

# GOOD REFRIGERATION PRACTICES

Good refrigeration practices will always start with good detective work to find out what caused the failure so we can eliminate the possibility of a repeat failure. Below is a step by step set of procedures we would recommend is followed when repairing a refrigeration system.

- ❑ Before opening the refrigeration system remember that POE oil is very hygroscopic and absorbs moisture very quickly. You should not leave the system open to the atmosphere for more than 15 minutes. Any vacuum that exists before any repair should be broken with nitrogen to avoid moisture being pulled into the system.
- ❑ For your manifold gauges, use as short of refrigeration hoses as possible. We recommend maximum of 12" (304.8 mm) hoses.
- ❑ Always replace the drier with the exact OEM size when opening the refrigeration system.
- ❑ Recover the refrigerant from the system. NOTE: R-290 can be vented in a well ventilated area with no source of ignition.
- ❑ The introduction to the refrigeration system of anything other than a flushing agent, nitrogen, refrigerant, or oil is prohibited.
- ❑ Remove the faulty refrigeration component and filter drier by cutting them out with a tubing cutter.
- ❑ If you are changing a component keep the system closed up with plugs or caps to reduce moisture contamination.
- ❑ Take a look at the filter drier and the components that have been removed for signs of oil breakdown, foreign objects like desiccant from drier, metal pieces from valves, etc.
- ❑ When replacing a compressor make sure to also remove all old oil from the system.
- ❑ While purging nitrogen through the system drill (approximately 1/8") (3.18 mm) hole in the bottom of the accumulator (**IF EQUIPPED**) so we do not leave contaminated oil in the system. After blowing this out with nitrogen, be sure to braze the hole closed.
- ❑ Be sure and test the oil from the refrigeration system for contamination using the proper test kit for the type of oil.
- ❑ If the oil shows signs of contamination or there was a restriction in the system, all of the oil must be removed and replaced. This can be accomplished by removing the compressor and flushing the entire system with nitrogen. Remove all the oil in the compressor, and in the accumulator. Measure all the old oil in a measuring cup and replace the exact amount you removed with the new oil. If necessary, a flushing agent can be used for cleanup.
- ❑ When brazing an R-290 system always purge nitrogen through the system 2 minutes before brazing and during the entire brazing process.
- ❑ Place a nitrogen charge in the system to check for any leaks. **Use maximum 200 PSI (13.8 Bar).**
- ❑ Release the nitrogen charge down to about 2 pounds of positive pressure (.1379 bar).
- ❑ Start pulling a vacuum as soon as possible to help remove any moisture from the system. Remember that any moisture that is absorbed by the POE oil cannot be removed and we must start the process over.
- ❑ Change vacuum pump oil regularly to ensure the deepest vacuum your pump is capable of.
- ❑ Using a micron gauge, pull the system down to hold a minimum of 500 microns (0.5 Torr).
- ❑ See if the system will hold this micron with the gauges closed and the pump switched off to test for leaks or moisture.
- ❑ Once the system is evacuated, weigh in the listed refrigerant charge located on the serial tag inside the cabinet. R-290 can be added as a liquid or vapor. Refrigerant 134a/404A charge as a liquid only. Refrigerant should be charged through the high side.
- ❑ Test run the unit and check for proper operation.

**AFTER REPAIR IS COMPLETE ALL ACCESS FITTINGS MUST BE REMOVED.**

PLEASE CALL TRUE TECHNICAL SERVICE WITH ANY QUESTIONS REGARDING THE ABOVE PRACTICES.

**1 855 372 1368**

**service@truemfg.com**

**WORLD HEADQUARTERS: O'FALLON, MISSOURI, USA**

SERVICE DEPARTMENT HOURS OF OPERATION:

7:00-7:00 CST MONDAY-THURSDAY, 7:00-6:00 FRIDAY, 8:00-12:00 SATURDAYS

**UK** - Field's End Road,  
Goldthorpe, Nr. Rotherham  
South Yorkshire, S63 9EU  
**+44 1709 888 080**  
8:30AM - 5:00PM M-F

**GERMANY** - Hauptstr.  
269 • 79650 Schopfheim  
**+49 (0)7622 68830**  
8:00AM - 5:00PM M-F

**AUSTRALIA** - 6B Phiney  
Place • Ingleburn, NSW 2565  
**+61 2 9618 9999**  
8:30AM - 5:00PM M-F

**MEXICO CITY** - Eje 5 Sur  
"B" • Colonia Paseos de  
Churubusco C.P. 09040 •  
México, Distrito Federal  
**+52 555 804 6343/6344**  
9:00AM - 5:30PM M-F

**CHILE** - Avenida Las Condes  
#7009 • Las Condes •  
Santiago, Chile C.P. 7560764  
**+56 232 13 3600**  
9:00AM - 5:30PM M-F