FIRE PUMP THERMAL RELIEF VALVE

A Trident Model (#27.024.0) ThermaGuard™ TRV thermal relief valve will be installed as part of the fire pump system. The system will consist of (1) control head assembly, (1) 10’ main harness, (1) NTC sensor, (1) solenoid relief valve, and (1) check valve. The NTC sensor will be constructed from brass with a 1/4” NPT connection to the fire pump. The solenoid relief valve will be of brass and stainless-steel construction with a 3/8” NPT connection to the fire pump system.

Performance, Safety, and NFPA Compliance

The control head assembly will be encapsulated to resist moisture, thermal stress, and vibration. External components will be UV-resistant and functional in environments ranging from -25°C to 90°C.

At power-up, the system will perform a self-test cycle, beginning with each LED on the front panel illuminating sequentially for ½ second in the order: "PUMP HOT," "120°F," "140°F," "170°F." After the LED test, the solenoid relief valve will pulse for ½ second, ensuring movement of the valve poppet to clear debris and prolong valve life. Any trapped water will drain from the check valve and solenoid valve during this process.

Relief Valve Control

The control head unit will feature a manual button to select temperature setpoints of 120°F, 140°F, or 170°F. When the temperature reaches the selected set point, the alarm will activate visually, and the system will engage to protect the pump. The controller will open the solenoid valve to allow sufficient relief flow, cooling the pump. The valve will close once the temperature falls 2°F (1.1°C) below the setpoint.

Power Requirements

The system will operate on a 9-28V DC power supply, requiring 0.25 to 3 amps.

Warranty

The ThermaGuard™ TRV will be backed by a five-year (5) parts warranty.