Pipe Heat Tracing Application

Any object that is hotter than its surroundings will lose that heat at a specific rate. This is known as heat loss. The purpose of heat trace cable is to replace heat faster than it is lost. The information below will assist in determining the amount of heat required for a specific application.

To determine the amount of power to maintain a specific pipe temperature the information below must first be determined. NOTE: This is for temperature maintenance only. If it is necessary to raise the temperature of a pipe please consult your local distributor.

- Diameter of pipe.
- Length of pipe.
- Temperature to be maintained.
- Minimum possible ambient temperature.
- Insulation type.
- Insulation thickness.

After the information has been determined follow the steps below to determine the watts per foot needed for your application. The example provided will assist in following each step.

Example:

Required information:

- Diameter of pipe. ---------- 2”
- Length of pipe. ---------- 100’
- Temperature to be maintained. ------ 50°F
- . ---------- 1”
- Minimum possible ambient temperature.- ----20°F
- Insulation type. ----------Cellular glass
- Insulation thickness

1. Determine the pipe temperature difference. This is known as the delta T (ΔT).

   _____ - _____ = _____
   (Temperature to be maintained) - (Minimum ambient temperature) = ΔT.
   Example: 50°F – (-20°F) = 70°F
2. Refer to Chart 1, Heat Loss Chart for Pipes (page 7-16), and determine the required watts per linear foot. This is done by finding the intersection of the ΔT and the pipe diameter at the given insulation thickness.

   Example: 2” pipe, 1” insulation, 70°F ΔT = 4.6 watts per foot.

   NOTE: Because the ΔT of 70°F is not on the chart the next highest of 75°F must be used.
3. Using Chart 2, Insulation Factor (page 7-17), determine the insulation adjustment factor.

   Example: 50°F maintenance temperature, Cellular glass insulation = 1.53
4. Determine the adjusted heat loss.

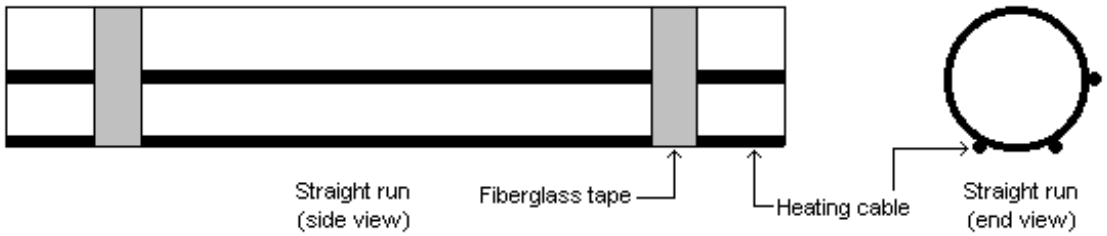
   _____ X _____ = _____
   (Watts per foot) X (Insulation adjustment factor) = Adjusted heat loss.
   Example: 4.6 x 1.53 = 7.04
5. Select cable.
   a) Select a cable with a watt per foot rating higher then the required wattage. If this option is chosen skip steps 6 and 7.

   Example: 7.04 watts required, 8 watt or higher cable can be used.

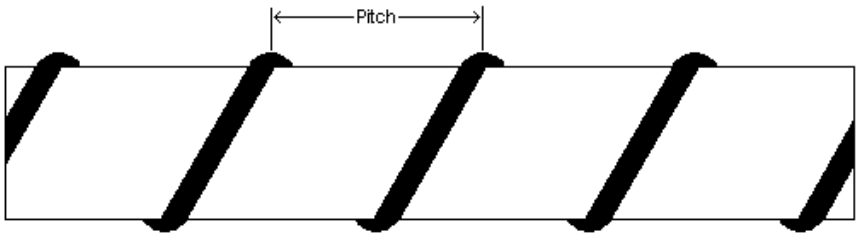
   NOTE: For best results on pipes larger then 4”, multiple straight runs or spiral wrapping should be used instead of a single straight run.

   b) Multiple straight runs of cable. If this option is chosen skip steps 6 and 7.

   Example: 7.04 watts required, 2 straight runs of 4 watts cable can be used



c) Spiral wrap lower wattage cable around the pipe.
Example: 4 watt cable can be wrapped with a 5" pitch (see step 6 & 7)



Spiral wrap
(side view)

6. If spiral wrapping is chosen; determine the required amount of cable per foot of pipe.
_____ / _____ = _____
(Adjusted heat loss) / (Cable watts per foot) = Required cable per foot of pipe.
Example: 7.04 / 4 = 1.76
7. Using Chart 4, Wrap Factor (page 6-17), determine the required pitch (space between wraps).
Example: 2" pipe, 1.76 feet of cable per foot of pipe = 5" pitch
NOTE: Because the cable ratio of 1.76 is not on the chart the next highest of 1.93 must be used.
8. Determine the total amount of cable required for the pipe.
_____ X _____ = _____
(Length of pipe) X (Required cable per foot of pipe) = Cable required for pipe.
Example: 50' x 1.93 = 96.5 feet of cable
9. Determine the heat loss for valves or pipe supports
a) Refer to Chart 3 and determine the valve multiplication factor.
_____ X _____ = _____
(Adjusted heat loss) X (Valve multiplication) = Heat loss for valves
Example: For 1 gate valve on 2" pipe, 1.76 x 1.92 = 3.38
10. Determine the additional cable required.
_____ / _____ = _____
(Adjusted heat loss for valves) / (Cable watts per foot) = Cable required for valves.
Example: 3.38 / 4 = 0.845 additional feet of cable required.
11. Determine the total amount of cable required for the pipe and valves.
_____ + _____ = _____
(Cable required for pipe) + (Cable required for valves) = Cable for pipes and valves
Example: 96.5 + 0.845 = 97.345
12. Round the total amount of cable required up to the nearest number divisible by the cable module length.
Example: 97.345 must be increased to 98 to be evenly divided by 2, 98 / 2 = 49 module lengths
13. Add a minimum of 1 extra module length for terminations, or two feet for Self-Regulating cable.
Example: 98 feet + 2 foot module length = 100 feet of cable required for proper installation.

Pipe Heat Tracing Application Charts

BriskHeat®

Chart 1: Heat Loss Chart for Pipes (watts per linear foot)

ΔT	NPS Pipe Size .25	.5	.75	1.0	1.5	2.0	2.5	3	4	6	8	10	12	14	16	18	20	24	30	INSUL. THICK.
25	0.6	0.7	0.8	1.0	1.2	1.5	1.7	2.0	2.4	3.3	4.2	5.2	6.0	6.6	7.5	8.4	9.2	11.0	13.6	
50	1.2	1.5	1.7	2.0	2.5	3.0	3.4	4.0	4.9	6.9	8.7	10.6	12.4	13.5	15.3	17.1	18.9	22.5	28.0	1 IN.
75	1.8	2.3	2.6	3.0	3.9	4.6	5.3	6.2	7.6	10.6	13.3	16.3	19.1	20.8	23.6	26.3	29.1	34.7	43.0	
100	2.5	3.2	3.6	4.2	5.3	6.3	7.2	8.4	10.4	14.4	18.2	22.2	26.0	28.4	32.2	36.0	39.8	47.3	58.7	
125	3.2	4.0	4.6	5.3	6.8	8.0	9.3	10.8	13.3	18.5	23.3	28.5	33.3	36.4	41.2	46.0	50.9	60.6	75.1	
150	3.9	5.0	5.7	6.5	8.4	9.8	11.4	13.3	16.3	22.7	28.6	35.0	40.9	44.6	50.6	56.5	62.5	74.4	92.2	
175	4.7	5.9	6.8	7.8	10.0	11.7	13.6	15.8	19.4	27.0	34.2	41.7	48.8	53.3	60.4	67.5	74.6	88.7	110.0	
200	5.5	6.9	7.9	9.1	11.7	13.7	15.9	18.5	22.7	31.6	39.9	48.7	57.0	62.2	70.5	78.8	87.1	103.7	128.5	
225	6.3	8.0	9.1	10.5	13.4	15.8	18.2	21.2	26.1	36.3	45.9	56.0	65.5	71.5	81.0	90.6	100.1	119.1	147.7	
250	7.1	9.0	10.3	11.9	15.2	17.9	20.7	24.1	29.6	41.2	52.0	63.5	74.3	81.1	91.9	102.7	113.5	135.2	167.6	
275	8.0	10.1	11.6	13.3	17.1	20.1	23.2	27.1	33.2	46.2	58.4	71.3	83.5	91.1	103.2	115.3	127.5	151.7	188.1	
300	8.9	11.3	12.9	14.9	19.0	22.4	25.8	30.1	37.0	51.5	65.0	79.4	92.9	101.3	114.8	128.4	141.9	168.9	209.4	
325	9.8	12.5	14.2	16.4	21.0	24.7	28.6	33.3	40.8	56.8	71.8	87.7	102.6	111.9	126.9	141.8	156.7	186.5	231.3	
350	10.8	13.7	15.6	18.0	23.1	27.1	31.3	36.5	44.8	62.4	78.8	96.2	112.6	122.9	139.3	155.7	172.0	204.8	253.9	
375	11.8	15.0	17.1	19.7	25.2	29.6	34.2	39.9	48.9	68.1	86.1	105.1	123.0	134.2	152.0	169.9	187.8	223.5	277.1	
400	12.8	16.3	18.5	21.4	27.4	32.2	37.2	43.3	53.2	74.0	93.5	114.2	133.6	145.8	165.2	184.6	204.0	242.9	301.1	
25	0.5	0.6	0.7	0.8	0.9	1.1	1.3	1.4	1.7	2.4	3.0	3.6	4.2	4.6	5.2	5.8	6.4	7.5	9.3	
50	1.0	1.2	1.4	1.6	1.9	2.2	2.6	3.0	3.6	4.9	6.1	7.4	8.6	9.4	10.6	11.8	13.0	15.5	19.1	1.5 IN.
75	1.5	1.9	2.1	2.4	3.0	3.5	3.9	4.5	5.5	7.5	9.4	11.4	13.3	14.4	16.3	18.2	20.0	23.8	29.4	
100	2.1	2.5	2.9	3.3	4.1	4.7	5.4	6.2	7.5	10.3	12.8	15.5	18.1	19.7	22.2	24.8	27.3	32.4	40.1	
125	2.6	3.3	3.7	4.2	5.2	6.0	6.9	7.9	9.6	13.1	16.4	19.9	23.2	25.2	28.5	31.7	35.0	41.5	51.3	
150	3.2	4.0	4.5	5.1	6.4	7.4	8.5	9.7	11.8	16.1	20.1	24.4	28.4	30.9	34.9	38.9	42.9	50.9	62.9	
175	3.9	4.8	5.4	6.1	7.6	8.8	10.1	11.6	14.1	19.2	24.0	29.1	33.9	36.9	41.6	46.4	51.2	60.7	75.0	
200	4.5	5.6	6.3	7.1	8.9	10.3	11.8	13.6	16.4	22.4	28.0	34.0	39.6	43.0	48.6	54.2	59.7	70.9	87.6	
225	5.2	6.4	7.2	8.2	10.2	11.8	13.5	15.6	18.9	25.8	32.2	39.0	45.4	49.4	55.8	62.2	68.6	81.4	100.6	
250	5.9	7.2	8.1	9.3	11.6	13.4	15.3	17.7	21.4	29.2	36.5	44.3	51.5	56.1	63.3	70.6	77.8	92.3	114.1	
275	6.6	8.1	9.1	10.4	13.0	15.1	17.2	19.8	24.0	32.8	41.0	49.7	57.8	62.9	71.1	79.2	87.3	103.6	128.0	
300	7.3	9.0	10.5	11.6	14.5	16.8	19.2	22.1	26.7	36.5	45.6	55.3	54.3	70.0	79.1	88.1	97.2	115.3	142.4	
325	8.1	10.0	11.2	12.8	16.0	18.5	21.2	24.4	29.5	40.3	50.4	51.0	71.0	77.3	87.3	97.3	107.3	127.3	157.2	
350	8.9	11.0	12.3	14.0	17.5	20.3	23.2	26.7	32.4	44.2	55.3	67.0	78.0	84.8	95.8	106.8	117.7	139.7	172.6	
375	9.7	12.0	13.5	15.3	19.1	22.2	25.3	29.2	35.3	48.3	60.3	73.1	85.1	92.6	104.6	116.5	128.5	152.4	188.3	
400	10.5	13.0	14.6	16.6	20.8	24.1	27.5	31.7	38.4	52.4	65.5	79.4	92.4	100.5	113.6	126.6	139.6	165.6	204.5	
25	0.4	0.5	0.6	0.6	0.8	0.9	1.0	1.2	1.4	1.9	2.4	2.8	3.3	3.6	4.0	4.5	4.9	5.8	7.1	
50	0.9	1.1	1.2	1.3	1.6	1.9	2.1	2.4	2.9	3.9	4.8	5.8	6.7	7.3	8.2	9.1	10.1	11.9	14.6	2 IN.
75	1.3	1.6	1.8	2.0	2.5	2.9	3.3	3.7	4.4	6.0	7.4	8.9	10.3	11.2	12.6	14.0	15.5	18.3	22.5	
100	1.8	2.2	2.5	2.8	3.4	2.9	4.4	5.1	6.1	8.2	10.1	12.2	14.1	15.3	17.2	19.2	21.1	24.9	30.7	
125	2.3	2.8	3.2	3.6	4.4	5.0	5.7	6.5	7.8	10.4	12.9	15.6	18.0	19.6	22.1	24.5	27.0	31.9	39.3	
150	2.9	3.5	3.9	4.4	5.4	6.2	7.0	8.0	9.5	12.8	15.9	19.1	22.1	24.0	27.1	30.1	33.1	39.2	48.2	
175	3.4	4.1	4.6	5.2	6.4	7.3	8.3	9.5	11.4	15.3	18.9	22.8	26.4	28.7	32.3	35.9	39.5	46.7	57.5	
200	4.0	4.8	5.4	6.1	7.5	8.6	9.7	11.1	13.3	17.9	22.1	26.6	30.8	33.5	37.7	41.9	46.1	54.5	67.1	
225	4.6	5.6	6.2	7.0	8.6	9.9	11.2	12.7	15.2	20.5	25.4	30.6	35.4	38.5	43.3	48.1	53.0	62.6	77.1	
250	5.2	6.3	7.0	7.9	9.7	11.2	12.6	14.4	17.3	23.3	28.8	34.7	40.2	43.6	49.1	54.6	60.1	71.1	87.5	
275	5.8	7.1	7.9	8.9	10.9	12.5	14.2	16.2	19.4	26.1	32.3	38.9	45.1	49.0	55.1	61.3	67.4	79.7	98.2	
300	6.5	7.9	8.8	9.9	12.2	14.0	15.8	18.0	21.6	29.1	36.0	43.3	50.2	54.5	61.3	68.2	75.0	88.7	109.2	
325	7.2	8.7	9.7	10.9	13.4	15.4	17.5	19.9	23.9	32.1	39.8	47.8	55.4	60.2	67.7	75.3	82.9	98.0	120.7	
350	7.9	9.6	10.7	12.0	14.7	16.9	19.2	21.9	26.2	35.2	43.6	52.5	60.8	66.0	74.4	82.7	91.0	107.6	132.4	
375	8.6	10.4	11.6	13.1	16.1	18.5	20.9	23.9	28.6	38.5	47.6	57.3	66.4	72.1	81.2	90.2	99.3	117.4	144.5	
400	9.3	11.3	12.6	14.2	17.5	20.1	22.7	25.9	31.0	41.8	51.7	62.2	72.1	78.3	88.2	98.0	107.8	127.5	157.0	
25	0.4	0.5	0.5	0.6	0.7	0.8	0.9	1.0	1.2	1.6	2.0	2.4	2.7	2.9	3.3	3.7	4.0	4.7	5.8	
50	0.8	1.0	1.1	1.2	1.4	1.6	1.8	2.1	2.5	3.3	4.0	4.8	5.6	6.0	6.8	7.5	8.2	9.7	11.9	2.5 IN.
75	1.2	1.5	1.6	1.8	2.2	2.5	2.8	3.2	3.8	5.0	6.2	7.4	8.5	9.2	10.4	11.5	12.6	14.9	18.3	
100	1.7	2.0	2.2	2.5	3.0	3.4	3.8	4.4	5.2	6.9	8.4	10.1	11.6	12.6	14.2	15.7	17.3	20.3	25.0	
125	2.1	2.6	2.8	3.2	3.8	4.4	4.9	5.6	6.6	8.8	10.8	12.9	14.9	16.1	18.1	20.1	22.1	26.0	31.9	
150	2.6	3.1	3.5	3.9	4.7	5.4	6.0	6.8	8.1	10.8	13.2	15.8	18.3	19.8	22.2	24.6	27.1	31.9	39.2	
175	3.1	3.7	4.1	4.6	5.6	6.4	7.2	8.1	9.7	12.8	15.8	18.9	21.8	23.6	26.5	29.4	32.3	38.0	46.7	
200	3.6	4.4	4.8	5.4	6.6	7.5	8.4	9.5	11.3	15.0	18.4	22.0	25.4	27.5	30.9	34.3	37.7	44.4	54.5	
225	4.2	5.0	5.6	6.2	7.5	8.6	9.6	10.9	13.0	17.2	21.1	25.3	29.2	21.6	35.5	39.4	43.2	51.0	62.6	
250	4.7	5.7	6.3	7.0	8.5	9.7	10.9	12.4	14.7	19.5	24.0	28.7	33.1	35.8	40.2	44.6	49.0	57.8	70.9	
275	5.3	6.4	7.1	7.9	9.6	10.9	12.3	13.9	16.5	21.9	26.9	32.2	37.1	40.2	45.2	50.1	55.0	64.9	79.6	
300	5.9	7.1	7.9	8.8	10.7	12.1	13.6	15.5	18.3	24.4	29.9	35.8	41.3	44.7	50.2	55.7	61.2	72.1	88.5	
325	6.5	7.8	8.7	9.7	11.8	13.4	15.1	17.1	20.2	26.9	33.0	39.5	45.6	49.4	55.5	61.5	67.6	79.6	97.7	
350	7.2	8.6	9.5	10.6	12.9	14.7	16.5	18.7	22.2	29.5	36.3	43.4	50.0	54.2	60.9	67.5	74.1	87.4	107.2	
375	7.8	9.4	10.4	11.6	14.1	16.0	18.0	20.4	24.2	32.2	39.6	47.3	45.6	59.1	66.4	73.6	80.9	95.4	117.0	
400	8.5	10.2	11.3	12.6	15.3	17.4	19.6	22.2	26.3	35.0	43.0	51.4	59.3	64.2	72.1	80.0	87.8	103.5	127.1	
25	0.4	0.4	0.5	0.5	0.6	0.7	0.8	0.9	1.1	1.4	1.7	2.0	2.3	2.5	2.8	3.1	3.4	4.0	4.9	
50	0.7	0.9	1.0	1.1	1.3	1.5	1.6	1.9	2.2	2.9	3.5	4.2	4.8	5.2	5.8	6.4	7.0	8.3	10.1	3 IN.
75	1.1	1.4	1.5	1.7	2.0	2.3	2.5	2.8	3.3	4.4	5.4	6.4	7.3	7.9	8.9	9.8	10.8	12.7	15.5	
100	1.6	1.9	2.0	2.3	2.7	3.1	3.4	3.9	4.6	6.0	7.3	8.7	10.0	10.8	12.1	13.4	14.7	17.3	21.2	
125	2.0	2.4	2.6	2.9	3.5	3.9	4.4	5.0	5.8	7.7	9.4	11.1	12.8	13.8	15.5	17.2	18.8	22.1	27.1	
150	2.4	2.9	3.2	3.6	4.3	4.8	5.4	6.1	7.2	9.4	11.5	13.7	15.7	17.0	19.0	21.1	23.1	27.1	33.2	
175	2.9	3.5	3.8	4.2	5.1	5.8	6.4	7.3	8.5	11.2	13.7	16.3	18.7	20.2	22.7	25.1	27.5	32.3	39.6	
200	3.4	4.0	4.5	4.9	5.9	6.7	7.5	8.5	10.0	13.1	16.0	19.0	21.9	23.6	26.5	29.3	32.1	37.8	46.2	
225	3.9	4.6	5.1	5.7	6.8	7.7	8.6	9.7	11.5	15.0	18.4	21.8	25.1	27.1	30.4	33.6	36.9	43.4	53.1	
250	4.4	5.3	5.8	6.4	7.7	8.8	9.8	11.0	13.0	17.1	20.8	24.8	28.5	30.8	34.5	38.1	41.8	49.2	60.2	
275	5.0	5.9	6.5	7.2	8.7	9.8	11.0	12.4	14.6	19.1	23.4	27.8	31.9	34.5	38.7	42.8	46.9	55.2	67.5	
300	5.5	6.6	7.2	8.0	9.7	10.9	12.2	13.8	16.2	21.3	26.0	30.9	35.5	38.4	43.0	47.6	52.2	61.4	75.1	
325	6.1	7.3	8.0	8.9	10.7	12.1	13.5	15.2	17.9	23.5	28.7	34.1	39.2	42.4	47.5	52.6	57.6	67.7	82.9	
350	6.7	8.0	8.8	9.7	11.7	13.2	14.8	16.7	19.6	25.8	31.5	37.5	43.1	46.5	52.1	57.7	63.2	74.3	91.0	
375	7.3	8.7	9.6	10.6	12.8	14.5	16.2	18.2	21.4	28.2	34.4	40.9	47.0	50.8	56.9	62.9	69.0	81.1	99.3	
400	7.9	9.4	10.4	11.6	13.9	15.7	17.5	19.8	23.3	30.6	37.3	44.4	51.0	55.2	61.8	68.4	74.9	88.1	107.8	

10% safety factor has been added for contingencies.

1. Find the insulation thickness in the right column.
2. Find the specific pipe size at the top.
3. Find the ΔT in the left column.
4. Find where these three values intersect in the body of the table, this is the required watts per foot.

Chart 2: Insulation Factor

Insulation Material	Temperature to be Maintained (°F) 50	100	150	200	250	300	400	500	600
Fiberglass	1	1	1	1	1	1	1	1	1
Cellular glass	1.53	1.50	1.48	1.44	1.42	1.40	1.36	1.34	1.32
Calcium silicate	1.47	1.47	1.45	1.44	1.41	1.39	1.34	1.32	1.30
Polyurethane	0.60	0.60	0.58	0.57	Temperature exceeds recommended limit.				

NOTE: All insulation factors were determined based on leading insulation manufacturers specifications.

To determine the insulation factor:

1. Find the specific insulation type at the right.
2. Find the specific temperature to be maintained or the next highest at the top.
3. Find where the insulation and the temperature intersect in the body of the table, this is the insulation factor.

Chart 3: Heat Loss Multiplication Factors for Valves

NPS Pipe Size	0.5	0.75	1	1.25	1.5	2	2.5	3	3.5	4	6	8	10	12	14	16	18	20	24
Gate Valve	0.52	0.78	1.00	1.33	1.70	1.92	2.00	2.40	2.62	2.92	3.84	4.66	5.51	6.25	7.07	7.91	8.84	9.57	11.09
Globe Valve	0.49	0.74	0.95	1.26	1.62	1.82	1.90	2.28	2.49	2.77	3.65	4.43	5.23	5.94	6.72	7.51	8.40	9.09	10.54
Ball Valve	0.36	0.55	0.70	0.93	1.19	1.34	1.40	1.68	1.83	2.04	2.69	3.26	3.86	4.38	4.95	5.54	6.19	6.70	7.76
Butterfly Valve	0.31	0.47	0.60	0.80	1.02	1.15	1.20	1.44	1.57	1.75	2.30	2.80	3.31	3.75	4.24	4.75	5.30	5.74	6.65
Pipe Supports	0.26	0.39	0.50	0.67	0.85	0.96	1.00	1.20	1.31	1.46	1.92	2.33	2.76	3.13	3.54	3.96	4.42	4.79	5.55

To determine the heat loss multiplication factor:

1. Find the specific valve type at the right.
2. Find the specific pipe size at the top.
3. Find where the valve type and the pipe size intersect in the body of the table, this is the heat loss multiplication factor.

Chart 4: Wrap Factor (Feet of Cable per Foot of Pipe)

Pitch inches	NPS Pipe Size 0.5	0.75	1	1.5	2	2.5	3	4	6	8	10	12	14	16	18	20	24	30
2	1.98	2.27	2.66	3.52	4.25	5.01	5.97	7.52	10.85	13.98	17.30	20.43	22.39	25.53	28.67	31.81	38.09	47.50
3	1.52	1.69	1.92	2.46	2.93	3.43	4.05	5.07	7.27	9.35	11.56	13.64	14.95	17.04	19.13	21.22	25.40	31.68
4	1.32	1.43	1.59	1.96	2.29	2.65	3.11	3.86	5.49	7.04	8.69	10.25	11.23	12.80	14.36	15.93	19.06	23.77
5	1.21	1.29	1.40	1.68	1.93	2.21	2.56	3.15	4.43	5.67	6.98	8.23	9.00	10.25	11.50	12.76	15.26	19.02
6	1.15	1.21	1.29	1.51	1.70	1.92	2.20	2.68	3.74	4.75	5.84	6.88	7.52	8.56	9.60	10.64	12.73	15.86
7	1.11	1.16	1.22	1.39	1.55	1.72	1.96	2.35	3.24	4.11	5.03	5.92	6.47	7.36	8.25	9.14	10.92	13.61
8	1.09	1.12	1.17	1.31	1.44	1.58	1.78	2.12	2.88	3.63	4.43	5.20	5.68	6.46	7.23	8.01	9.57	11.92
9	1.07	1.10	1.14	1.25	1.36	1.48	1.65	1.94	2.60	3.26	3.97	4.64	5.07	5.76	6.45	7.14	8.52	10.60
10	1.06	1.08	1.11	1.21	1.30	1.40	1.54	1.80	2.38	2.96	3.60	4.20	4.58	5.20	5.82	6.44	7.68	9.55
11	1.05	1.07	1.10	1.17	1.25	1.34	1.46	1.68	2.20	2.72	3.30	3.84	4.19	4.75	5.30	5.87	6.99	8.69
12	SR	1.06	1.08	1.15	1.21	1.29	1.40	1.60	2.06	2.53	3.05	3.55	3.86	4.37	4.88	5.39	6.42	7.98
14	SR	SR	1.06	1.11	1.16	1.22	1.31	1.46	1.84	2.23	2.66	3.08	3.35	3.78	4.21	4.65	5.53	6.86
16	SR	SR	1.05	1.09	1.13	1.17	1.24	1.37	1.68	2.01	2.38	2.74	2.97	3.34	3.72	4.10	4.86	6.02
18	SR	SR	SR	1.07	1.10	1.14	1.19	1.30	1.56	1.84	2.16	2.48	2.68	3.01	3.34	3.67	4.35	5.37
24	SR	SR	SR	SR	1.06	1.08	1.11	1.18	1.35	1.53	1.75	1.97	2.12	2.35	2.59	2.83	3.33	4.08
30	SR	SR	SR	SR	SR	1.05	1.07	1.12	1.23	1.37	1.52	1.69	1.80	1.97	2.16	2.34	2.73	3.32
36	SR	SR	SR	SR	SR	SR	1.05	1.08	1.17	1.26	1.39	1.51	1.60	1.73	1.88	2.03	2.34	2.82
42	SR	SR	SR	SR	SR	SR	SR	1.06	1.12	1.20	1.29	1.39	1.46	1.57	1.69	1.81	2.07	2.47
48	SR	SR	SR	SR	SR	SR	SR	1.05	1.10	1.16	1.23	1.31	1.37	1.46	1.56	1.66	1.88	2.22
60	SR	SR	SR	SR	SR	SR	SR	SR	1.05	1.10	1.15	1.21	1.25	1.31	1.38	1.46	1.62	1.87
72	SR	SR	SR	SR	SR	SR	SR	SR	SR	1.07	1.11	1.15	1.18	1.23	1.28	1.33	1.46	1.66

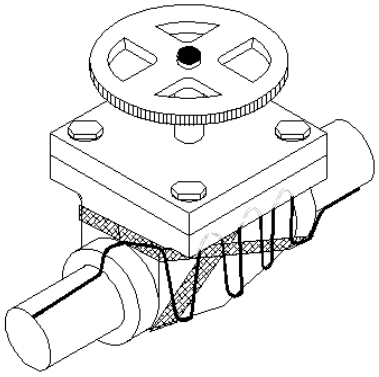
SR = Straight Run

To determine the wrap factor:

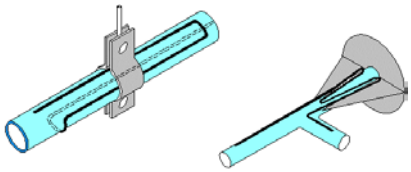
1. Find the specific pipe size at the top.
2. Follow that column down to the specific wattage required or the next highest.
3. Follow that row to the left most column, this is the required pitch.

Typical Heating Cable Installation Details

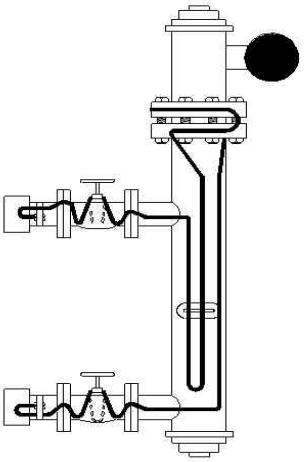
BriskHeat®



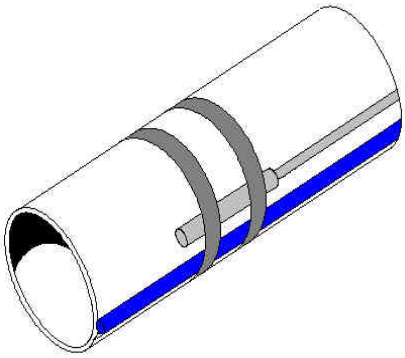
Installation of heating cable on a valve body.



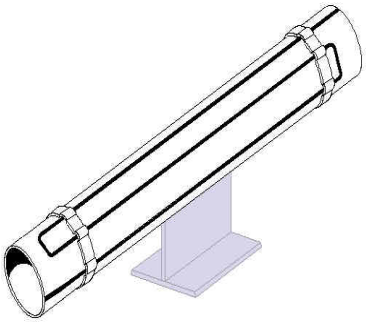
Installation of heating cable on supports.



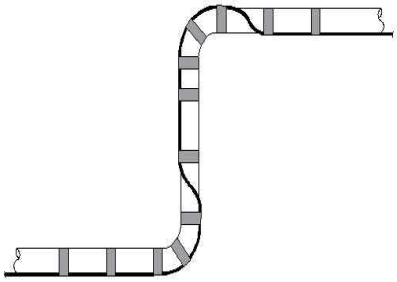
Installation of heating cable on a level controller.



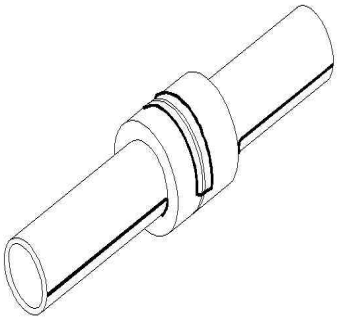
Installation of a temperature sensor.



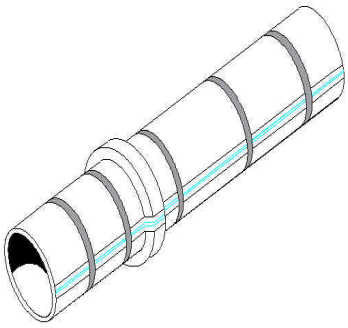
Installation of heating cable on a pipe support.



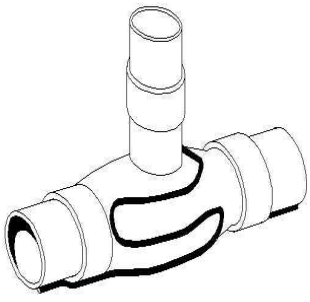
Installation of heating cable on elbows.



Installation of heating cable on a flange body.



Installation of AAT tape over heating cable.



Installation of heating cable on a blind tee.

Pipe Tracing System Design Checklist

Contact Name: _____ **Telephone Number:** _____
Company Name: _____ **Fax:** _____
Address: _____
Application: _____ **Type of Industry:** _____

Pipe Specifications

Diameter: _____ **Length:** _____ **Material:** _____
Wall Thickness: _____ **Wall Type:** ☐ Single ☐ Double
Insulation Type: ☐ Fiberglass ☐ Calcium Silicate ☐ Urethane Foam ☐ Mineral Fiber ☐ Foamed Glass
☐ Per Lite ☐ Other _____
Insulation Thickness: _____
How Many: Valves _____ Flanges _____ Supports _____ Pumps _____
45° elbows _____ 90°elbows _____ Tee's _____

Location

Pipe location: ☐ Indoors ☐ Outdoors **If outdoors what is the wind speed:** _____
Minimum ambient temperature: _____
Area Classification: ☐ Ordinary ☐ Hazardous Class: _____ Division: _____ Group: _____

Product Specifications

Product Name: _____ **Specific Heat:** _____
Max/Min Exposure temps: _____ **Density:** _____
Corrosive: ☐ Yes ☐ No **Flow Rate:** _____
Beginning State ☐ Solid ☐ Liquid ☐ Gas **Ending State** ☐ Solid ☐ Liquid ☐ Gas
Note: if beginning state and ending state are different heat of fusion must be provided

Temperature

Process start up temperature: _____ **Process maintenance temperature:** _____
Time required for heat up: ☐ 1 hour ☐ 2 hours ☐ 4 hours ☐ 8 hours ☐ 12 hours ☐ 24 hours
☐ Other: _____

Power Requirements

Operating voltage: ☐ 120 ☐ 208 ☐ 240 ☐ 277 ☐ 480 ☐ Other: _____
Phase: ☐ Single ☐ 3 Phase Wye ☐ 3 Phase Delta **Circuit breaker size:** _____

Cable type preferred: ☐ Constant Wattage ☐ Self-Regulating ☐ Recommend
Comments: _____

Although Self-Regulating cable can be used without a temperature controller, if a particular temperature is required then a temperature controller must be used. All Constant-Wattage cable applications require temperature control. BriskHeat® can provide this control.

Should BriskHeat® recommend a controller for this application? ☐ Yes ☐ No

Customer Signature: _____ **Date:** _____

If you have any questions in completing the above checklist, please contact factory.

Visit our web site at www.briskheat.com
For More Information Call Toll Free 800-848-7673, Phone 614-294-3376, Fax 614-294-2672