

Heat Trace Quick Design Guide



A Pipe Heat Loss Calculations

Table 1 Pipe Heat Loss in W/ft Based on Temperature Differential and Insulation Thickness

Nominal Pipe Size (In.)	Temperature Difference Between Pipe and Ambient															
	40°F	50°F	60°F	70°F	80°F	90°F	100°F	120°F	140°F	160°F	180°F	200°F	220°F	240°F	260°F	
	1" Insulation															
0.5	1.4	1.8	2.1	2.5	2.8	3.2	3.5	4.2	5.1	5.9	6.6	7.7	8.5	9.2	10.0	
0.75	1.6	2.0	2.4	2.8	3.2	3.6	4.0	4.8	5.9	6.7	7.6	8.8	9.7	10.6	11.4	
1	1.8	2.3	2.8	3.2	3.7	4.1	4.6	5.5	6.8	7.7	8.7	10.1	11.1	12.1	13.2	
1.5	2.4	3.1	3.7	4.3	4.9	5.5	6.1	7.3	9.0	10.2	11.5	13.4	14.8	16.1	17.4	
2	2.8	3.5	4.1	4.8	5.5	6.2	6.9	8.3	10.1	11.6	13.0	15.2	16.7	18.2	19.7	
2.5	3.2	4.0	4.8	5.6	6.4	7.2	8.0	9.6	11.8	13.4	15.1	17.6	19.4	21.1	22.9	
3	3.7	4.7	5.6	6.5	7.4	8.4	9.3	11.2	13.7	15.6	17.6	20.5	22.5	24.6	26.6	
4	4.6	5.8	6.9	8.1	9.2	10.4	11.5	13.8	16.9	19.3	21.7	25.3	27.8	30.4	32.9	
6	6.4	8.0	9.6	11.2	12.8	14.4	16.0	19.2	23.5	26.9	30.2	35.2	38.7	42.2	45.8	
8	8.1	10.1	12.1	14.1	16.2	18.2	20.2	24.2	29.7	33.9	38.2	44.4	48.9	53.3	57.8	
10	9.9	12.4	14.8	17.3	19.8	22.2	24.7	29.6	36.3	41.5	46.7	54.3	59.8	65.2	70.6	
12	11.6	14.5	17.4	20.3	23.2	26.1	29.0	34.8	42.6	48.7	54.8	63.8	70.2	76.6	82.9	
14	12.6	15.8	19.0	22.1	25.3	28.4	31.6	37.9	46.5	53.1	59.7	69.5	76.5	83.4	90.4	
16	14.3	17.9	21.5	25.1	28.7	32.3	35.9	43.0	52.7	60.2	67.8	78.9	86.8	94.6	102.5	
18	16.0	20.1	24.1	28.1	32.1	36.1	40.1	48.1	58.9	67.4	75.8	88.2	97.0	105.9	114.7	
20	17.7	22.2	26.6	31.0	35.4	39.9	44.3	53.2	65.1	74.4	83.7	97.5	107.2	117.0	126.7	
22	19.4	24.3	29.1	34.0	38.8	43.7	48.5	58.2	71.3	81.5	91.7	106.7	117.4	128.0	138.7	
24	21.1	26.4	31.6	36.9	42.2	47.4	52.7	63.2	77.5	88.5	99.6	115.9	127.5	139.1	150.7	
1.5" Insulation																
0.5	1.1	1.4	1.7	2.0	2.2	2.5	2.8	3.5	4.1	4.7	5.5	6.2	6.8	7.4	8.0	
0.75	1.2	1.6	1.9	2.2	2.5	2.8	3.1	3.9	4.6	5.2	6.1	6.8	7.5	8.2	8.9	
1	1.4	1.8	2.2	2.5	2.9	3.2	3.6	4.5	5.3	6.0	7.1	7.9	8.7	9.5	10.3	
1.5	1.8	2.3	2.8	3.2	3.7	4.1	4.6	5.8	6.8	7.7	9.1	10.1	11.1	12.1	13.2	
2	2.1	2.6	3.1	3.6	4.2	4.7	5.2	6.6	7.6	8.7	10.3	11.4	12.6	13.7	14.9	
2.5	2.4	3.0	3.5	4.1	4.7	5.3	5.9	7.4	8.7	9.9	11.7	13.0	14.3	15.6	16.9	
3	2.7	3.4	4.1	4.8	5.4	6.1	6.8	8.6	10.0	11.4	13.5	15.0	16.5	18.0	19.4	
4	3.3	4.2	5.0	5.8	6.6	7.5	8.3	10.5	12.2	13.9	16.4	18.3	20.1	21.9	23.7	
6	4.5	5.7	6.8	7.9	9.0	10.2	11.3	14.2	16.6	19.0	22.4	24.9	27.3	29.8	32.3	
8	5.6	7.1	8.5	9.9	11.3	12.7	14.1	17.8	20.7	23.7	27.9	31.0	34.1	37.2	40.3	
10	6.8	8.6	10.3	12.0	13.7	15.4	17.1	21.5	25.1	28.7	33.9	37.6	41.4	45.1	48.9	
12	8.0	10.0	12.0	14.0	16.0	18.0	20.0	25.2	29.4	33.6	39.6	44.0	48.4	52.8	57.2	
14	8.7	10.9	13.0	15.2	17.4	19.5	21.7	27.3	31.9	36.5	43.0	47.7	52.5	57.3	62.1	
16	9.8	12.3	14.8	17.2	19.7	22.1	24.6	31.0	36.2	41.5	48.7	54.1	59.5	64.9	70.4	
18	11.0	13.7	16.4	19.2	21.9	24.7	27.4	34.5	40.3	46.0	54.3	60.3	66.3	72.3	78.4	
20	12.1	15.1	18.1	21.1	24.2	27.2	30.2	38.1	44.4	50.7	59.8	66.4	73.1	79.7	86.4	
22	13.2	16.5	19.8	23.1	26.4	29.7	33.0	41.6	48.5	55.4	65.3	72.6	79.9	87.1	94.4	
24	14.3	17.9	21.5	25.1	28.6	32.2	35.8	45.1	52.6	60.1	70.9	78.8	86.6	94.5	102.4	

- Basic Heat Loss:** After determining the difference between the ambient and desired pipe maintenance temperature, T_M use **Table 1** to figure the basic heat loss for the pipe size and insulation thickness.
- Insulation adjustment:** Using **Table 2**, find the type of insulation being used and its adjustment factor (middle column).
- Calculate Q_F :** Multiply the basic heat loss figure from **Table 1** by the adjustment factor from **Table 2** to calculate the estimated heat loss, Q_F in watts per foot of pipe length.
- Correct for Indoor Location/Windspeed:** if location is indoors, multiply Q_F by 0.9. **Table 1** is based on 10% safety factor and 20 mph windspeed; add 5% margin for each 5 mph over 20 mph wind speed.

Table 1 Pipe Heat Loss in W/ft Based on Temperature Differential and Insulation Thickness

Nominal Pipe Size (in.)	Temperature Difference Between Pipe and Ambient															
	40°F	50°F	60°F	70°F	80°F	90°F	100°F	120°F	140°F	160°F	180°F	200°F	220°F	240°F	260°F	
	2" Insulation															
0.5	1.0	1.2	1.4	1.7	1.9	2.2	2.4	3.0	3.5	4.0	4.8	5.3	5.8	6.3	7.2	
0.75	1.1	1.4	1.6	1.9	2.2	2.4	2.7	3.4	4.0	4.5	5.3	5.9	6.5	7.1	8.1	
1	1.2	1.5	1.8	2.1	2.4	2.7	3.0	3.8	4.4	5.0	5.9	6.6	7.3	7.9	9.0	
1.5	1.5	1.9	2.3	2.7	3.0	3.4	3.8	4.8	5.6	6.4	7.5	8.4	9.2	10.0	11.4	
2	1.7	2.2	2.6	3.0	3.4	3.9	4.3	5.4	6.3	7.2	8.5	9.5	10.4	11.4	12.9	
2.5	1.9	2.4	2.9	3.4	3.8	4.3	4.8	6.0	7.1	8.1	9.5	10.6	11.6	12.7	14.4	
3	2.2	2.8	3.3	3.9	4.4	5.0	5.5	6.9	8.1	9.2	10.9	12.1	13.3	14.5	16.4	
4	2.6	3.3	4.0	4.6	5.3	5.9	6.6	8.3	9.7	11.1	13.1	14.5	16.0	17.4	19.7	
6	3.6	4.5	5.3	6.2	7.1	8.0	8.9	11.2	13.1	15.0	17.6	19.6	21.5	23.5	26.6	
8	4.4	5.6	6.7	7.8	8.9	10.0	11.1	14.0	16.3	18.6	22.0	24.4	26.9	29.3	33.2	
10	5.3	6.7	8.0	9.3	10.6	12.0	13.3	16.8	19.6	22.3	26.3	29.3	32.2	35.1	39.8	
12	6.2	7.8	9.3	10.9	12.4	14.0	15.5	19.5	22.8	26.0	30.7	34.1	37.5	40.9	46.3	
14	6.7	8.4	10.1	11.8	13.4	15.1	16.8	21.2	24.7	28.2	33.3	37.0	40.7	44.4	50.2	
16	7.6	9.5	11.3	13.2	15.1	17.0	18.9	23.8	27.8	31.8	37.4	41.6	45.7	49.9	56.5	
18	8.4	10.5	12.6	14.7	16.8	18.9	21.0	26.5	30.9	35.3	41.6	46.2	50.8	55.4	62.8	
20	9.2	11.6	13.9	16.2	18.5	20.8	23.1	29.1	34.0	38.8	45.7	50.8	55.9	61.0	69.1	
22	10.1	12.6	15.2	17.7	20.2	22.7	25.3	31.8	37.1	42.4	50.0	55.6	61.1	66.7	75.5	
24	11.0	13.7	16.4	19.2	21.9	24.7	27.4	34.5	40.3	46.0	54.3	60.3	66.3	72.3	81.9	
3" Insulation																
0.5	0.8	1.0	1.2	1.4	1.6	1.8	2.0	2.5	2.9	3.4	4.0	4.4	4.8	5.5	6.0	
0.75	0.9	1.1	1.3	1.5	1.8	2.0	2.2	2.8	3.2	3.7	4.4	4.8	5.3	6.1	6.6	
1	1.0	1.3	1.5	1.8	2.0	2.3	2.5	3.2	3.7	4.2	5.0	5.5	6.1	6.9	7.5	
1.5	1.2	1.5	1.8	2.1	2.4	2.7	3.0	3.8	4.4	5.0	5.9	6.6	7.3	8.3	9.0	
2	1.3	1.7	2.0	2.3	2.6	3.0	3.3	4.2	4.9	5.5	6.5	7.3	8.0	9.1	9.9	
2.5	1.5	1.9	2.2	2.6	3.0	3.3	3.7	4.7	5.4	6.2	7.3	8.1	9.0	10.2	11.1	
3	1.7	2.1	2.5	2.9	3.4	3.8	4.2	5.3	6.2	7.1	8.3	9.2	10.2	11.6	12.6	
4	2.0	2.5	3.0	3.5	4.0	4.5	5.0	6.3	7.4	8.4	9.9	11.0	12.1	13.8	15.0	
6	2.6	3.3	3.9	4.6	5.2	5.9	6.5	8.2	9.6	10.9	12.9	14.3	15.7	17.9	19.4	
8	3.2	4.0	4.8	5.6	6.4	7.2	8.0	10.1	11.8	13.4	15.8	17.6	19.4	22.1	23.9	
10	3.8	4.8	5.7	6.7	7.6	8.6	9.5	12.0	14.0	16.0	18.8	20.9	23.0	26.2	28.4	
12	4.4	5.5	6.5	7.6	8.7	9.8	10.9	13.7	16.0	18.3	21.6	24.0	26.4	30.1	32.6	
14	4.7	5.9	7.1	8.3	9.4	10.6	11.8	14.9	17.3	19.8	23.4	26.0	28.6	32.6	35.3	
16	5.3	6.7	8.0	9.3	10.6	12.0	13.3	16.8	19.6	22.3	26.3	29.3	32.2	36.7	39.8	
18	5.9	7.4	8.8	10.3	11.8	13.2	14.7	18.5	21.6	24.7	29.1	32.3	35.6	40.6	44.0	
20	6.4	8.1	9.7	11.3	12.9	14.5	16.1	20.3	23.7	27.0	31.9	35.4	39.0	44.4	48.1	
22	7.0	8.8	10.5	12.3	14.0	15.8	17.5	22.1	25.7	29.4	34.7	38.5	42.4	48.3	52.3	
24	7.6	9.5	11.3	13.2	15.1	17.0	18.9	23.8	27.8	31.8	37.4	41.6	45.7	52.2	56.5	

Table 2 Insulation Adjustment Factors

Pipe Insulation Type	Insulation Factor	K factor at 50°F (BTU/hr-°F-ft ² /in)
Glass Fiber (ASTM C547)	1	0.25
Calcium Silicate (ASTM C533)	1.48	0.37
Cellular Glass (ASTM C552)	1.48	0.33
Rigid Cellular Urethane (ASTM C591)	0.64	0.16
Foamed Elastomer (ASTM C534)	1.16	0.29
Mineral Fiber Blanket (ASTM C553)	1.16	0.3
Expanded Perlite (ASTM C610)	1.9	0.48

B HTS Cable Selection

Table 3 HTS Cable Families

Heating Cable Family	Area Classification	Pipe Material	Max. Maintenance Temperature	Max. Exposure Temperature (POWER OFF)
Self-Regulating				
LXR - High Temp	Ordinary CID2 Gr. A, B, C, D CID2 Gr. E, F, G	Plastic/Metal	150°F (65°C)	185°F (85°C)
MXR - High Temp	Ordinary CID2 Gr. A, B, C, D CID2 Gr. E, F, G	Metal Only	250°F (120°C)	366°F (185°C)
HXR - High Temp	Ordinary CID2 Gr. A, B, C, D CID2 Gr. E, F, G	Metal Only	375°F (190°C)	450°F (232°C)

- Select Heating Cable Family.** Based on the maximum maintenance temperature rating, maximum exposure temperature rating, and area classification, select the heating cable family from **Table 3**. (See HTS Heat Trace Cable Product Information Sheets for cable construction options, voltage ratings, and wattage outputs available).
- Select Thermal Output Rating:**
 - For Metal Pipes—Use Figure 1, 2 or 3.
 - For Plastic Pipes—Use Figure 1(LXR) by finding the intersection of the calculated heat loss, Q_F , and pipe maintenance temperature, T_M .
- Determine Total Cable Length:** In addition to pipe length, in-line components such as valves, flanges, and pipe supports require additional heat tracing to maintain T_M . See **Table 4**. Calculate the total cable length required by combining the pipe length with the additional lengths needed for all the other components.

Total cable required = (pipe length x no. Of cable runs) + additional cable for in-line components.

Additional Cable Lengths Required for In-Line Components ((Based on Pipe IPS (Iron Pipe Size))

IPS Piping Size (Inches)	Gate Valve	Globe Valve	Ball Valve	Butterfly Valve	Shoe Support	Hanger Support	Sleeper Support	Flange Pair
0.125	1	1	1	1	1	1	1	0.3
0.25	1	1	1	1	1	1	1	0.3
0.375	1	1	1	1	1	1	1	0.3
0.5	1	1	1	1	1	1	1	0.3
75	1.5	1	1	1	1.5	1.5	1.5	0.3
1	2	1	1	1	1.5	1.5	1.5	0.3
1.25	2	1	1	1	1.5	1.5	1.5	0.3
1.5	2.5	1.5	1.5	1.5	2	2	2	0.3
2	2.5	2	2	2	2	2	2	0.3
2.5	2.5	2	2	2	2	2	2	0.3
3	3	2.5	2.5	2.5	2	2	2	0.5
3.5	3	2.5	2.5	2.5	2	2	2	0.5
4	4	3	3	3	2.5	2.5	2.5	0.5
5	4	3	3	3	2.5	2.5	2.5	0.5
6	5	3.5	3.5	3.5	2.5	2.5	2.5	0.8
8	7	4	4	4	2.5	2.5	2.5	0.8
10	8	4.5	4.5	4.5	3	3	3	0.8
12	9	5	5	5	3	3	3	0.8
14	10	5.5	5.5	5.5	3	3	3	1
16	11	6	6	6	3.5	3.5	3.5	1
18	12	7	7	7	3.5	3.5	3.5	1
20	13	7.5	7.5	7.5	3.5	3.5	3.5	1
22	13	7.5	7.5	7.5	3.5	3.5	3.5	1
24	15	8	8	8	4	4	4	1
26	15	8	8	8	4	4	4	1
28	15	8	8	8	4	4	4	2
30	15	8	8	8	4	4	4	2
36	15	8	8	8	4	4	4	2
42	20	10	10	10	8	8	8	4
48	20	10	10	10	8	8	8	4

Thermal Output Ratings Cable Output vs Temperature

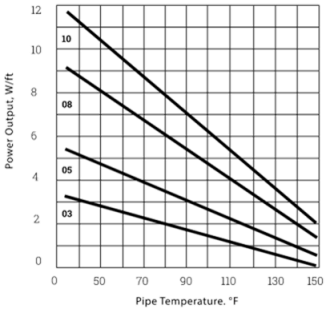


Figure 1-LXR

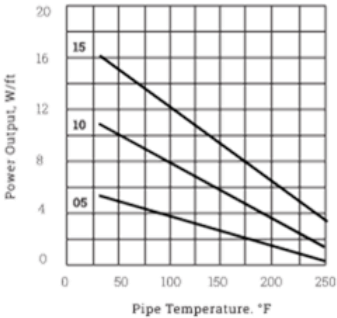


Figure 2-MXR

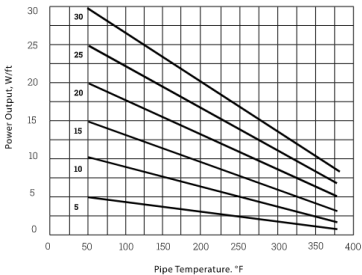


Figure 3-HXR

C Electrical Design & Accessory Selection

Maximum Circuit Length vs Breaker Size & Start-Up Temp FT					
	Start-Up Temp Deg F Deg C	15 A	20 A	30 A	40 A
LXR03-1	50 (10)	300 (92)	330 (100)	330 (100)	330 (100)
	0 (-18)	200 (60)	270 (82)	330 (100)	330 (100)
	-20 (-29)	180 (55)	230 (70)	330 (100)	330 (100)
LXR03-2	50 (10)	660 (200)	660 (200)	660 (200)	660 (200)
	0 (-18)	410 (125)	560 (170)	660 (200)	660 (200)
	-20 (-29)	360 (110)	480 (146)	660 (200)	660 (200)
LXR05-1	50 (10)	230 (70)	270 (82)	270 (82)	270 (82)
	0 (-18)	150 (45)	200 (60)	270 (82)	270 (82)
	-20 (-29)	130 (40)	175 (54)	260 (80)	270 (82)
LXR05-2	50 (10)	460 (140)	540 (165)	540 (165)	540 (165)
	0 (-18)	300 (92)	400 (122)	540 (165)	540 (165)
	-20 (-29)	260 (80)	345 (105)	520 (160)	540 (165)
LXR08-1	50 (10)	150 (45)	200 (60)	210 (64)	210 (64)
	0 (-18)	95 (30)	125 (38)	190 (58)	210 (64)
	-20 (-29)	85 (26)	100 (31)	170 (52)	210 (64)
LXR08-2	50 (10)	295 (90)	390 (119)	420 (128)	420 (128)
	0 (-18)	195 (60)	250 (76)	375 (115)	420 (128)
	-20 (-29)	170 (52)	225 (69)	340 (104)	420 (128)
LXR10-1	50 (10)	115 (35)	150 (45)	180 (55)	180 (55)
	0 (-18)	70 (22)	95 (30)	145 (44)	180 (55)
	-20 (-29)	60 (18)	85 (26)	120 (37)	165 (50)
LXR10-2	50 (10)	230 (70)	305 (93)	360 (110)	360 (110)
	0 (-18)	150 (45)	200 (60)	300 (92)	360 (110)
	-20 (-29)	130 (40)	175 (54)	260 (80)	360 (110)

Maximum Circuit Length vs Breaker Size & Start-Up Temp FT					
	Start-Up Temp Deg F Deg C	15 A	20 A	30 A	40 A
MXR05-1	50 (10)	150 (45)	200 (60)	240 (73)	240 (73)
	0 (-18)	135 (41)	180 (55)	220 (67)	220 (67)
	-40 (-40)	130 (40)	170 (52)	210 (64)	210 (64)
MXR05-2	50 (10)	250 (76)	330 (100)	480 (146)	480 (146)
	0 (-18)	230 (70)	305 (93)	440 (134)	440 (134)
	-40 (-40)	220 (67)	295 (90)	420 (128)	420 (128)
MXR10-1	50 (10)	90 (27)	120 (37)	180 (55)	180 (55)
	0 (-18)	85 (26)	110 (34)	165 (50)	165 (50)
	-40 (-40)	80 (24)	105 (32)	160 (49)	160 (49)
MXR10-2	50 (10)	140 (43)	190 (58)	280 (85)	280 (85)
	0 (-18)	130 (40)	175 (53)	260 (79)	260 (79)
	-40 (-40)	125 (38)	170 (52)	250 (76)	250 (76)
MXR15-1	50 (10)	70 (21)	90 (27)	130 (40)	130 (40)
	0 (-18)	65 (20)	85 (26)	125 (38)	125 (38)
	-40 (-40)	60 (18)	80 (24)	120 (37)	120 (37)
MXR15-2	50 (10)	100 (30)	135 (41)	200 (60)	200 (60)
	0 (-18)	95 (29)	125 (38)	185 (56)	185 (56)
	-40 (-40)	90 (27)	120 (37)	180 (55)	180 (55)

Maximum Circuit Length vs Breaker Size & Start-Up Temp FT					
Model	Start-Up Temp Deg F Deg C	15 A	20 A	30 A	40 A
HXR5-1	50 (10)	180 (55)	240 (73)	335 (102)	350 (107)
	0 (-20)	165 (50)	220 (67)	330 (101)	350 (107)
	-50 (-45)	150 (46)	200 (61)	300 (91)	350 (107)
HXR5-2	50 (10)	360 (110)	480 (146)	540 (165)	680 (299)
	0 (-20)	325 (99)	430 (131)	540 (165)	680 (299)
	-50 (-45)	290 (88)	385 (117)	540 (165)	680 (299)
HXR10-1	50 (10)	120 (37)	160 (49)	180 (55)	240 (73)
	0 (-20)	105 (32)	140 (43)	180 (55)	220 (67)
	-50 (-45)	90 (27)	120 (37)	180 (55)	220 (67)
HXR10-2	50 (10)	240 (73)	320 (98)	360 (110)	470 (143)
	0 (-20)	230 (70)	305 (93)	360 (110)	470 (143)
	-50 (-45)	225 (69)	300 (91)	360 (110)	450 (137)
HXR15-1	50 (10)	80 (24)	105 (32)	135 (41)	180 (55)
	0 (-20)	70 (21)	90 (27)	135 (41)	160 (49)
	-50 (-45)	60 (18)	80 (24)	120 (37)	135 (41)
HXR15-2	50 (10)	160 (49)	210 (64)	270 (82)	350 (107)
	0 (-20)	140 (43)	185 (56)	270 (82)	340 (104)
	-50 (-45)	120 (37)	160 (49)	240 (73)	300 (91)
HXR20-1	50 (10)	60 (18)	90 (27)	120 (37)	120 (37)
	0 (-18)	55 (17)	70 (21)	110 (34)	110 (34)
	-50 (-45)	50 (15)	65 (20)	100 (30)	100 (30)
HXR20-2	50 (10)	115 (35)	150 (46)	230 (70)	230 (70)
	0 (-18)	110 (34)	145 (44)	220 (67)	220 (67)
	-50 (-45)	105 (32)	140 (43)	210 (64)	210 (64)
HXR25-1	50 (10)	45 (14)	60 (18)	85 (26)	85 (26)
	0 (-18)	40 (12)	50 (15)	80 (24)	80 (24)
	-50 (-45)	40 (12)	50 (15)	80 (24)	80 (24)
HXR25-2	50 (10)	90 (27)	120 (37)	170 (52)	170 (52)
	0 (-18)	80 (24)	100 (30)	160 (49)	160 (49)
	-50 (-45)	80 (24)	100 (30)	160 (49)	160 (49)
HXR30-1	50 (10)	40 (12)	50 (15)	70 (21)	70 (21)
	0 (-18)	35 (11)	45 (14)	70 (21)	70 (21)
	-50 (-45)	35 (11)	45 (14)	70 (21)	70 (21)
HXR30-2	50 (10)	80 (24)	100 (30)	140 (43)	140 (43)
	0 (-18)	70 (21)	90 (27)	140 (43)	140 (43)
	-50 (-45)	70 (21)	90 (27)	140 (43)	140 (43)

1. Determine the Circuit Breaker Rating:

For Self-Regulating Cable: From Table, Select the circuit breaker trip rating by finding maximum circuit length for each breaker rating to the total cable length required for each pipe. Select the breaker rating whose maximum circuit length just exceeds the total cable required for the pipe.

If circuit breaker rating is predetermined, use the maximum circuit length shown in Table for the cable type at the minimum start-up temperature.

If the required cable footage exceeds the max circuit length, determine the number of circuits required:

Number of Circuits=Total Cable Footage Required/Max Circuit Length.

SYSTEM COMPONENTS

Accessories	A Series	H Series	L Series
SR Power Connection	Ω HTS-ACSX-1	Ω HTS-PCX-H4JB-1	PCX-40J / PCX-81J
SR Splice & Tee	Ω HTS-ACSX-3	Ω HTS-PTX-H6JB-3	SPX-40
SR End Seal	Ω HTS-AESX	Multi	ESX-40 / ESX-81
SR End Seal-Lighted	Ω HTS-AESL	Multi	LESX-1 / LESX-2
Thermostat-Ambient	Ω HTS-ASTX (ORD) / Ω HTS-ASTH (HAZ)		
Thermostat-Line	Ω HTS-LSTX (ORD) / Ω HTS-LSTH (HAZ)		
RTD	Ω HTS-HXRTD-25		

SYSTEM ACCESSORIES

Model	Description
Ω HTS-HXFT-HT	Application Tape High Temp - 180 ft roll
Ω HTS-HXAT-1	Aluminum Tape - 180 ft roll
Ω HTS-SPA	Small Pipe Adaptor (For <2" dia)
Ω HTS-HXPS-3	Pipe Strap - 3 inch
Ω HTS-HXPS-6	Pipe Strap - 6 inch
Ω HTS-HXPS-10	Pipe Strap - 10 inch
Ω HTS-HXCL-10	Caution Label - 10 pack

Ω HTS-HXFT-HT Fiberglass
Tape Calculator (EA)

		Average Dia				
		2	4	6	8	10
Pipe Footage	150	2	3	4	6	7
	300	3	6	8	11	14
	450	4	8	12	16	20
	600	6	11	16	21	27
	750	7	14	20	27	33
	900	8	16	24	32	40
	1050	10	19	28	37	46
	1200	11	21	32	42	53
	1350	12	24	36	48	59