

NON-EXPLOSION PROOF CRANKCASE HEATER

PRODUCT APPLICATION

Commonly applied to units destined for service in low ambient climates or environments with extreme changes in temperature, crankcase heaters are used to help prevent possible compressor lockup and failure.

Crankcase heaters are used to prevent refrigerant in the system from reverse migrating back into the compressor and mixing with the oil. This is especially an issue if a compressor is used in a low ambient condition, because during the off-cycle the oil inside the compressor cools off. This cooled oil has a higher propensity to attract refrigerant because of the pressure difference between it and the vaporized refrigerant in the cycle. When the compressor is started during the next cycle, the oil, now attached to the refrigerant, flows out of the compressor and toward the condenser, leaving less oil to effectively lubricate the compressor. The compressor could then experience immediate or eventual failure.

PRODUCT DESCRIPTION

Specific Systems Crankcase Heaters are manufactured to have a corrosion resistant and moisture-proof exterior, voltages through 600V with nominal power consumption, and high temperature silicon rubber elements with insulated lead wires. Each heater is custom designed to fit and be used with a particular compressor. Because of the design of the heater, the oil is kept up to 30°F warmer than the system temperature, forcing refrigerant to remain in the proper place.

AVAILABLE OPTIONS

Specific Systems offers a wide range of options on our units. Other options to consider if a unit is to be used in a low ambient condition include:

- Freezestat
- Explosion Proof Heater
- Remote Thermostat
- Humidistat
- High/Low Temperature Alarms
- Explosion Proof Crankcase Heater

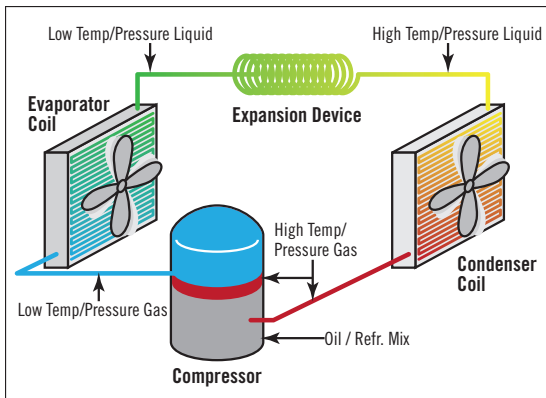
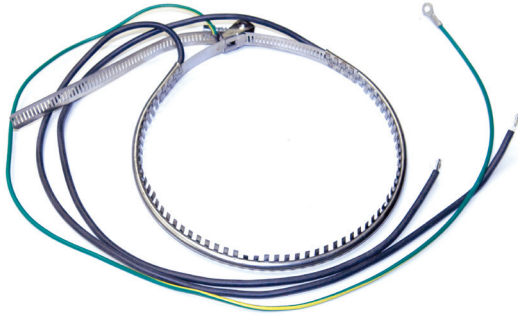


Figure 1. Low ambient temperatures allow refrigerant to migrate to compressor, and allow oil to attract the refrigerant. Because the oil is no longer able to lubricate the compressor effectively, eventual (or immediate) failure will occur.

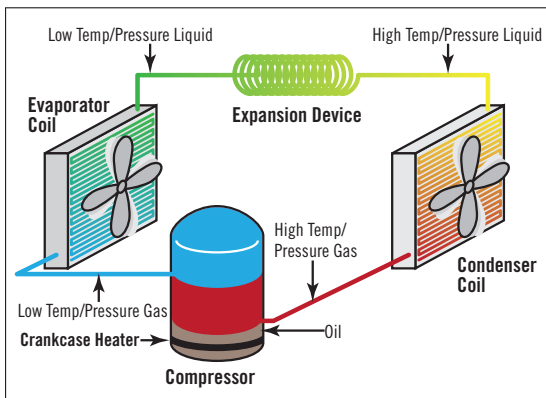


Figure 2. With a crankcase heater installed, the oil stays well-above the coldest temperature in the loop and is less able to force the migration of refrigerant into the compressor.

