

TubeTrace® Type SE/ME

Electrically Heated Instrument Tubing with HPT™ Power-Limiting Heat Tracing

Product Specifications

Application . . .

Freeze Protection or Process Temperature Maintenance Range: 5°C to 204°C

TubeTrace, with “cut-to-length” HPT power-limiting heat tracing, is designed to provide freeze protection or temperature maintenance for tubing where high temperature exposure capability is possible. HPT withstands temperature exposures of 260°C.

The composite construction of the heating element and fiber substrate, plus an additional fiber cushion layer, make HPT an exceptionally durable heating cable. Durability has made TubeTrace with HPT the industry standard for high temperature emissions and process analyzer applications.

Power-Limiting HPT heat tracing

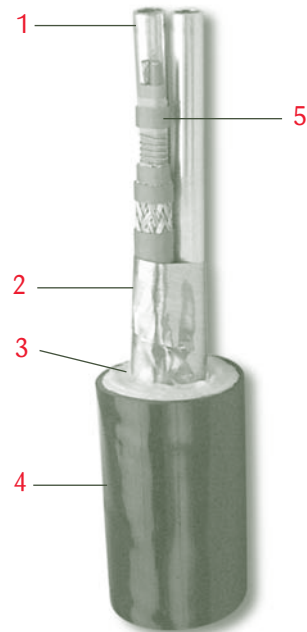
- Varies in response to the surrounding conditions along the entire length of a circuit.
- Lower risk of overheating the tube or product than with constant watt designs.
- HPT cables are certified for use in ordinary (nonclassified) areas and in potentially explosive atmospheres in accordance with the ATEX Directive and the IEC Ex Scheme.

Ratings/Specifications . . .

HPT	Ratings
Available watt densities	14, 28, 42, 57 W/m @ 10°C
Supply voltages	230 Vac
Tube temperature range	5°C to 204°C
Max. continuous exposure ¹ Power-off	260°C
T-rating ² Based on stabilised design ³	T2 to T6

Notes . . .

1. This reflects maximum exposure for heater. If bundle jacket is to remain below 60°C in +27°C ambient (in consideration of personnel burn risk) tube temperature must remain below 205°C. Alternative designs to keep jacket below 60°C in higher ambients and/or with higher tube temperatures are available. Contact Thermon.
2. T-rating per internationally recognised testing agency guidelines.
3. Thermon heating cables are approved for the listed T-ratings using the stabilised design method. This enables the cable to operate in hazardous areas without limiting thermostats. The T-rating may be determined using CompuTrace® Electric Heat Tracing Design Software or contact Thermon for design assistance.



Construction . . .

- 1 Process Tube(s)
- 2 Heat Reflective Tape
- 3 Non-Hygroscopic Glass Fiber Insulation
- 4 Polymer Outer Jacket (ATP or TPU available)
- 5 HPT Power-Limiting Electrical Heat Tracing

HPT Product Features . . .

- Power-Limiting
- Low Start-up Current
- “Cut-to-Length”
- Hazardous Area Approvals

For additional information on HPT and other Thermon heat tracing products and services, visit www.thermon.com.



THERMON . . . The Heat Tracing Specialists®
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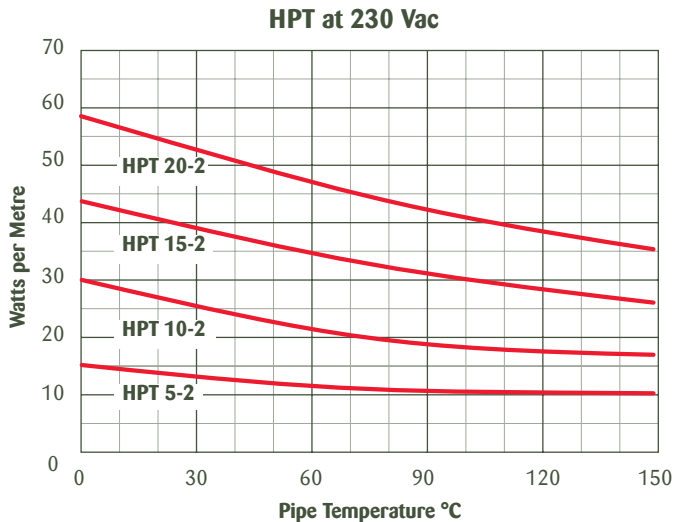
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Power Output Curves . . .

The power outputs shown apply to HPT heat tracing installed on insulated metallic pipe (using the procedures outlined in IEEE Standard 515-2004). Power output may be slightly higher due to the thermal efficiency of TubeTrace.



Design Tools . . .

Technical Design Information and CompuTrace® - IT computer design program for TubeTrace heated instrument tubing are available online at www.thermon.com.

TubeTrace Accessories . . .

Sealing the ends of pre-insulated tubing bundles ensures their efficient and reliable performance. A variety of termination kits and accessories are available and can be found on Form CLX0020.

Electrical Heat Trace Accessories . . .

Thermon manufactures every type of electrical resistance heat tracing available in the world today. Power connection and termination kits (Form CLX0024) and a variety of controls are all available for heated instrument tubing applications.

How to Specify . . .

SE-6A1-51-1-ATP-1-M

<p>Bundle Type</p> <p>SE = Single Tube ME = Multiple Tubes</p>	<p>Process Tube O.D.</p> <p>2 = 1/4" 3 = 3/8" 4 = 1/2" 6 = 6 mm 8 = 8 mm 10 = 10 mm 12 = 12 mm</p>	<p>Process Tube Material¹</p> <p>A = 316L SS Welded As = 316Ti SS Welded B = B68 Copper C = PFA Teflon² D = Monel³ E = Titanium F = 316L SS Seamless Fs = 316Ti SS Seamless G = 304 SS Welded H = 304 SS Seamless J = Hastaloy C276 K = Alloy 825 M = FEP Teflon P = Polyethylene T = PTFE Teflon X = Special</p>	<p>Number of Tubes</p> <p>1 2 3 4</p>	<p>Heat Trace Type</p> <p>51 = HPT 5 (14 W/m) @ 230Vac 53 = HPT 10 (28 W/m) @ 230Vac 55 = HPT 15 (42 W/m) @ 230Vac 57 = HPT 20 (57 W/m) @ 230Vac</p>	<p>Heat Trace Option</p> <p>1 = BN/Nickel Copper Braid 7 = FOJ/Fluoropolymer</p>	<p>Bundle Jacket</p> <p>ATP⁴ PE TPU</p>	<p>M or I</p> <p>Metric or Imperial Indication</p> <p>Process Tube(s) Wall Thickness</p> <p>030 = .030" 032 = .032" (B68 Copper) 035 = .035" 040 = .040" (Plastic Only) 047 = .047" (Plastic Only) 049 = .049" 062 = .062" (Plastic Only) 065 = .065" (316/316L SS Seamless Only)</p> <p>1 = 1 mm 1.5 = 1.5 mm</p>
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Notes . . .

- Seamless tubing has a standard quality K3, other qualities are available on special request. Tubing meets the ASTM standards, tubing that meets DIN standards is available on special request.
- Teflon is a trademark of E.I. du Pont de Nemours & Co., Inc.
- Monel and Inconel are trademarks of Inco Alloys International, Inc.
- Black ATP is standard, other jacket materials are available.

Heat Trace Certifications/Approvals . . .

CENELEC European Organisation for Electrotechnical Standardisation
Ordinary and Hazardous (Classified) Locations

CE **Ex** II 2 G/D Ex e T2 to T6 **D** ATEX 012337X

IEC Ex International Electrotechnical Commission
IEC Certification Scheme for Explosive Atmospheres
UL 06.0006



Factory Mutual Research
Ordinary and Hazardous (Classified) Locations



Underwriters Laboratories Inc.
Hazardous (Classified) Locations

HPT has additional hazardous area approvals including:

- DNV • Lloyd's • JIS • CCE/CMRS

Contact Thermon for additional approvals and specific information.

