Refrigerant Charging Kit Instructions

Great Water Item #12-001

To connect Dispensing Valve to refrigerant R134a can

1. Open Valve stem to raise piercing pin.
2. Thread valve onto top of can in clockwise direction.
3. Make connection to manifold hose and to dispensing valve.
4. Keep valve on manifold closed.
5. When ready, turn valve fully clockwise to pierce the top of the can.
6. Back off valve counter clock wise to open valve & allow refrigerant to flow.
7. When connecting hose to the service port open the manifold valve slightly so that the lines are purged with refrigerant from the can.This will insure that no air can enter the system.
8. Follow the charging instructions for your system.
9. Keep the can upright at all times. Refrigerant should be added to the system as a gas only.
10. When finished turn can valve completely clockwise to close.
11. R-134a is sold over the counter in auto parts stores.

Charging Procedure for Isotherm R134a Systems

These instructions are intended for minor adjustments of the refrigerant charge. For major repairs or if the tubing has been broken a service agent must vacuum the system.

Always verify that the condenser is clean and that cooling fans or pumps are operating normally. Never add charge to a system until the correct operation of fan or pump and the condenser have been checked.

Run the system in the manual temperature mode. Keep the thermostat at the extreme CW position (lowest temperature setting). This will keep the compressor operating at a constant speed.

- ***When connecting the gauge to the service port make sure that the lines are purged so that no air or moisture can enter the system***.

The service port is located on the top of the compressor and is a standard ¼" SAE Male Flare fitting with a Schrader valve. Remove the heat shrink tube and cap from the service port.

These systems have a relatively small charge of only 90 to 120 grams total. Always add charge slowly and give the system time to respond to changes in the charge.

Operate the system for 10 to 15 minutes to warm up. Until the compressor warms up the operating current will be high and suction pressures may be lower than normal. Add charge to the system to keep the pressure above 0 psi during this warm up period.

After the warm up the charge can be adjusted. Always make changes slowly and in small steps. Allow a few minutes time for the system to respond to the changes and for pressure readings to settle.

Suction pressure of the system (after the 10 minute warm up) will read between 20 psi to 15 psi. (If the box is very warm the pressures may be slightly higher.) As the system begins to cool the pressure will gradually decrease.

On a holding plate system the pressure will hold at approximately 15 psi as the plate begins to freeze. After the holding plate has completely frozen – 1 hour or more the pressure will fall to 8 to 10 psi.

On an evaporator system as the box cools and frost develops on the surface the pressure will gradually decrease to approx. 7 psi to 3 psi. (Lower pressures for colder freezer temperatures.)

If the system develops frost on the suction line more than 1 foot from the holding plate it is over-charged. The charge should be reduced until the frost line is within 1 foot or less of the plate.