

AC766 Thermal-Ribbon Mounting Kit

A Thermal-Ribbon accurately senses fluid temperature through pipe walls. No draining, welding, drilling, or tapping – just install the Thermal-Ribbon in place beneath a layer of insulation. When installing a Thermal-Ribbon™, you must ensure that it conforms tightly to the sensed surface and is well insulated from surrounding air. This sheet provides instructions for installing the Thermal-Ribbon pipe sensor and AC766 mounting kit.

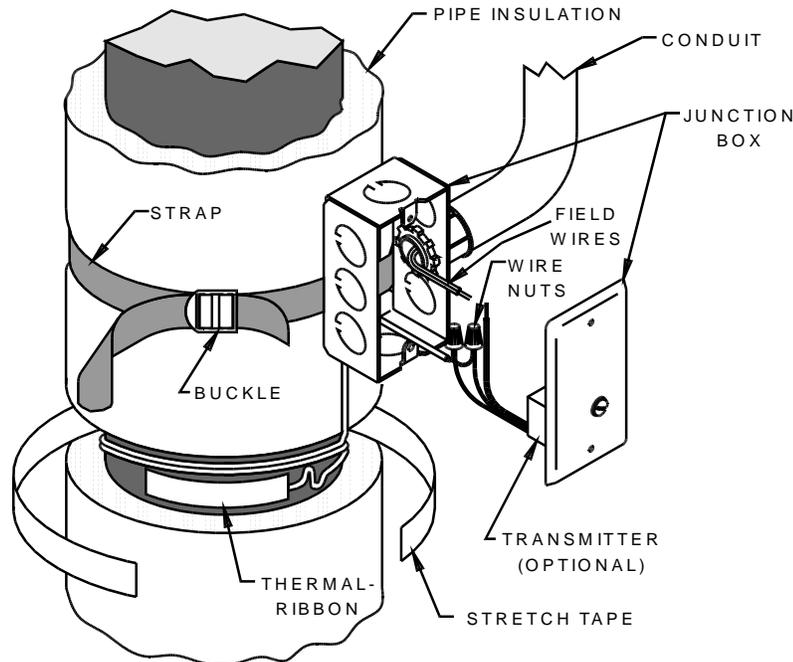


Figure 1: The Thermal-Ribbon sensor mounts on the surface of a pipe beneath the insulation.

The AC766 Thermal-Ribbon Mounting Kit contains:

Contents:

Junction box
Nylon strap, 5 feet
Buckle
Wire nuts, 4
#20 Stretch tape, 6 feet

Optional items:

Temptran transmitter
#20 Stretch tape
#6 RTV adhesive

1. Mount the Thermal-Ribbon using one of the following methods:

A. Pressure sensitive adhesive (PSA)

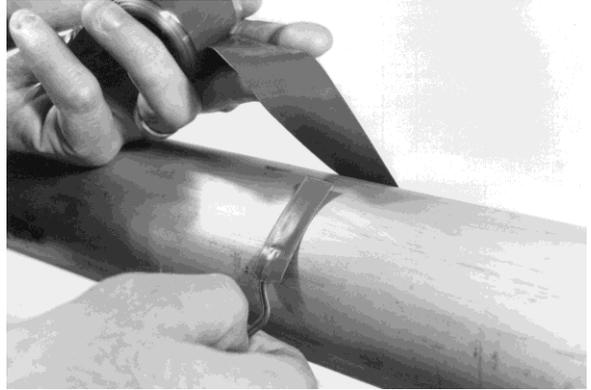
PSA offers easy press-in-place installation, but is restricted to flat surfaces and temperatures below 350°F (177°C). Because PSA is factory applied, you must specify it when ordering the Thermal-Ribbon. To use PSA:

1. Remove insulation and clean all dirt and oil from the mounting area. Use a wire brush or sandpaper to expose shiny metal.
2. Remove the protective backing paper from the Thermal-Ribbon and press it in place. Apply pressure to remove voids.
3. Secure leadwires so they do not pull on the Thermal-Ribbon body.
4. Replace or install insulation.

B. #20 stretch tape

Minco #20 is a self-adhering silicone rubber tape with two-way stretch for quick installation on cylinders. Because there is no adhesive layer between the Thermal-Ribbon and the pipe, #20 provides optimum thermal response. To use #20:

1. Remove insulation and clean all dirt and oil from the mounting area.
2. Position the Thermal-Ribbon on the pipe, flat side down, and put a bend in the leads for strain relief. Wrap the tape around the Thermal-Ribbon and pipe a minimum of 1-1/2 turns, maintaining constant tension as you go.
3. Cut the tape and press the end in place. Be sure the tape is clean and the end is firmly adhered.
4. Replace or install insulation.



C. #6 RTV cement

Minco #6 is a room temperature vulcanizing cement suitable for curved surfaces and temperatures to 392°F (200°C). To use #6:

1. Remove insulation and clean all dirt and oil from the mounting area. Use a wire brush or sandpaper to expose shiny metal.
2. Coat the flat mounting surface of the Thermal-Ribbon with cement. Keep the adhesive layer thin and void-free for best heat transfer.
3. Quickly position the Thermal-Ribbon on the pipe and apply uniform pressure to remove bubbles.
4. For best results, lightly clamp the Thermal-Ribbon in place for at least 2 hours. Do not heat the pipe for 24 hours.
5. Secure leadwires so they do not pull on the Thermal-Ribbon body.
6. Replace or install insulation.

2. Route leadwires away from the Thermal-Ribbon

Care must be taken to install leadwires so they do not conduct heat away from the Thermal-Ribbon or pull it loose from the pipe. Some considerations are:

1. Do not allow the leads to hang free where they might be subject to tugs and pulls. When possible, tape them to pipe hangers or mounting brackets.
2. Run the leads along the pipe a few inches before bringing them out through the insulation. This way, the wires will be at the same temperature as the sensor and will not cause conduction errors.

3. Interface Thermal-Ribbon to control system

The Thermal Ribbon can be connected directly to the control system's field wires for short runs or to a Temptran transmitter for long signal wire runs. The transmitter provides a linear 4 to 20 mA current signal, immune to noise and leadwire resistance, and preserves signal accuracy over long distances.

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