Munich RE

Preventive Maintenance for Your Small Refrigeration Unit

Risk Solutions

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Introduction

Every year The Hartford Steam Boiler Inspection and Insurance Co. (HSB) investigates numerous small refrigeration unit failures. The primary reason for the majority of these failures is poor or nonexistent preventive maintenance for the unit.

To help you achieve the reliable and uninterrupted service you expect from your refrigeration equipment, we are offering the following recommendations.

Crankcase

One of the most critical parts in the refrigeration unit is the crankcase heater. These refrigeration units operate below the condensing temperature much of the year. Preferably, the heater should be continuously energized. The energized heater will minimize refrigerant migration to the compressor and the resulting compressor failure. In all cases, it is vital that the crankcase heater be energized at least 8 hours before starting the unit.

Mechanical

Because the operation and safety controls, including the expansion valve(s), are the heart of the unit, they should be checked annually to make certain they are properly calibrated and in good working order. Like all electrical and mechanical equipment, these controls wear out and must be checked regularly and replaced when they are determined to be unreliable.

The oil in the unit can also be tested at this time. The results of this analysis will let you know if the oil will hold up in the coming year.

Electrical

- Contacts may be deteriorated as the result of cycling of the compressor.
- All terminal connections should be checked and tightened, and all pitted contacts should be replaced.
- The overload protection on the unit should be examined for proper sizing.

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Condenser

The unit's condenser should be cleaned at a minimum of once each year. If the condenser is located in a high dust and dirt area, it should be scheduled for more frequent cleaning. A clean condenser will prevent high head pressure which can shorten the life of the unit.

Moisture

The small refrigeration unit should be equipped with a moisture indicator to detect the presence of moisture within the system. If moisture is present, filter dryers should be installed or changed to remove the moisture. More importantly, the source of the moisture should be determined and preventive action taken to correct the condition. New refrigerants (post R-22), will attract moisture and can cause internal icing failures.

Cost

- The cost of unscheduled and unwanted breakdowns of your refrigeration unit are expensive.
- Even when machinery insurance is available, the deductible may still account for a considerable expense.
- Because we are talking about refrigeration units, we must also consider spoilage of perishable goods.
- Visual/audible alarms should be installed which will indicate unacceptable changes in refrigerated space temperatures.

HSB Help

- Your HSB inspector will help you find a local refrigeration concern that will look after your system needs.
- Please give us a call! We are ready to assist you in taking care of your small refrigeration needs

Our advice is intended to complement the equipment manufacturer' recommendations and not replace them. If you have any doubts about any particular procedure, contact your equipment service representative.