Commercial Installation Guide MAXR-100™

Air Conditioning & Refrigeration

Note: MaxR100 must be installed by a certified A/C technician.

Pretreatment

1. Oil sample analysis of the installed refrigeration compressor oil should be taken if at all possible and mandatory in all cases where there is an accessible sump.

2. Benchmark (or pretreatment operation) data of the system should be taken and recorded prior to installation.

3. A qualified "Air conditioning & Refrigeration" (A/C&R) technician should perform a standard maintenance inspection before any refrigeration system is treated with MAXR 100. This inspection should, at a minimum, verify that the following conditions exist:

A. Head pressure and suction pressure within design limits.

B. Absence of oil or refrigerant leakage.

C. Coils, filters, strainers, etc. are clean and free of obstructions.

D. Thermostats or control systems functioning properly.

E. Heat exchanger coil fins free of dust, dirt, and corrosion.

4. Ensure that the maintenance person responsible for the system has obtained and is current on any manufacturer's maintenance bulletins or modifications to procedures or maintenance material.

5. Instruct maintenance personnel that MAXR 100 will displace oil and carbon deposits on tube surfaces. Particularly in older systems, these deposits and oil returning to the compressor may clog in-line filters, separators, and driers and/or oil filters.

It is mandatory that a substantial supply of the replaceable items mentioned be provisioned in advance of installation.

Installation

1. If the system is charged, start the unit and keep it running throughout the installation.

2. Introduce MAXR 100 into the unit's cool gas suction line valve or low-pressure port on the refrigerant line.

3. An injection pump designed for the application should be used to ensure no contaminants are introduced.

4. It is important that neither air nor moisture be allowed to enter the system during this process.

5. The fluid is to be injected very slowly into the system. Observe the valve to avoid bubbling.

6. The FTA advises that if the system is smaller than 25 tons (88 kW) of cooling, the fluid may be introduced in a single treatment. However if more fluid is required, it is recommended to use two equal treatments to obtain the appropriate dosage.

7. It is not unusual to see a slight increase in energy consumption immediately following treatment as the fluid begins to move throughout the system and oil and other particles are displaced. Dividing the treatment into smaller doses minimizes this effect.

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Alternative Installations

1. If the system is discharged, introduce the appropriate dosage to the refrigeration oil before charging the system. If possible, remove an amount of refrigeration oil equal to the MAXR 100 dosage.

2. For a small unit system that is under a charge, "Refrigerant Dye Injector" equipment may be used to introduce the MAXR 100 treatment, at the correct ratio (see: ***MAXR 100 Ratio Usage*** chart), into the unit's cool gas suction line valve or low-pressure port on the refrigerant line. Add MAXR 100 to the system by the same procedures that are normally employed to add refrigerant dye to an A/C&R system. Alternatively, a standard set of A/C&R "technician pressure gauges" may be used to add the MAXR 100 fluid by the following procedures: remove the low-pressure hose (blue), fill the hose with the MAXR 100 fluid (by opening the valve at the bottom and inserting the fluid into the top of the hose. The hose will be full when the fluid runs out of the bottom of the hose). Reattach the hose to the gauge and slowly allow the gas to move the fluid out of the hose. Re-check pressures and disconnect. It is important that neither air nor moisture be allowed to enter the system through the hose during this process.

Post-Treatment

MAXR 100 may take one to two weeks of normal operation to disperse completely throughout the system. As the activated molecules bond to metal, they displace oil and carbon deposits on tube surfaces. In older systems, these deposits and oil returning to the compressor may clog in-line filters, separators, and driers and/or oil filters. Maintenance personnel are to observe the system frequently, especially in the first two weeks, and are to clean or replace the filter items as frequently as required.

AC&R Ratio Usage

1. Units with less than *10 tons of cooling capacity use ½oz per ton of A/C or 5% of refrigeration oil volume

2. Units with greater than *10 tons of cooling capacity use 1 oz per ton of A/C or 10% of refrigeration oil volume

***(1 ton = 12,000 BTU/Hr//3.52 kW)**