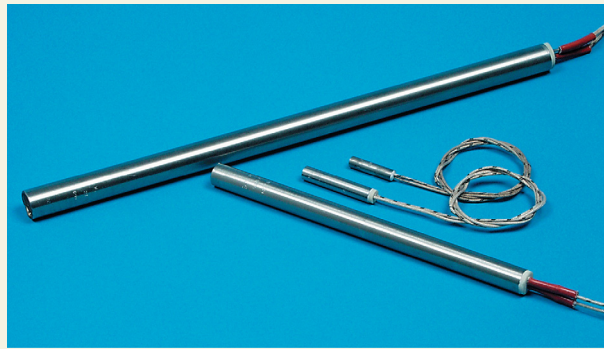
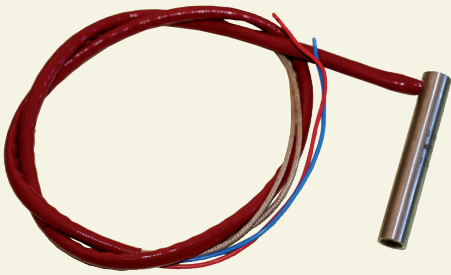
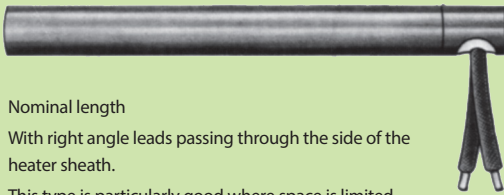


## Special Cartridge Heaters

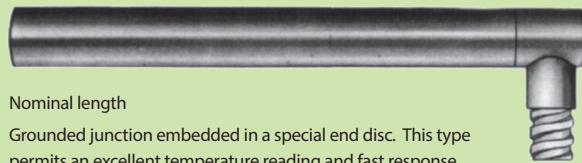


**TYPE A** non heating 20 mm



Nominal length  
With right angle leads passing through the side of the heater sheath.  
This type is particularly good where space is limited.

**TYPE C** non heating 20 mm  
(with J or K Thermocouple)



Nominal length  
Grounded junction embedded in a special end disc. This type permits an excellent temperature reading and fast response. Particularly suitable in injection nozzles for plastic materials. For this most common type, the items listed in the catalogue are available from stock.

**TYPE B** standard length 1000mm



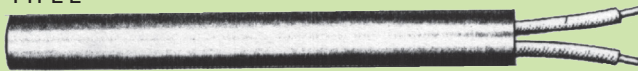
WITH THERMOCOUPLES J OR K  
With total protection in flexible conduit (the dimensions of the conduit are as shown in the table in the above section).  
FLEXIBLE CONDUIT LEAD PROTECTION ALSO AN OPTION, MADE FROM GALVANISED OR STAINLESS STEEL.

**TYPE D**



This type of insulation of leads is necessary when the ambient temperature is above 300°C. Out of the high ambient temperature, normal flexible leads can be attached to these pins.

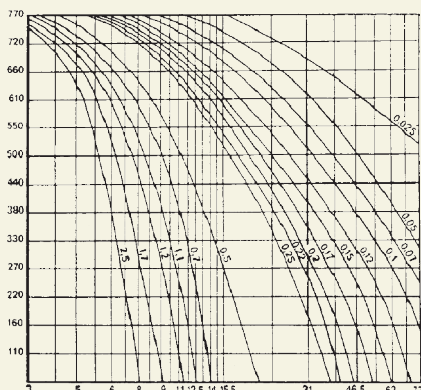
**TYPE E**



Sealing is necessary when the end of the cartridge must be protected against moisture and contamination. This contamination can come from many sources such as lubricant oil, cleaning liquid and humidity or pollution substances.  
The minimum heated section at the lead end is 1" (25 mm).

## TO DETERMINE YOUR REQUIREMENTS

1. Determine the maximum operating temperature of the heated parts.
2. Calculate the total wattage requirement of the application according to the examples in "Determining Wattage Requirements and Watt Density".
3. Determine the physical size of the heaters based on the availability of space in the part to be heated.
4. Divide the total wattage required by the quantity of heaters to determine the wattage per heater.
5. Determine the watt density per heater according to Example No 1 in "Determining Wattage Requirements and Watt Density".
6. Using the temperature determined in Step 1 and the watt density determined in Step 5, use the graph below to determine the maximum allowable tolerance of the diameter of the hole in connection with the watt density.



If the fit determined in Step 6 cannot be achieved, the watt density must be reduced by:

- (a) installing more heaters.
- (b) Reducing the total wattage requirement by:
  - allowing a longer heat up time
  - insulating the assembly to reduce heat loss
  - processing less material per hour

If none of these are feasible, provide the best fit possible and plan on reduced heater life (contact our Sales Department).