



## Micro Tubular Coil Heaters

Micro Tubular Coil Heaters are manufactured in two standard diameters, 1.5 mm and 1.8mm. These heaters are swaged and compacted to these diameters and fitted into special clamps to tighten over circular parts for heating purpose. Sheath material available are Chrome Nickel Steel and Nickel

### Features

- Axial Clamp - Front end loading /adjusting saves hours of downtime in moulds.
- Two standard diameters, 1.5mm and 1.8mm (Q059' & Q07")
- Equipped with a special cover for easy fitment over circular parts.
- Faster Heat Transfer with flat cross section tube (1.40mm x 2.20mm)
- Staggered cold leads of 5" & 7"
- Standard sizes available
- Robust Construction in Micro Tube Dia - 1.50 & 1.80mm
- Standard wattage available 149 watt & 268 watt on 240V
- Standard size available ID 19mm x 30 & ID 22mm x 30

### Applications

- PET Preformed Moulds
- Hot Runner Nozzles & Bushings
- Thin Walled Container Moulds

### Technical Data For Custom Made Heaters

Cross Section	: 1.5mm , 1.8mm, 1.3x2.3mm
Sheath material	: Chrome Nickel Steel and Nickel
Insulation material	: High purity MgO
Heating element	: NiCr 80/20
Lead Wires	: Teflon insulated
Voltage Range	: Maximum 250 volts, standard 230 volts
Power rating	: Depending on application
Power tolerance	: $\pm 5\%$ - $\pm 2\%$ available on request
H. V Testing	: 800V
Insulation Resistance	: $> 100 M\Omega$
Current Leakage	: $< 0.5 mA$
Sheath Temperature	: 750°C max
Adapter Temperature	: 150°C max
Length Tolerance	: $\pm 2\%$
Unheated Length	: Minimum 25mm plus adapter connection.
Minimum Bending diameter	: 6mm

Other dimensions and product variation available on request

### Axial Clamp

The 1.8mm diameter Micro Tubular Heater is formed into a coil of predefined dimension and equipped with a special cover for easy fitment. This special cover called Axial clamp allows front end loading and adjustability. Such easy handling saves hours of downtime in case of heater failure in a Multi - Cavity mold. These heaters are offered with staggered cold leads of 5" & 7".



## Standard Ready Stock Heaters

For faster heat up time we offer heaters with a flat cross section of 1.3mm x 2.3mm.

The cold leads have a diameter of 1.8mm whereas the heated area has a flat cross section for better contact area and faster heat transfer.

Standard sizes available are mentioned below.

Volts	Watts	Inner Diameter	Width	Lead Wire
240	268	19.1 mm	30.5mm	1000mm (40')
240	149	19.1 mm	30.5mm	1000mm (40')
240	268	22.3mm	30.5mm	1000mm (40')

### NOTE

Lead wires - Teflon insulated

Clamp allen screw size : M3 x 1.5mm

Watts and resistance tolerance  $\pm 5\%$

## Precautions & Installation

- 1 Microtubular Heaters are hygroscopic in nature due to Mgo contents. If kept unused for longer period, there is moisture deposition on the terminals. Therefore we recommend you to de-moisturise the heaters prior to installation by heating them at 100 Degree Centigrade in an oven for approximately 1 to 2 hours or use controllers with soft start function. This will help evaporate any moisture present inside.
- 2 While installing Microtubular Heaters on to the nozzle care should be taken that they should be tight fit for even heat transfer. There should not be air gaps .between the heater and the nozzle. Never open the ID of the heater by twisting as it will not fit tight which leads to premature heater failure.
- 3 Due to high watt densities per cm/sq, Microtubular Heaters require precise temperature controllers. PHP strongly recommends to use good quality soft start Hot Runner controllers.
- 4 Lead ends (Non Heating) once bent should not be re-bent. This could lead to breakage. Sharp edges along the lead wire path should be avoided. Connection lead areas should be protected from combustible gases & liquid to avoid short-circuits.
- 5 Adapter area should be kept under 100 Degree Centigrade. (Junction between Heater & Lead wires)
- 6 Stabilized Voltage supply increases the life of the heater as well as increases the wattage output.