



Low-Medium Watt Density Cartridge Heaters

Obtaining Maximum Heat Transfer and Long Life

Wattage

The maximum wattages listed in stock heaters are computed at 60 watts per square inch of heated surface. With proper fit in a heat sink, long life can be expected at this watt density. Consult OEM Heaters for higher watt density applications. Lower watt density will result in longer life. Any wattage within standard limits may be ordered without affecting price.

Formula for determination of watts/ sq. in:

$$\text{Watts/sq. in.} = \frac{\text{Unit Wattage}}{3.142 \times \text{Diameter} \times \text{Heated Length}}$$

Heated Length is 1/8" less than sheath length

Voltage

Standard Voltage is either 120V or 240V. Other wattages available. Consult OEM Heaters for details.

Termination

All units up to 15/16" diameter, within published amperage limits, are manufactured with 6" **(type SF1)** leads, longer lead lengths are available. Standard insulation on 1/4" units is Teflon (200°C); Fiberglass (250°C) is standard on units 5/16" in diameter and larger. All units 15/16" and larger are manufactured with post terminals **(type SF3)**. Optional Type SF1 leads are available. Stock units are supplied with 12" leads.

Tolerances

Wattage tolerances are held to +5%, -10% at rated voltage. Diameter is always .001" less, but not more than .009" less, than the nominal (fractional) heater diameter except for 1.90" and 2-3/8" diameters. This sizing is maintained so that all units are a slide fit into a standard reamed hole of the size ordered. Thermal action will expand the unit to a snug fit for best heat conduction. If close hole tolerances are not maintained, operating life may be drastically reduced. Length tolerances are ±2% with a ±1/16" minimum. Consult OEM Heaters for closer tolerances.

How to order

After determining the wattage required and the line voltage available: determine the physical space available for heaters and the number of heater required. Use our Cartridge Heater Configurator for custom pieces, or you can search our Stock Cartridge Heaters by size to find the stock heater for your application.

Always feel free to call with any questions. Our application engineers will answer your questions. **(866) 685-4443**.

