

Installation Instructions

CONSTANT WATT (CW) AND SELF REGULATING (SR) PIPE TRACE APPLICATIONS



Warning: Constant Watt and Self Regulating Cable must be installed by a qualified electrician. All assembly, installation, and test instructions must be followed. Improper installation can result in property damage, serious injury, or death due to electric shock. Please call Delta-Therm Corporation at 1-800-526-7887 with any installation or operating questions.

PRECAUTIONS:

Read these Installation Instructions and all instructions included with kits prior to installation. Observe all warnings.

Visually inspect the cable for damage. The cable, including braid, must not be cut, nicked or worn. **DO NOT USE DAMAGED CABLE.**

GENERAL INSTALLATION PROCEDURE

Test cables for Insulation Resistance (IR) prior to installation.

Allow 12" of cable for every power supply connection or splice. For constant watt cable locate the heating zone and add 12" before cutting the cable. Refer to cable information on locating the heating zones.

Install cable straight along pipe. It is not necessary to spiral the cable under normal design circumstances.

Taping cable to pipe:

- Constant Watt Cable - use aluminum tape and tape cable straight along the length of the pipe, covering the heating cable.
- Self Regulating Cable - use fiberglass or aluminum tape and tape cable to pipe every 12" or use aluminum tape and tape straight along the pipe, covering the heating cable.

Allow additional cable for valves, pipe hangers and un-insulated pipe passing through walls as shown in the details on the following pages. **DO NOT WRAP HEATING CABLE AROUND PIPE HANGERS.** See the Cable Allowance Chart. Minimum bend radius is 1".

To terminate the cable use the kits ordered to make power connection, end termination, and T or in-line splices. Installation instructions are provided with each kit. All cable ends must be properly terminated per the instructions. **DO NOT TIE BUS WIRES TOGETHER.**

Visually inspect the cable for installation damage or improper installation. Check the insulation resistance of the cable from conductor to ground. A minimum reading of 10 megohms is required.

Install waterproof insulation. Be sure there is a full thickness of insulation between the pipe and all hangers and supports.

Attach "Caution Label" (CL-L) on each side of pipe every 10'.



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PREPARING THE SITE

All pipes should be pressure tested for leaks. The pipes and valves should then be cleaned of any dirt or corrosive materials and dried.

Install aluminum tape on all PVC, fiberglass, or other non-metallic pipes to transfer heat properly. Use Delta-Therm T-AL200 or T-AL400 self-adhesive aluminum tape. Install tape where cable is to be applied.

Measure the pipes to be traced. Refer to Cable Allowance Chart, in this section, for cable lengths on the various items. Double the length for pipes to be double traced.

Provide power to the start of the pipe trace. Verify voltage provided is consistent with the voltage indicated on the cut sheet.

CABLE TESTING

Unpack the cables and test for insulation resistance (IR). Insulation resistance should read greater than 10 megohms. To test IR, connect one lead of a 500 VDC insulation resistance tester to the conductor, and the other lead to the braid or ground. Test in accordance with the meter manufacturers instructions.

CABLE STORAGE

All cables should be stored in a cool dry location. Cables should be protected from damage.

FASTENING CABLE TO PIPE

Fasten cable to pipe using fiberglass strapping tape, cable ties, cable strap or aluminum tape. Leave a minimum of 12" at the start of the run for the power termination. For constant watt cable locate the heating zone before cutting the cable.

Delta-Therm recommends that the cable be fastened to the pipe every 12". Cable should be positioned on the lower 1/3 of the pipe, at the 4 o'clock and the 8 o'clock positions. Install the cable as indicated in the following details. Cut and store any remaining cable.

INSTALLATION

Although most pipes are single traced, there are circumstances where a pipe may require to be traced twice. Refer to Detail 3. (Check the installation drawings for complete information.)

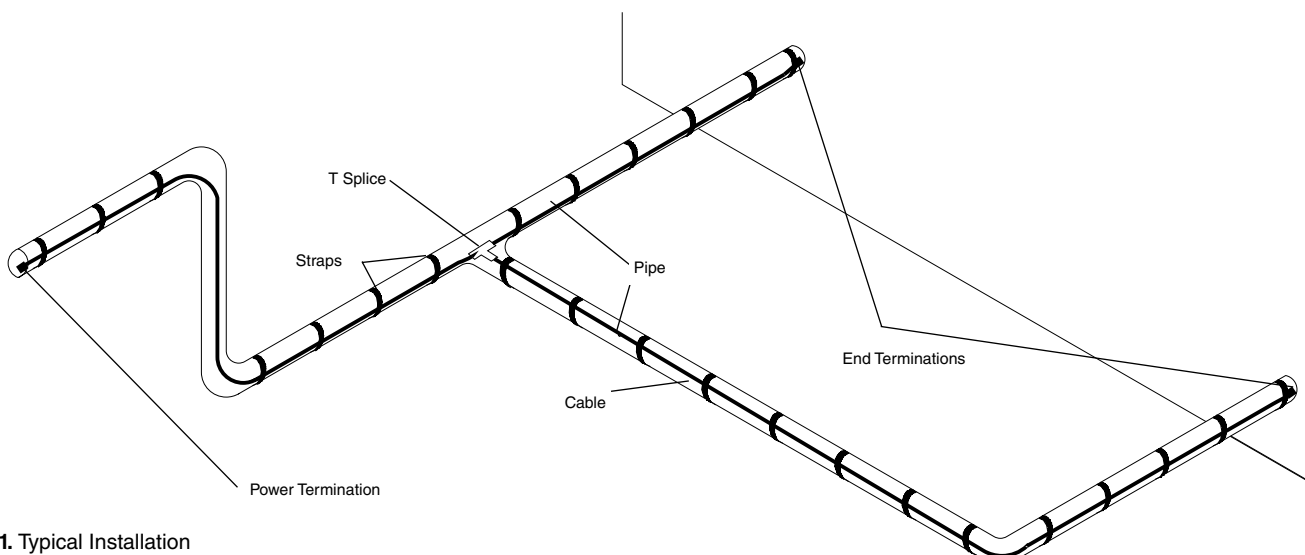
Follow standard installation details for various applications.

Terminate cable per power connection kit instructions.


Consult with your factory representative or Delta-Therm for items not covered in this guide.

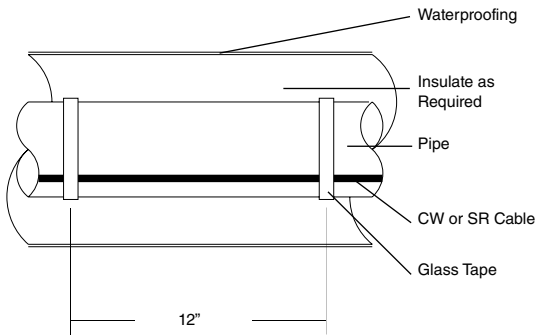
Note that the following details allow for removal of cable to service various fixtures.

The minimum cable installation temperature is -5° F.

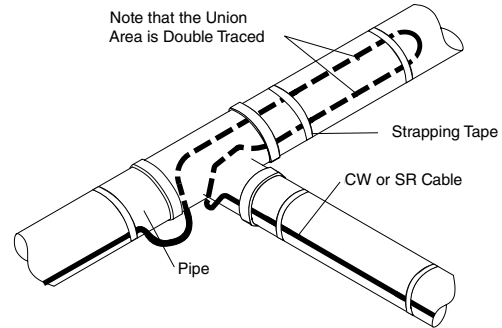


Detail 1. Typical Installation

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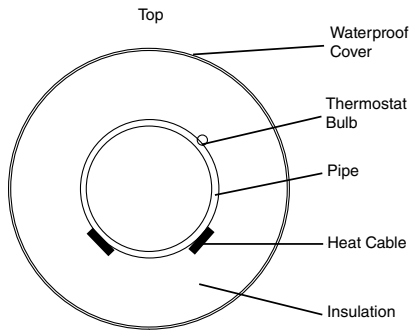


Detail 2. For Single Run Fasten SR cable to pipe every 12" on center.

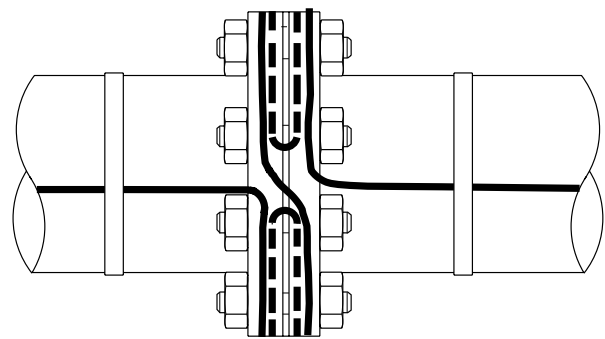


Detail 5. Heat Trace At Pipe Union

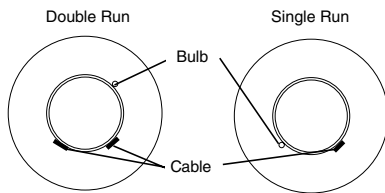
Note that the cable is to be run on the underside of the union, and not on the top as illustrated.



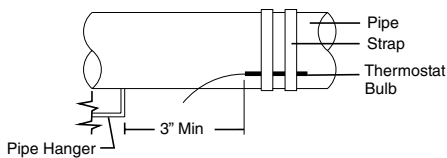
Detail 3. For Multiple Runs Locate multiple heaters at the 4 and 8 o'clock positions, typical. Locate the sensor at the 2 o'clock position.



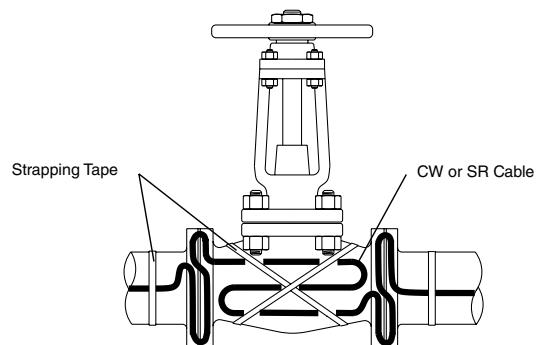
Detail 6. Heat Trace on Flange



Mount the thermostat bulb at the 2 o'clock position on double run and at the 8 o'clock position on single run systems. Locate the bulb at least 3" away from fixtures



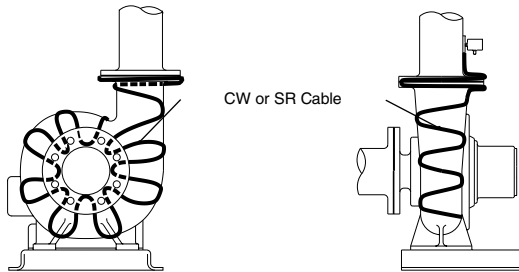
Detail 4. Sensor Location for Maintenance Temperature



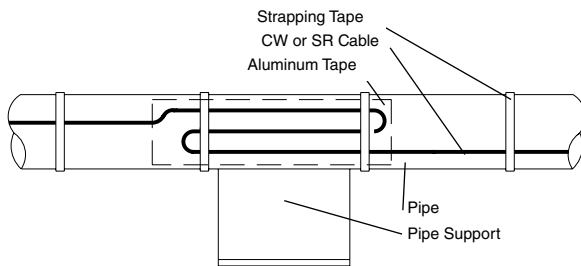
Detail 7. Heat Trace on Flange Valve



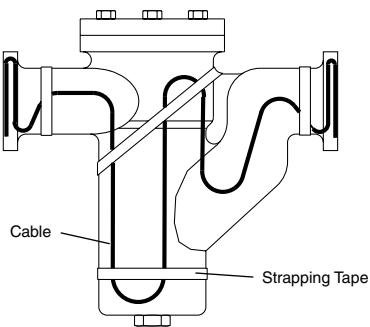
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Detail 8. Heat Trace on Circulator (Tape cable to circulator using aluminum tape.)



Detail 9. Pipe Support



Detail 10. Detail of Heat Trace on Basket Strainer

CABLE ALLOWANCE CHART

PIPE SIZE	SCREW VALVES	FLANGE VALVES	BUTTERFLY VALVES	PIPE SUPPORTS	PIPE ELBOWS	PIPE FLANGE
1"	6"	6"	6"	6"	3"	3"
2"	6"	1'	6"	1'	6"	6"
3"	1'	2'	1'	1'	6"	6"
4"	2'	3'	1'	1'	9"	6"
6"	3'	4'	1'	2'	9"	1'
8"	4'	5'	2'	2'	9"	1'
10"	5'	7'	2'	3'	1'	1'
12"	7'	8'	2'	3'	1'	1'
14"	8'	10'	3'	4'	1'	2'

GENERAL ACCESSORIES

- TraceMate** Thermostat with monitoring capabilities
- T-AL200** 2" Aluminum tape
- T-AL400** 4" Aluminum tape
- T-F50** .5" Fiberglass strapping tape
- T-F100** 1" Fiberglass strapping tape
- T-F50H** .5" High temp. Fiberglass strapping tape
- CL-S** Small Caution Label
- CL-L** Large Caution Label
- A19ANC-1** Nema 3 Thermostat
- OTS-1A** Nema 4X Thermostat
- SSPS** Stainless Steel Banding for Pipe Trace
- DT-Box**

PANELS

- Enclosed Contactor
- LNR Panel
- GFPE Power Relay Panel
- Custom Control/Monitor Panel

TROUBLE SHOOTING

Consult Delta-Therm Constant Watt and Self Regulating Trouble Shooting Guide.

TECHNICAL SUPPORT

If you have any questions or comments about these instructions, or your installation, please call Delta-Therm at 1-800-526-7887.