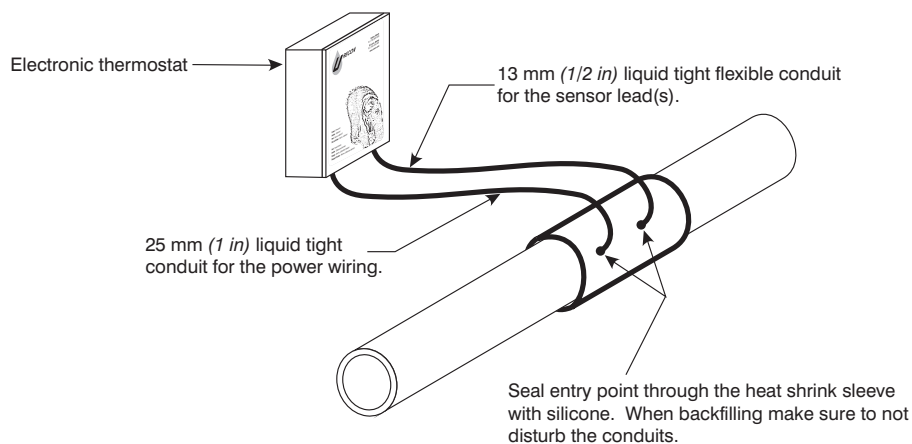


INSTALLATION INSTRUCTION #3E

PFK-1 (Power feed kit)

One PFK-1 power feed kit contains all the necessary electrical components to connect two THERMOCABLE® to an electronic thermostat of the UTC series. The thermostat may be located up to 6 m (20 ft) away from the pipe (PFK's for longer distances are available by special order).



Each kit contains:

ITEM	QUANTITY	DESCRIPTION
Components for the installation and connection of the heating cable		
1	2 x 7 m	# 12 AWG, three-conductor power wiring.
2	6 m	25 mm (1 in) liquid tight flexible conduit (assembled to items 3 and 4).
3	2	Connector to join the 25 mm (1 in) flexible conduit to the thermostat and to the plastic shoe (assembled to items 2 and 4).
4	1	Plastic shoe (assembled to items 3 and 4).
5	1	Sealing ring for item 3 (at the thermostat).

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|---|---|--|
| 6 | 2 | PS1337-12-COJ splice kit to splice # 12 AWG bus wire THERMOCABLE® to the power wiring. |
|---|---|--|

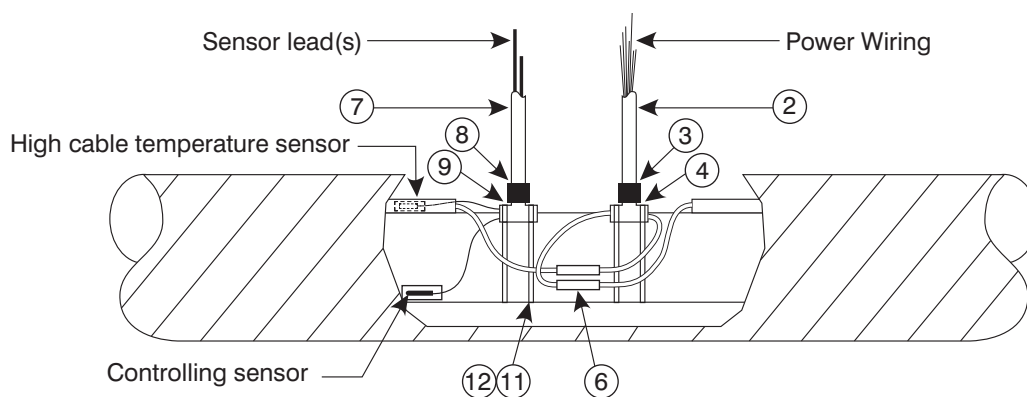
Components for the installation of the sensor(s)

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|----|-----|--|
| 7 | 6 m | 13 mm (<i>1/2 in</i>) liquid tight flexible conduit (assembled to items 8 and 9). |
| 8 | 2 | Connector to join the 13 mm (<i>1/2 in</i>) flexible conduit to the thermostat and to the plastic shoe (assembled to items 7 and 9). |
| 9 | 1 | Plastic shoe (assembled to items 7 and 8). |
| 10 | 1 | Sealing ring for item 8 (at the thermostat). |

Miscellaneous components

- | | | |
|----|---|--|
| 11 | 4 | 13 mm (<i>1/2 in</i>) wide x 2 m (<i>6 ft 6 in</i>) long stainless steel strap, to fasten the plastic shoes to the pipe. |
| 12 | 4 | Worm gear clamp to secure strap. |
| 13 | 1 | Silicone caulking, to seal conduit entry points through the heat shrink sleeve. |
| 14 | 1 | Installation instruction # 24 for heat shrink wrap. |

NOTE: Item numbers are keyed to those on the diagram.

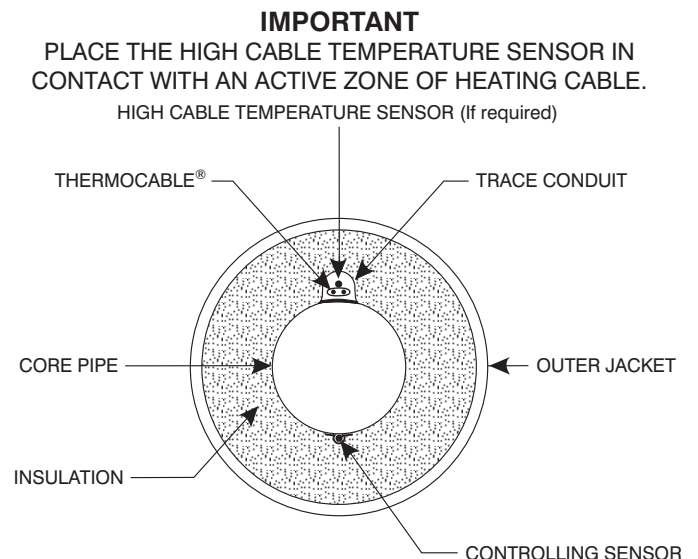


Assembly instruction:

- 1) Install the thermostat in an appropriate location within 6 m (20 ft) of the pipeline.
- 2) Normally the power feed kit is attached to the pipe at a pipe joint, where the insulation is removed. If it is desired to make the connection at a point other than the pipe joint, you will have to remove 450 mm (18 in) of jacket and insulation to expose the pipe and trace conduit. Cut and remove the jacket and insulation carefully so as not to nick or damage the pipe. Ensure that the insulation faces on the pipe are square to the axis of the pipe.
- 3) Cut a 300 mm (12 in) length of trace conduit without damaging the hidden THERMOCABLE® if it has already been installed.
- 4) Cut the 13 mm (1/2 in) and 25 mm (1 in) liquid tight flexible conduits to the appropriate length.
- 5) Cut two appropriate sized holes in the center of the heat shrink sleeve to permit a snug passage to the two conduits. Remove the connectors and the shoes from the conduits. Pull the conduits through the holes in the heat shrink sleeve ensuring that the mastic adhesive side of the sleeve is facing the pipe.
- 6) Reinstall the connectors and plastic pipe shoes.
- 7) Using the connectors provided (ensure that the gasket is on the exterior side), connect the liquid tight flexible conduits to the bottom of the thermostat enclosure.
- 8) When more than one temperature sensor is used, they have to be identified according to their use i.e. : controlling sensor or high cable temperature sensor (on plastic pipe) in order to connect them to the proper terminals. As a

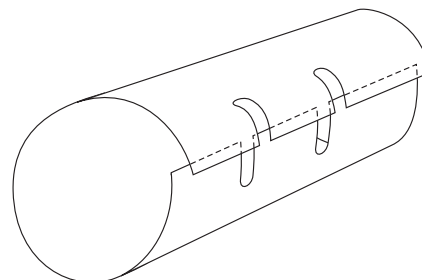
general rule, when multiple sensors are required, they can be supplied with two different color lead wires.

- 9) Pull the sensor wire(s) through the 13 mm (1/2 in) conduit. Connect the sensor(s) to the proper terminals in the thermostat. Install the sensor(s) in their proper location with aluminum tape; the high cable temperature sensor is to be taped to an active zone of the THERMOCABLE® (not the cold lead) within the trace channel, the controlling sensor is to be taped directly to the pipe 180° away from the heating cable. If the thermostat is controlling a pipe which enters a heated building, the sensors must be located at least 3 m (10 ft) away from the outside wall to avoid inaccurate temperature sensing. **The accurate identification and positioning of the sensors is absolutely essential to the efficient and safe operation of the system.**



IMPORTANT
TAPE THE CONTROLLING SENSOR DIRECTLY TO THE PIPE, 180° FROM THE HEATING CABLE, UNDER THE INSULATION.

- 10) Pull the power wiring through the 25 mm (1 in) flexible conduit. Splice the power wiring to the heating cable following the THERMOCABLE® installation instructions for the power splice. Connect to the appropriate terminals in the thermostat in accordance with the installation instructions supplied. **NOTE: In severe conditions, it is preferable to bring the heating cable(s) through the conduit directly to the thermostat without any splice and power wiring. In the case of heating cables with a power output of 13 watts/meter (4 watts/foot) or greater, a dedicated flexible conduit should be used for each cable.**
- 11) Attach the two plastic shoes to the pipe in the same longitudinal axis and secure with the worm gear clamps, tighten with a screwdriver. Ensure that the pipe is continuously heat traced by overlapping the power wiring and entering the shoe on the opposite side to the heat tracing circuit.
- 12) Trim the insulation half shells to ensure a tight fit for the uninsulated portion of the pipe. Notch out two holes to permit passage of the two flexible liquid tight conduits.
- 13) Before installing the insulation, test the heat tracing circuit(s) to ensure that the thermostat and THERMOCABLE® are operating properly.
- 14) Apply silicone caulking liberally around the neck of the plastic shoes and install the half shells.
- 15) Pull down the heat shrink sleeve and install as per the installation instructions supplied.
- 16) The flexible conduit should be positioned and protected so that it does not become damaged by passing traffic. If the pipe is to be buried, the conduit should be well protected during the backfilling operation so that it is not separated from the pipe.
- 17) If the piping installation has a metal jacket, a similar metal jacket should now be installed on the joint. Cut notches in the overlapping edges as shown in the following illustration. The final overlap should face down. Caulking should be used to seal all cracks.



Rolled metal cover, field cut to accommodate two PFK conduits.

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