

## **Grease Flow Maintenance System**

### **Part 1 - GENERAL**

Furnish and Install a complete UL Listed, CSA Certified, or FM Approved system of heating cables, components and controls to provide flow maintenance of grease waste lines.

### **Part 2 - MATERIALS**

2.1 The self-regulating heating cable shall consist of two (2) 16 AWG nickel-copper bus wires embedded in parallel in a self-regulating polymer core that varies its power output to respond to temperature all along its length, allowing the heating cable to be cut to length in the field. The heating cable shall be covered by a radiation-crosslinked, modified polyolefin dielectric jacket. To provide a ground path and to enhance the heating cable's ruggedness, the heating cable shall have a braid of tinned copper and an outer jacket of fluoropolymer (CT), as required per section 427-23 of the NEC-1996.

For installation on plastic piping, the heating cable shall be applied using aluminum tape (AT-180).

2.2 In order to conserve energy and to prevent overheating, the heating cable shall have a self-regulating factor of at least 90 percent.

2.3 The heating cable shall operate on line voltages of (select: 208, 220, 240, or 277) volts without the use of transformers.

2.4 The insulation for grease pipe below grade shall be ridged closed-cell Polyiso foam with a PVC waterproof jacket. The insulation for piping above grade shall be fiberglass type. Follow heating cable design guide for proper insulation thickness.

2.5 The heating cable shall be XL-Trace (CT) as manufactured by Tyco Thermal Controls (949) 223-9800 or approved equal prior to bid.

2.6 Power connection, end seal, splice, and tee kit components shall be applied in the field.

2.7 Heating cable circuit shall be protected by a ground-fault device for equipment protection. This requirement is in accordance with section 427-22 of the NEC-1996.

### **Part 3 - COMPONENTS**

All heating-cable components shall be UL Listed, CSA Certified, or FM Approved for use as part of the system to provide flow maintenance. Component enclosures shall be rated NEMA 4X to prevent water ingress and corrosion. All components that make an electrical connection shall be re-enterable for servicing.

### **Part 4 - SYSTEM CONTROL**

The flow maintenance system shall be controlled by a DigiTrace 910 line sensing thermostat that incorporates both Ground Fault Protection and a digital display of the operating temperature or alternate appropriate controller as recommender by heat tracing manufacturer. Where a controller is not practical, the system can be controlled by a switch through an appropriate contactor.

#### **5.1 Installation**

- A. System must be installed per manufacturer's recommendations.
- B. Apply the heating cable linearly on the pipe and secure to pipe with glass cloth tape.
- C. Apply "Electric Traced" labels to the outside of the thermal insulation.

#### **5.2 Tests**

After cable installation and before and after installing the thermal insulation, subject heating cable to testing using a 2500-Vdc Megger. Minimum insulation resistance shall be 20 megohms or greater. Testing shall be performed by Manufacturer's field service representative and shall be witnessed by the Construction Manager. A report indicating the success or failure of each test and any recommended corrections shall be forwarded to the Construction Manger by the field service representative.