



Product Reference Legend (English Units)

TubeTrace® & ThermoTube Pre-Insulated and/or Heat Traced Tubing Bundles

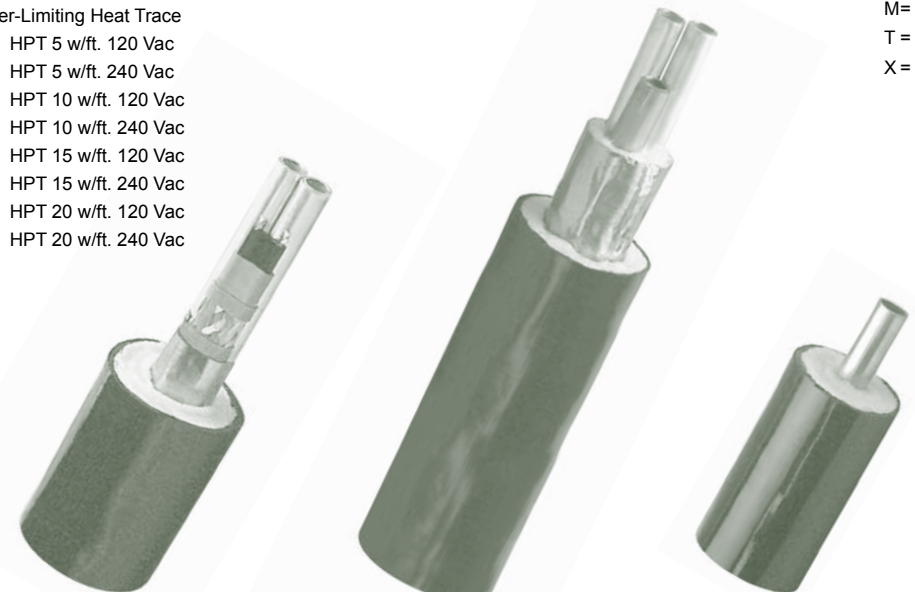
For design assistance contact Thermon or visit www.thermon.com and download CompuTrace® IT Computer Design Software for Instrument Tubing

Typical Electrically Heat Traced Bundles

Bundle Type		Process Tube(s) Wall Thickness		Jacket Type		Heat Trace Option	
SE = Single Tube	ME = Multiple Tubes	028 = .028"	030 = .030"	ATP ⁵		1 = BN (HPT Only)	
1 = 1/8"	2 = 1/4"	032 = .032" (Copper Only)	035 = .035"	TPU		3 = OJ (BSX Only)	
3 = 3/8"	4 = 1/2"	040 = .040" (Plastic Only)	047 = .047" (Plastic Only)			7 = OJ/Fluoropolymer	
5 = 5/8"	6 = 3/4"	049 = .049"	062 = .062" (Plastic Only)			8 = Division 1 Approved ⁴	
8 = 1"		065 = .065"	083 = .083" (SS Only)				

Process Tube O.D.	Process Tube Material	Number of Tubes ⁶	Heat Tracing Type	Self-Regulating Heat Trace	Vac
1 = 1/8"	A = 316 SS	1	(See Heat Trace Application Below). Contact Thermon for TubeTrace SE/ME instrument tubing bundles with alternative heat trace options such as parallel constant watt and series constant watt including mineral insulated heat tracing.	30 = VSX 5 w/ft. 120 Vac	60 = HTSX 3 w/ft. 120 Vac
2 = 1/4"	Welded	2		31 = VSX 5 w/ft. 240 Vac	61 = HTSX 3 w/ft. 240 Vac
3 = 3/8"	B = #122 Copper	3		32 = VSX 10 w/ft. 120 Vac	62 = HTSX 6 w/ft. 120 Vac
4 = 1/2"	C = PFA Teflon ²	4		33 = VSX 10 w/ft. 240 Vac	63 = HTSX 6 w/ft. 240 Vac
5 = 5/8"	D = Monel ³	5		34 = VSX 15 w/ft. 120 Vac	64 = HTSX 9 w/ft. 120 Vac
6 = 3/4"	E = Titanium	6		35 = VSX 15 w/ft. 240 Vac	65 = HTSX 9 w/ft. 240 Vac
8 = 1"	F = 316 SS Seamless	8		36 = VSX 20 w/ft. 120 Vac	66 = HTSX 12 w/ft. 120 Vac
	G = 304 SS Welded			37 = VSX 20 w/ft. 240 Vac	67 = HTSX 12 w/ft. 240 Vac
	H = 304 SS Seamless			40 = BSX 3 w/ft. 120 Vac	68 = HTSX 15 w/ft. 120 Vac
	J = Alloy C276			41 = BSX 3 w/ft. 240 Vac	68 = HTSX 15 w/ft. 240 Vac
	K = Alloy 825			42 = BSX 5 w/ft. 120 Vac	69 = HTSX 15 w/ft. 240 Vac
	L = Alloy 20			43 = BSX 5 w/ft. 240 Vac	
	M = FEP Teflon			44 = BSX 8 w/ft. 120 Vac	
	N = Nylon			45 = BSX 8 w/ft. 240 Vac	
	P = Polyethylene			46 = BSX 10 w/ft. 120 Vac	
	T = PTFE Teflon			47 = BSX 10 w/ft. 240 Vac	
	X = Special				
	(i.e. passivated, polished, etc.)				

- Notes . . .**
- Contact factory for options of 1" O.D. tubing (Not available in all materials.)
 - Teflon is a trademark of E.I. du Pont de Nemours & Co., Inc.
 - Monel is a trademark of Inco Alloys International, Inc.
 - Contact factory for design review.
 - Black ATP is standard, other jacket materials include TPU (Urethane).
 - Maximum number of tubes dependent on tube size.
 - Complete line of accessories for TubeTrace and ThermoTube are available.



Typical TubeTrace Type ME

Typical TubeTrace Type MP

Typical ThermoTube Type SL

Typical Steam Traced Bundles

Bundle Type		Process Tube(s) Wall Thickness		Jacket Type		Tracer Tube(s) Wall Thickness	
SI = Single Isolated Tube	MI = Multiple Isolated Tubes	035 = .035"	049 = .049"	ATP ⁵		035 = .035"	049 = .049"
Light Steam Traced	Light Steam Traced	065 = .065"	083 = .083" (SS Only)	TPU		065 = .065"	083 = .083" (SS Only)
SP = Single Tube	MP = Multiple Tubes						
Heavy Steam Traced	Heavy Steam Traced						

Process Tube O.D.	Process Tube(s) Material	Number of Process Tube(s) ⁶	Tracer Tube O.D.	Number of Tracer Tube(s)	Jacket Type	Tracer Tube Material
1 = 1/8"	A = 316 SS	1	2 = 1/4"	1	ATP ⁵	A = 316 SS Welded
2 = 1/4"	Welded	2	3 = 3/8"	2	TPU	B = 122 Copper
3 = 3/8"	C = PFA Teflon ²	3	4 = 1/2"	1		F = 316 SS Seamless
4 = 1/2"	D = Monel ³	4		2		
5 = 5/8"	E = Titanium	5				
	F = 316 SS Seamless					
	G = 304 SS Welded					
	H = 304 SS Seamless					
	J = Alloy C276					
	K = Alloy 825					
	L = Alloy 20					
	M = FEP Teflon					
	T = PTFE Teflon					
	X = Special					

ThermoTube® Type SL Pre-Insulated Tubing (Not Heated)

Bundle Type		Tube Wall Thickness		Jacket Type	
SL = Single Tube		30 = .030"	32 = .032" (Copper Only)	ATP ⁵	
1 = 1/8"	A = 316 SS	35 = .035"	49 = .049"	TPU	
2 = 1/4"	Welded	65 = .065"	83 = .083" (SS Only)		
3 = 3/8"	B = #122 Copper				
4 = 1/2"	C = PFA Teflon ²				
5 = 5/8"	D = Monel ³				
6 = 3/4"	E = Titanium				
8 = 1"	F = 316 SS Seamless				
	G = 304 SS Welded				
	H = 304 SS Seamless				
	J = Alloy C276				
	K = Alloy 825				
	L = Alloy 20				
	M = FEP Teflon				
	N = Nylon				
	P = Polyethylene				
	T = PTFE Teflon				
	X = Special				

Electrical Heat Trace Application

For Freeze Protection or Maintain 150°F (65°C) NO STEAM OUTS

Heat Trace Exposure* Limited to 185°F (85°C)

BSX Self-Regulating Heat Tracing (All BSX includes braid & overjacket. Standard overjacket is polyolefin, also available with an optional fluoropolymer overjacket.)

- | | | |
|--------------------------|--------------------------|---------------------------|
| 40 = BSX 3 w/ft. 120 Vac | 43 = BSX 5 w/ft. 240 Vac | 46 = BSX 10 w/ft. 120 Vac |
| 41 = BSX 3 w/ft. 240 Vac | 44 = BSX 8 w/ft. 120 Vac | 47 = BSX 10 w/ft. 240 Vac |
| 42 = BSX 5 w/ft. 120 Vac | 45 = BSX 8 w/ft. 240 Vac | |

For Freeze Protection or Maintain 250°F (121°C)

Heat Trace Exposure* to 420°F (215°C)

HTSX Self-Regulating Heat Tracing (All HTSX includes braid & overjacket BNOJ)

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|---------------------------|----------------------------|----------------------------|
| 60 = HTSX 3 w/ft. 120 Vac | 64 = HTSX 9 w/ft. 120 Vac | 68 = HTSX 15 w/ft. 120 Vac |
| 61 = HTSX 3 w/ft. 240 Vac | 65 = HTSX 9 w/ft. 240 Vac | 69 = HTSX 15 w/ft. 240 Vac |
| 62 = HTSX 6 w/ft. 120 Vac | 66 = HTSX 12 w/ft. 120 Vac | 70 = HTSX 20 w/ft. 120 Vac |
| 63 = HTSX 6 w/ft. 240 Vac | 67 = HTSX 12 w/ft. 240 Vac | 71 = HTSX 20 w/ft. 240 Vac |

For Freeze Protection or Maintain 300°F (149°C)

Heat Trace Exposure* to 450°F (232°C)

VSX Self-Regulating Heat Tracing (All VSX includes braid & overjacket BNOJ)

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|---------------------------|---------------------------|---------------------------|
| 30 = VSX 5 w/ft. 120 Vac | 33 = VSX 10 w/ft. 240 Vac | 36 = VSX 20 w/ft. 120 Vac |
| 31 = VSX 5 w/ft. 240 Vac | 34 = VSX 15 w/ft. 120 Vac | 37 = VSX 20 w/ft. 240 Vac |
| 32 = VSX 10 w/ft. 120 Vac | 35 = VSX 15 w/ft. 240 Vac | |

For Freeze Protection or Maintain 400°F (205°C)

Exposure** to 500°F (260°C)

HPT Power-Limiting Heat Tracing (All HPT includes BN braid & may include OJ)

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|---------------------------|---------------------------|---------------------------|
| 50 = HPT 5 w/ft. 120 Vac | 53 = HPT 10 w/ft. 240 Vac | 56 = HPT 20 w/ft. 120 Vac |
| 51 = HPT 5 w/ft. 240 Vac | 54 = HPT 15 w/ft. 120 Vac | 57 = HPT 20 w/ft. 240 Vac |
| 52 = HPT 10 w/ft. 120 Vac | 55 = HPT 15 w/ft. 240 Vac | |

* Exposure temperatures are generally with heat trace de-energized (off). Exceptions are for HTSX and VSX self-regulating heat trace ratings which allow intermittent exposure, on or off.

** Standard TubeTrace and ThermoTube bundles have a maximum tube temperature rating of 400°F (204°C) if outer jacket is to remain below 140°F (60°C) in a max ambient of 80°F (27°C) with no wind. Extra insulation (bundle option "XINS") may be considered if tube temperatures approach HPT Power-limiting limits of 500°F (260°C), power off. For higher exposures [up to 1100°F (588°C)] consider TubeTrace HT or HTX bundles.