



## PRODUCT DATASHEET

# TubeTrace® TYPE SEI/MEI - HTX2

WITH ELECTRICAL HEAT TRACE ISOLATED FROM HIGH TEMPERATURE EXTREMES

Now Available with Power-Limiting HPT™ & Self-Regulating USX™ Heat Tracing Designs

### APPLICATION

Freeze protection 5°C (40°F) of steam lines.

Intermittent exposure to 593°C (1100°F). TubeTrace HTX2 is a pre-engineered electric traced tube bundle for steam sample lines and impulse lines to pressure transmitters. TubeTrace HTX2 will provide water freeze protection in ambient conditions down to -34°C (-30°F) with 40 kph (25 mph) wind. HTX2 is suitable for superheat steam service temperatures up to 593°C (1100°F) for a duration of 2 minutes per cycle.

In the past, the only option for tubing subject to high temperature exposure was heat tracing with series resistance mineral insulated (MIQ) heat trace. MIQ heaters are custom made to fit each application, so long lead times and specific field measurements are often required. TubeTrace HTX2 solves this by utilizing Thermon's parallel resistance HPT or self-regulating USX heat trace, isolated from direct contact with high temperature tubing.

TubeTrace HTX2 bundles are suitable for continuous exposure to 399°C (750°F) and/or intermittent superheat steam service temperatures to 593°C (1100°F) even when power is applied to the heat trace during ambient conditions of 5°C (40°F).

### RATINGS

Watt densities

HPT.....16 W/m @ 10°C (5 W/ft @ 50°F)

USX.....20 W/m @ 10°C (6 W/ft @ 50°F)

Supply voltages<sup>1</sup>.....120 or 240 Vac nominal

Maintain temperature.....5°C (40°F) (Freeze protection)

Minimum design ambient.....-34°C (-30°F)

Max. continuous exposure temp.....399°C (750°F)

Intermittent service temperature.....593°C (1100°F)

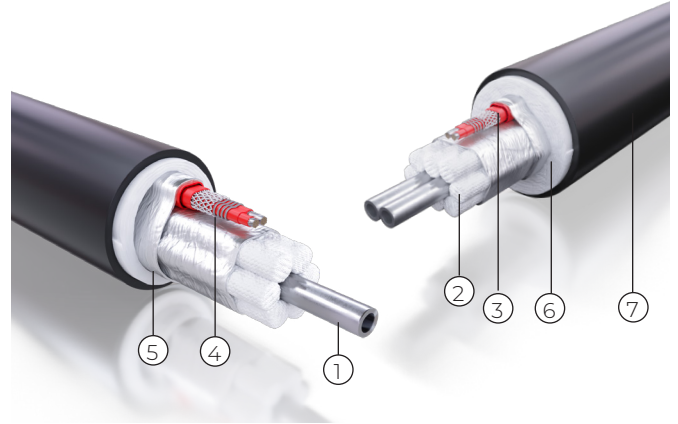
Minimum bend radius

SEI.....305 mm (12")

MEI - HTX2.....406 mm (16")

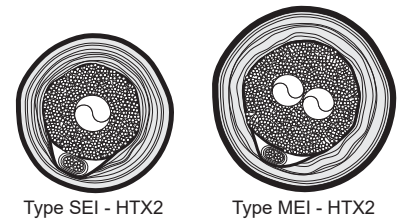
### PRODUCT FEATURES

- "Touch Safe" jackets protect personnel
- "Cut-to-length" for faster installation
- Rated for intermittent exposure temperatures of 593°C (1100°F) for 2 minutes/2.5 hr cycle
- Designed for ambient sensing control at 5°C (+40°F)
- Freeze protect in ambient of -34°C (-30°F)



### CONSTRUCTION

1. Process tube(s)
2. High temperature woven glass fiber thermal insulation
3. HPT heat trace
4. HPT heat trace
5. Thermal diffusion foil
6. Non-hygroscopic glass fiber insulation
7. Polymer outer jacket (ATP or TPU)



### BASIC ACCESSORIES

#### END SEAL KITS:

##### FAK-7HTS-HTX2-1

- Up to 3.0" o.d.
- Single tube, single tracer

##### FAK-7HTS-HT/HTX-2

- Up to 3.50" o.d.
- Dual tube, single tracer



#### Note

1. Higher voltages up to 480 Vac may be possible: contact Thermon for design assistance.



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## CIRCUIT BREAKER SIZING

Maximum circuit lengths for various circuit breaker amperages are shown to the right. Breaker sizing should be based on the National Electrical Code, Canadian Electrical Code or any other applicable code. The National Electrical Code and Canadian Electrical Code require ground-fault protection of equipment for each branch circuit supplying electric heating equipment. Check local codes for ground-fault protection requirements.

See HPT & USX datasheets (Thermon forms TEP0011 and TEP0239) for power output curves. Output applies to cable installed on insulated metallic pipe (using the procedures outlined in IEEE Standard 515) at the service voltages stated in the tables on the right. For use on other service voltages, contact Thermon.

### 120 Vac Service Voltage

Catalog Number	Start-Up Temp °C (°F)	Max. Circuit Length <sup>3</sup> vs. Breaker Size m (ft.)			
		20 A	30 A	40 A	50 A
HPT 5-1	10 (50)	98 (320)	130 (425)	--	--
	-18 (0)	88 (290)	130 (425)	--	--
	-29 (-20)	84 (275)	130 (425)	--	--
	-40 (-40)	81 (265)	127 (415)	130 (425)	--
USX 6-1	10 (50)	71 (235)	77 (250)	77 (250)	--
	-18 (0)	71 (235)	77 (250)	77 (250)	--
	-29 (-20)	71 (235)	77 (250)	77 (250)	--
	-40 (-40)	71 (235)	77 (250)	77 (250)	--

### 240 Vac Service Voltage

Catalog Number	Start-Up Temp °C (°F)	Max. Circuit Length <sup>3</sup> vs. Breaker Size m (ft.)			
		20 A	30 A	40 A	50 A
HPT 5-2	10 (50)	195 (640)	259 (850)	--	--
	-18 (0)	177 (580)	259 (850)	--	--
	-29 (-20)	169 (555)	233 (765)	259 (850)	--
	-40 (-40)	163 (535)	233 (765)	233 (765)	259 (850)
USX 6-2	10 (50)	143 (470)	154 (505)	154 (505)	--
	-18 (0)	132 (435)	154 (505)	154 (505)	--
	-29 (-20)	120 (390)	154 (505)	154 (505)	--
	-40 (-40)	108 (355)	154 (505)	154 (505)	--

## HOW TO SPECIFY

**Bundle Type**

SEI = Single Tube  
MEI = Multiple Tubes

**Process Tube O.D.**

2 = 1/4"  
3 = 3/8"  
4 = 1/2"  
6 = 6 mm  
8 = 8 mm  
10 = 10 mm  
12 = 12 mm

**Process Tube Material**

A = 316 SS Welded  
D = Monel<sup>1</sup>  
E = Titanium  
F = 316 SS Seamless  
G = 304 SS Welded  
H = 304 SS Seamless  
J = Alloy C276  
K = Alloy 825  
L = Alloy 20  
X = Special

**# Tubes**

1  
2

**Heat Trace Type**

50 = HPT 5 w/ft. 120 Vac  
51 = HPT 5 w/ft. 240 Vac  
U61 = USX 6 W/ft 120 Vac  
U62 = USX 6 W/ft 240 Vac

**Heat Trace Option**

7 = OJ/Fluoropolymer  
NEC Ordinary/D2 Areas  
and CEC D1 & D2 Areas  
8 = NEC Division 1 Areas

**Bundle Jacket**

ATP<sup>2</sup>  
TPU

**M = Metric units**  
**No Digit = Imperial units**

**High Temperature**  
HTX2 = Intermittent Exposure to 593°C (1100°F)

**Process Tube(s) Wall Thickness**

035 = .035"  
049 = .049"  
065 = .065"  
083 = .083"  
1 = 1 mm  
1.5 = 1.5 mm

**SEI-4F1-50-7-ATP-065-HTX2-M**

### Notes

1. Monel is a trademark of Inco Alloys International, Inc.
2. Black ATP is standard.

## CERTIFICATIONS/APPROVALS



FM Approvals  
Ordinary Locations  
Hazardous (Classified) Locations  
Class I, Division 2, Groups B, C and D  
Class II, Division 2, Groups F and G\*  
Class III, Divisions 1 and 2  
Division 1 Locations  
Requires Heater Cable Option 8:  
Class I, Division 1, Groups B, C and D  
Class II, Division 1, Groups E, F and G



Underwriters Laboratories Inc.  
Ordinary Locations  
Hazardous (Classified) Locations  
Class I, Division 2, Groups B, C and D  
Class II, Division 2, Groups E, F and G\*  
Class III, Divisions 1 and 2  
Class I, Zone 1, AExe II  
Class I, Zone 2, AExe II  
Division 1 Locations  
Requires Heater Cable Option 8:  
Class I, Division 1, Groups B, C and D  
Class II, Division 1, Groups E, F and G  
Canadian Standards Association



Ordinary Locations  
Hazardous (Classified) Locations  
Class I, Division 2, Groups A, B, C and D  
Class II, Division 2, Groups E, F and G  
Class I, Division 1, Groups A, B, C and D  
Class II, Division 1, Groups E, F and G  
Ex e II

\* CL. II, Div. 2 requires Thermon design review.



International Electrotechnical Commission  
IEC Certification Scheme for Explosive Atmospheres  
FMG 13.0020