# **INSULATION**

A thermally insulated pipe requires much less heat (energy) to protect and is not as susceptible to freezing. Heat-Line products are designed to be used with thermal insulation to reduce heat loss and greatly improve performance and energy efficiency. When the warmth generated by the heating cable system is captured by insulation, the amount of energy consumed by the heating cable is vastly reduced.



### **THERMOSTATS**

Thermostats are used to control the heating cable in an ON/ OFF operation reducing the amount of energy consumed. The use of the thermostat in combination with the insulation helps to reduce the amount of energy consumed which can be very important when operating off a battery or from solar/ wind generated power.



#### **KOMPENSATOR AT A GLANCE**

- 1 year limited warranty
- Factory finished to length
- Most reliable and energy efficient system on the market
- Can be installed on metallic and non-metallic pipes and tubes
- Provides freeze protection for many pipe diameters
- Can be installed with a thermostat and fully insulated to increase energy efficiency
- Will not melt or burnout pipes or tubes, even when dry
- Over jacket for use in wet location when properly fitted
- Compatible with various methods of power generation including alternator / battery systems
- Compatible with DC voltages
- Continuous ground path
- No need for power inverters
- Unlimited control options
- No other product combines these features or offers the reliability and flexibility
- Factory built to meet your needs

## **SPECIAL REQUIREMENTS**

Since 1988 Heat-Line® has been specializing in freeze protection of all types. If you have a special application of any kind, give us a call. Special system designs are common to us. We manufacture many other innovative products not mentioned in this brochure.



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# **Kompensator**®

Low Voltage (12V and 24V) self-regulating heating cable system, suitable for various uses.





#### ABOUT KOMPENSATOR

Kompensator self-regulating low voltage heating cable systems are custom manufactured and engineered to suit various applications. Kompensator systems are the only LOW VOLTAGE, external, self-regulating heating cable set supplied job-ready to provide safe, efficient, and reliable freeze protection for various installation parameters. Designed to be installed directly onto the outside of pipes, tubes and hoses the Kompensator system can protect both small and large diameter fluid systems.

- Suitable for direct earth burial and wet locations
- Recommended to be insulated.
- Safe for use on metal and plastic pipes and tubes
- Thermostat is optional

rugged environments as

heat is gently applied,

preventing freezing.

- Self-regulating heating cable
- 12 volt available in 3 or 5 watt/ft at 50°F, max length 40 ft (3 watt) or 30 ft (5 watt)
- 24 volt available in 3 watt/ft at 50°F, max length 60ft
- 12 or 14 AWG SJOOW supply cord for direct hard wire

### **SELF-REGULATING HEATING CABLES**

Heat-Line freeze protection systems employ the most reliable and advanced heating cable technology in the world. Self-regulating heating cables offer the unique performance required in the freeze protection industry. These heating cables are built around a conductive polymer core which automatically adjusts, increasing or decreasing heat output in response to temperature microscopically at every point throughout the length of the cable. Kompensator systems cannot over heat.

Self-regulating heating cable technology provides superior performance in the coldest climates and the most

#### **APPLICATIONS**

Kompensator systems are manufactured in both 12 and 24 Volts with various watt densities available to optimize heat output and power consumption. Within the Recreational Vehicle (R.V.) industry Kompensator systems operate directly off of alternator/ battery systems and are trusted to protect water supply lines, holding tanks, waste water pipes, diesel exhaust fluid (DEF) hoses and containment units, oil lines, gas tubes, and compressor lines.

#### Application examples include but not limited to;

- Small and large diameter pipes and hoses
- Tanker fluid delivery hoses
- Compressed air systems
- Valves, shutoffs and other exposed fittings
- Diesel exhaust fluid (DEF) holding tanks and lines
- Hydraulic oil lines and hoses
- Sewage, septic and effluent pipes

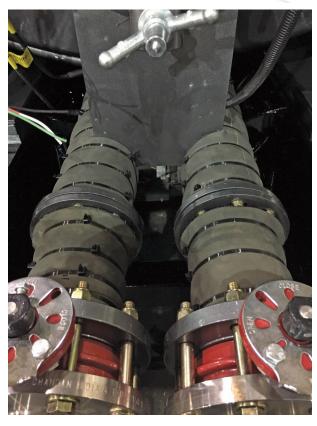
# Kompensator can be found providing freeze protection in many of the following places:

- Commercial fluid delivery trucks
- Fire trucks and other emergency vehicles
- Camps and motorized recreational vehicles
- Mining and exploration camps/ developments
- Commercial and industrial
- Off-Grid residences, lake homes and cottages
- Oil and gas industry

#### **POWER SUPPLY**

Kompensator is supplied job-ready with an electrical cold lead for direct connection to a low voltage circuit. Over current protection is required and ampacities vary with applications. For more information on required over current protection please refer to your Kompensator installation manual.





Completed Kompensator installation shown on a water tanker. Heating cable was installed on the pipe in a spiral about 1 1/2 inches apart with foil tape over top to hold cable in constant contact with the pipe and allow heat transfer around the pipe. Insulation was then applied increased energy efficiency and operating reliability.