

## Heated Tube Assemblies

### HET — Electrically Heated Tubing Assemblies

Tempco's electrically heat-traced tubing assemblies are designed for optimum transfer of non-explosive liquids or gases. Tempco's high purity PTFE Teflon® provides maximum flexibility for low pressure applications. Choose copper, aluminum or stainless steel tubing for high pressure applications.

We offer machine-wrapped heat tracing from 1/4" O.D. to 1-3/4" O.D., as well as hand-wrapped tracing of unusually small or large outer diameter tubing to meet a wide range of applications.

The key to Tempco's flexible, energy efficient, heat-traced tubing is the powerful low-profile heat tape spirally wrapped around your choice of tubing. The heat tape is manufactured with a top reflective layer to direct heat into the tube. This reflective layer, combined with the heat tape applied directly to the surface of the tube, results in a highly efficient thermal transfer. The simplicity of the heater design allows for the heated assembly to be extremely lightweight and flexible for use in portable and stationary applications. Each tube is then insulated with one or two layers of Nomex felt, depending on the temperature to be maintained.



#### Typical Applications

- ✦ **Aerospace** \* \* \* \* *Satellites, Vacuum Chambers, Testing, Laboratory*
- ✦ **Automotive** \* \* \* \* *Fuel Cell Development, Cold Chamber Testing*
- ✦ **Composites** \* \* \* \* *Adhesives, Epoxy Transfer, 2-Part Spray*
- ✦ **Environmental** \* \* \* \* *EPA-Required Testing, Diesel Emissions*
- ✦ **Food Industry** \* \* \* \* *Viscosity Control, Production Technology*
- ✦ **Gas Samples** \* \* \* \* *Stack Samples, Analyzer Components*
- ✦ **Government** \* \* \* \* *Meteorological Analysis*
- ✦ **Industrial** \* \* \* \* *Machinery, Systems Engineering, Semiconductors*
- ✦ **Laboratory** \* \* \* \* *Thermal Testing, Instrumentation*
- ✦ **Medical** \* \* \* \* *Flow Control, Instrumentation, Scientific Research*
- ✦ **Pharmaceutical** \* \* \* \* *Production Machinery, R&D, Testing*
- ✦ **Transportation** \* \* \* \* *Aviation Freeze Protection, Heated Lines*
- ✦ **Universities** \* \* \* \* *Mechanical, Chemical, Electrical Engineering*

#### Design Features

- \* *Base tubing can be Teflon®, Nylon®, Stainless Steel, Copper or Aluminum*
- \* *Machine-wrapped low-profile flexible heat-tape with multiple heat conductors provides efficient thermal transfer, resulting in even heating from end to end.*
- \* *Spirally wrapped Nomex® felt insulation bound in place with nylon braid.*
- \* *Outer layer from simple heat shrink to moisture/contaminant resistant durable outer silicone sleeve.*
- \* *Temperature range to 400°F / 200°C.*
- \* *Heated Length to 100 ft. available in 1ft. increments. 1ft. unheated section at each end, shipped bare or with fittings.*
- \* *Assembly can be designed with a replaceable inner tubing.*
- \* *Temperature sensors include Type J, K or T thermocouples and RTDs.*
- \* *Thermostats can be built in, eliminating the need for separate control.*
- \* *Standard power leads include flying leads, 6 ft. cordset with standard plug or industrial Hubbell Twist-Lock® plug.*
- \* *Up to 5 total Heated / Unheated tubes in the same bundle.*
- \* *Built-in indicator lamps for Power On, Heat On or Over Temperature.*
- \* *Voltage from 12VDC - 240 VAC.*



### HET — Electrically Heated Tubing Assemblies

#### Ordering Information

Heated Tubing Assemblies are very application specific; Tempco will design and manufacture a Heated Tubing Assembly to meet your process requirements.

To receive a quote send a completed copy of the following Quote Request Form to Tempco.



**⚠ WARNING:** Cancer and Reproductive Harm - [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

### Electrically Heated Tubing Assembly Quote Request

#### Application Information

Desired Operating Temperature \_\_\_\_\_  
Ambient Condition (indoor, outdoor?) \_\_\_\_\_  
Worst Case Ambient Temperature \_\_\_\_\_  
Expected Pressure \_\_\_\_\_  
Material in the Tubing \_\_\_\_\_  
Comments \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

#### Lead Information

Style: \_\_\_ Teflon® \_\_\_ Industrial Cordage  
      \_\_\_ 120VAC cordset w/ standard 5-15 plug  
      \_\_\_ 240VAC cordset w/ standard 6-15 plug  
      \_\_\_ High Temp Fiberglass  
Length \_\_\_\_\_ Optional Plug \_\_\_\_\_  
Comments \_\_\_\_\_  
\_\_\_\_\_

#### Tubing Information

Tubing Material \_\_\_\_\_  
(PTFE Teflon®, Copper, 304 SS, Aluminum)  
Outside Diameter \_\_\_\_\_  
Wall Thickness if Known \_\_\_\_\_  
Heated Length \_\_\_\_\_  
Overall Length \_\_\_\_\_  
# of tubes \_\_\_\_\_  
    How many heated \_\_\_\_\_  
    How many unheated \_\_\_\_\_  
If replaceable inner tube required: \_\_\_ Yes \_\_\_ No  
    Replaceable inner tube OD \_\_\_\_\_  
Comments \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

#### Sensor & Control Information

Built-in Temperature Sensor: \_\_\_ Yes \_\_\_ No  
Thermocouple Type (J, K, T) \_\_\_\_\_  
RTD (PT100) \_\_\_ Yes \_\_\_ No  
Lead Length \_\_\_\_\_  
Lead Type \_\_\_\_\_  
Built-In Thermostat \_\_\_ Yes \_\_\_ No  
    Setpoint \_\_\_\_\_ (Choices limited to (°F): 40°, 77°,  
86°, 98°, 104°, 120°, 140°, 176°, 212°, 248°, 302°, 356°)  
Indicator Lamps: \_\_\_ Green, type \_\_\_\_\_  
                  \_\_\_ Red, type \_\_\_\_\_  
Comments \_\_\_\_\_  
\_\_\_\_\_

#### Fitting Hardware Information

Bare \_\_\_ Compression + NPT: Male \_\_\_ Female \_\_\_  
Comments \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

#### Electrical Information

Watts (total if Multi-Tube) \_\_\_\_\_  
Volts \_\_\_\_\_ Phase: \_\_\_ Single \_\_\_ Three  
If Multi-Tube: Watts per Tube \_\_\_\_\_  
Comments \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

#### External Covering Information

\_\_\_ Bare Heat Trace Only \_\_\_ Heat Shrink  
\_\_\_ Insulated Polyester Braid  
\_\_\_ Insulated Industrial Scuff Coat  
Comments \_\_\_\_\_  
\_\_\_\_\_