimum weight, the 1/8-inch diameter FIREROD® cartridge heater from Watlow® is the ideal solution. This swaged constructed miniature cartridge heater features high watt density, high operating temperature capability and provides long life in applications where it is essential to have a very small size.

Like all Watlow FIRERODs, the 1/8-inch maximizes heat transfer utilizing resistance wiring close to the heater sheath, isolated by a thin layer of compacted MgO insulation. For this and other Watlow heaters, customers can also specify lead length and choose from a variety of lead options. Leads can be insulated with fiberglass or PTFE or protected by stainless steel braid or hose.

Watlow’s 1/8-inch FIRERODs also have an option many others lack: the ability to have an internal J or K-type thermocouple located near the tip of the heater.

Features and Benefits

Miniature size
- Delivers high performance in a small package
- Supports a wide variety of application requirements

Low mass
- Provides quicker response time
- Increases heater life
- Lowers internal temperature

Swaged construction
- Provides higher watt density and higher temperature capabilities
- Allows maximum heat transfer
- Increases safety due to low leakage current

Optional internal thermocouple
- Reduces system footprint
- Measures temperature at point of application

Manufactured to the highest quality standards
- Outlasts competitors in life testing
- Backed by over 50 years of industry expertise

Numerous lead options available
- Designed for flexibility and performance

Typical Applications
- Burn-in chip test system
- Mass spectrometry
- High-definition ink jet printers
- 3D printing, fused deposition modeling
- Gas chromatography
- Respiratory equipment
- Gas analyzers
- Freeze protection
- Packaging equipment

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Specifications

Sheath
• Alloy 600 is standard
• 304 stainless steel is available

Maximum application temperature
• 1400°F (760°C)

Maximum voltage
• 240V

Maximum wattage at 240V
• 744 W

Maximum amperage
• 3.1 amp

Wattage tolerances
• +10 percent, -15 percent

Dimensions
• Actual diameter is 0.122 in. (3.10 mm) ± 0.002 in. (0.05 mm)
• Minimum overall length is 0.875 in. (22.22 mm)
  (Minimum length may change based on lead construction, volts and watts, please consult factory.)
• Maximum overall length is 12 in. (304.8 mm)
• Length tolerance 3.5 in. (89 mm) and less ± 3/32 in. (2.4 mm)
• Length tolerance greater than 3.5 in. (89 mm) ± 3 percent

Construction
• Solid lead wire is standard, but stranded is available
• Lead options (see illustrations):
  • Crimped-on
  • Swaged-in
• Lead types are:
  • Fiberglass 482°F (250°C)
  • High temperature fiberglass 842°F (450°C)
  • PTFE 392°F (200°C)
• Moisture resistant option: Welded end-disk is standard with PTFE seal and leads available
• Internal thermocouple available
  • Thermocouple embedded in the end-disc “C” location
  • Thermocouple junction is grounded
  • Type J or K available (solid lead wire)
  • Swaged-in, fiberglass 482°F (250°C)
  • Swaged-in PTFE 392°F (200°C)
• For available lengths, consult factory
• Lead protection options
  • Stainless steel braid crimped over lead end
  • Stainless steel flexible hose crimped over lead end
• Other options
  • Bent heaters, in no-heat section, up to 90° angle
  • One inch diameter mounting flange (FS flange)

To be automatically connected to the nearest North American Technical Sales Office:
1-800-WATLOW2 • www.watlow.com • inquiry@watlow.com

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