

- 1) **Pre-charge** the unit with your low side pressure gauge and hose through the pre-charge port on the rail assembly to 5 lbs. per unit ton for forced air units or 4 lbs per unit ton for “H” units only. Now, move the low side hose to the low pressure port and start the unit up in heating mode, 2nd stage for 2 stage units. **Note:** Return air temperature for forced air units should be between 65° and 75° F. during the following procedures.
- 2) **Check Discharge Superheat.** Attach a high pressure gauge to the high pressure port. Attach a temperature clamp to the compressor discharge line just after the muffler and measure the discharge line temperature. Using a Pressure/Temperature chart, subtract the temperature given on the chart for your high pressure reading from the temperature taken at the discharge line. The remainder is your discharge superheat. This should be between 30° and 70° F. Charge is correct as is. If above 70° F, see step 5.
- 3) **Cooling Mode Check/Suction Superheat.** Switch the unit over to cooling mode, 2<sup>nd</sup> stage for 2 stage units. Attach a temperature clamp to the air handler vapor line at the rear of the unit or, the vapor line between the internal heat exchanger and reversing valve inside the cabinet for 100% hydronic heated/chilled water systems (WG\*H). Measure the vapor line temperature. Using a Pressure/Temperature chart, subtract the temperature given on the chart for your low pressure reading from the temperature taken at the vapor line. The remainder is your suction superheat. This should be between 4° and 18° F. If not, Contact Total Green Mfg. at 419-678-2032.
- 4) **While still in cooling mode,** re-check your discharge super heat the same as in step 2. Again, it should be between 30° and 70° F. If above 70° F, see step 5.
- 5) **Only If Discharge Superheat is Above 70°F in Either Mode.** **Never** add refrigerant while running in cooling mode. With the unit running in heating mode only, 2<sup>nd</sup> stage for 2 stage units, slowly add additional refrigerant through the low pressure port while watching the site glasses on the accumulator. Add refrigerant until 5 additional lbs. have been added or refrigerant reaches the top site glass of the accumulator, whichever occurs first. **Never** allow the refrigerant level to rise above the top site glass of the accumulator.

5 lbs. of additional refrigerant added but, the level hasn't reached the top site glass. The charge is complete.



Less than 5 lbs. of additional refrigerant added but, the level is in the top site glass. The charge is complete.

**Note:** The above illustrations are for reference only to show that the refrigerant level should **NEVER** be above the top site glass. Refrigerant level in the accumulator does **NOT** indicate a proper charge. There are times the level may only be in the bottom site glass, or empty.

Please refer to the Vacuum and System Charging Instruction manual for any questions and/or more detailed charging procedures. Contact Total Green Mfg. at 419-678-2032 if any of the above conditions cannot be met.

Start Up Date \_\_\_/\_\_\_/\_\_\_ Refrigerant Type \_\_\_\_\_ Final Charge Lbs. \_\_\_\_\_