



Introduction

The LPC Cartridge Heaters are rugged in construction, high watt density, hi-temp and swaged in construction to minimise air gaps and provide excellent heat transfer efficiency (typically 90 to 95 watts per square inch, depending on the application). This type of construction improves reliability and enables the cartridge to withstand internal temperatures up to 870°C (1600°F).

Ordering Procedure

Specify: Diameter, Length, Watts, Volts, Lead Length & Lead Style.
(for right angle cable entry, give insert and overall length).

Technical Specifications

Wattage Tolerance: +5%, -10%
Resistance Tolerance: +10%, -5%
Voltages Available: 240V, 220V, 120V
Max Operating Temp: 870°C (1600°F)
Length Tolerance: ±2% or 3.2mm (1/8") whichever is greater
Camber Tolerance: 1.7mm per meter (0.020" per foot)
Diameter Tolerance: Diameter at each end may vary +0.05mm -0.1mm (+0.002" -0.004")

Options:

- Moisture & water resistance seals available.
- Non-standard diameters available on request.
- Square cartridge heaters available [in 9.5mm (3/8"), 12.7mm (1/2"), 15.9mm (5/8") as standard]
- Flanges/Washers/Stop Ends available on request.
- Integral thermocouples (either bottom grounded or centre grounded)

Terminations:

Circlips can be cut into any circular cartridge heater to provide depth location and all Cartridge Heaters can be supplied with an earth wire on request. Examples of the terminations available on request are as follows:

Internally Connected Leads:



BSP Bushing:



Externally Connected Leads:



Braid Over Pair of Leads:



Right Angle Elbow:



Square Lock Armour:



90° Leads with Stainless Steel Leads :



Straight Leads with Clip Support:



90° Leads with Stainless Steel Armour:



Right Angle with Clip Support:



Installation:

- Use recommended watt density range to avoid excessive watt density which result in the internal overheating of the heater.
- When heater requirements demand excessive watt densities, contact LPC for recommendations. Special heaters can be designed for these applications.
- Contamination of the heater, both on leads and internally, is serious and can result in rapid failure. Care should be taken to keep possible carbonising agents, such as oil and low temperature tapes, away from the heater.
- Lead failure due to excessive flexing can be decreased or halted by utilising special lead arrangements.
- Thermal expansion and contraction due to cycling shortens heater life. We recommend reducing watt densities by 20% for those heaters subject to frequent cycling.
- You should ensure that the full heated length is in contact with the metal to avoid burn out by operating in free air. The use of thermal paste is recommended and this can be supplied by LPC on request.