



Typical Electrically Heat Traced Bundles

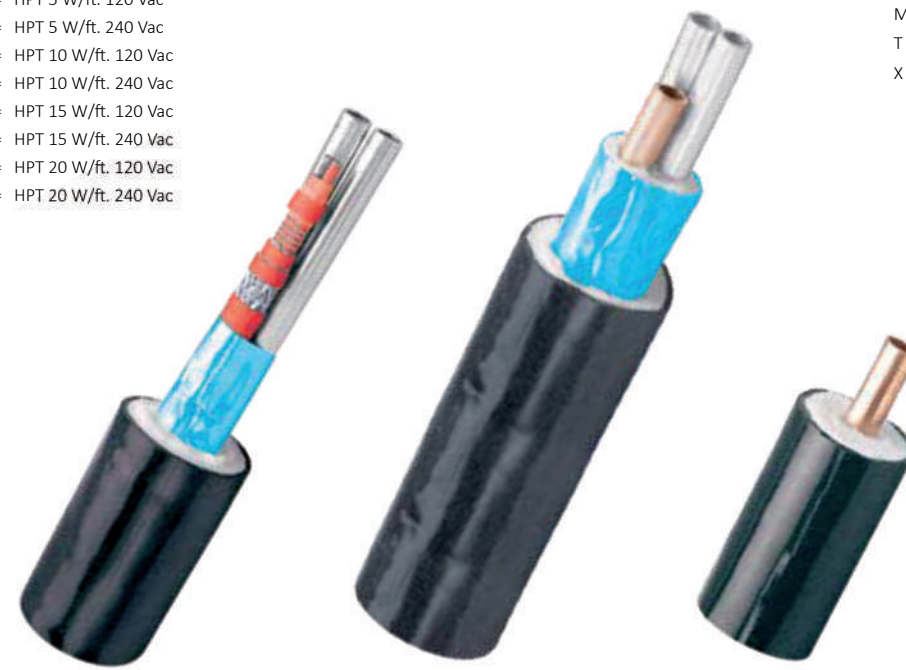
SE-4A1-62-7-ATP-035

Bundle Type	Process Tube O.D.	Process Tube Material	Number of Tubes ⁶	Heat Trace Option	Jacket Type	Process Tube(s) Wall Thickness
SE = Single Tube ME = Multiple Tubes	1 = 1/8" 2 = 1/4" 3 = 3/8" 4 = 1/2" 5 = 5/8" 6 = 3/4" 8 = 1" ¹	A = 316 SS Welded B = #122 Copper C = PFA Teflon ² D = Monel ³ E = Titanium 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 (i.e. passivated, polished, etc.)	1 2 3 4	1 = BN (HPT Only) 3 = OJ (BSX Only) 7 = OJ/Fluoropolymer 8 = Division 1 Approved ⁴	ATP ⁵ TPU	028 = .028" 030 = .030" 032 = .032" (Copper Only) 035 = .035" 040 = .040" (Plastic Only) 047 = .047" (Plastic Only) 049 = .049" 062 = .062" (Plastic Only) 065 = .065" 083 = .083" (SS Only)

Heat Tracing Type (See [Heat Trace Application](#) Below). Contact TC-E 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.

Self-Regulating Heat Trace		Power-Limiting Heat Trace
40 = BSX 3 W/ft. 120 Vac	60 = HTSX 3 W/ft. 120 Vac	50 = HPT 5 W/ft. 120 Vac
41 = BSX 3 W/ft. 240 Vac	61 = HTSX 3 W/ft. 240 Vac	51 = HPT 5 W/ft. 240 Vac
42 = BSX 5 W/ft. 120 Vac	62 = HTSX 6 W/ft. 120 Vac	52 = HPT 10 W/ft. 120 Vac
43 = BSX 5 W/ft. 240 Vac	63 = HTSX 6 W/ft. 240 Vac	53 = HPT 10 W/ft. 240 Vac
44 = BSX 8 W/ft. 120 Vac	64 = HTSX 9 W/ft. 120 Vac	54 = HPT 15 W/ft. 120 Vac
45 = BSX 8 W/ft. 240 Vac	65 = HTSX 9 W/ft. 240 Vac	55 = HPT 15 W/ft. 240 Vac
46 = BSX 10 W/ft. 120 Vac	66 = HTSX 12 W/ft. 120 Vac	56 = HPT 20 W/ft. 120 Vac
47 = BSX 10 W/ft. 240 Vac	67 = HTSX 12 W/ft. 240 Vac	57 = HPT 20 W/ft. 240 Vac
90 = VSX-HT 5 W/ft. 120 Vac	68 = HTSX 15 W/ft. 120 Vac	
91 = VSX-HT 5 W/ft. 240 Vac	69 = HTSX 15 W/ft. 240 Vac	
92 = VSX-HT 10 W/ft. 120 Vac	70 = HTSX 20 W/ft. 120 Vac	
93 = VSX-HT 10 W/ft. 240 Vac	71 = HTSX 20 W/ft. 240 Vac	
94 = VSX-HT 15 W/ft. 120 Vac		
95 = VSX-HT 15 W/ft. 240 Vac		
96 = VSX-HT 20 W/ft. 120 Vac		
97 = VSX-HT 20 W/ft. 240 Vac		

- 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 TC-E 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

SP-4F1-3F1-ATP-065/035

Bundle Type	Process Tube(s) O.D.	Process Tube(s) Material	Number of Process Tube(s) ⁶	Tracer Tube O.D.	Number of Tracer Tube(s)	Jacket Type	Process Tube(s) Wall Thickness	Tracer Tube(s) Wall Thickness
SI = Single Isolated Tube Light Steam Traced MI = Multiple Isolated Tubes Light Steam Traced SP = Single Tube Heavy Steam Traced MP = Multiple Tubes Heavy Steam Traced	1 = 1/8" 2 = 1/4" 3 = 3/8" 4 = 1/2" 5 = 5/8"	A = 316 SS Welded C = PFA Teflon ² D = Monel ³ E = Titanium 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	1 2	2 = 1/4" 3 = 3/8" 4 = 1/2"	1 2	ATP ⁵ TPU	028 = .028" 035 = .035" 040 = .040" (Plastic Only) 047 = .047" (Plastic Only) 049 = .049" 062 = .062" (Plastic Only) 065 = .065" 083 = .083" (SS Only)	035 = .035" 049 = .049" 065 = .065" 083 = .083" (SS Only)

Tracer Tube Material
A = 316 SS Welded
B = 122 Copper
F = 316 SS Seamless

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

SL-4B135-ATP

Bundle Type	Tube O.D.	Tube Material	Number of Tubes	Tube Wall Thickness	Jacket Type
SL = Single Tube	1 = 1/8" 2 = 1/4" 3 = 3/8" 4 = 1/2" 5 = 5/8" 6 = 3/4" 8 = 1" ¹	A = 316 SS Welded B = #122 Copper C = PFA Teflon ² D = Monel ³ E = Titanium 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	1	30 = .030" 32 = .032" (Copper Only) 35 = .035" 49 = .049" 65 = .065" 83 = .083" (SS Only)	ATP ⁵ TPU

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)

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 392°F (200°C)
Heat Trace Exposure* to 482°F (250°C)

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

90 = VSX-HT 5 W/ft. 120 Vac	93 = VSX-HT 10 W/ft. 240 Vac	96 = VSX-HT 20 W/ft. 120 Vac
91 = VSX-HT 5 W/ft. 240 Vac	94 = VSX-HT 15 W/ft. 120 Vac	97 = VSX-HT 20 W/ft. 240 Vac
92 = VSX-HT 10 W/ft. 120 Vac	95 = VSX-HT 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)

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-HT 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.

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