
Proper Troubleshooting Techniques of MSC Liquid Injection Expansion Valves

If you are experiencing problems with the MSC Liquid Injection Thermostatic Expansion Valve not operating properly, we have compiled this list of troubleshooting suggestions.

Field checks to perform if the Liquid Injection Expansion Valve is not operating properly:

Note: Before performing any of the checks which involve opening the valve or removing the head, make sure the system is off and all refrigerant has been removed.

- 1) Make sure you have a solid stream of liquid refrigerant entering the valve. The feed of liquid refrigerant coming into the valve must be solid in order for it to operate properly. A sight glass should be in place before the valve to make this check possible.
- 2) The thermostatic expansion valve has a sensing bulb, which needs to be attached to the discharge line no more than 12 inches away from the compressor or discharge. The bulb needs to be placed in a bulb well with heat transfer paste and installed on the top half of the discharge line. The bulb and bulb well must be insulated with pipe insulation as well as the section of discharge line in proximity of the bulb.
- 3) The charge on the power head is difficult to check. With the power head off and in a normal ambient condition, it will rattle and appear to be not pressurized. This rattling is normal and does not indicate a problem with the valve.
- 4) To check if the charge in the bellows of the cage assembly is leaking to the equalizing port, remove the pipe plug. If the cavity is pressurized, then the cage of the valve must be replaced.
- 5) If the valve seems to be stuck and not opening or closing properly, the plunger assembly may be sticking. To check the operation of the plunger assembly, the cage needs to be removed and push the button on top of the cage down. This will take quite a bit of force, but the plunger should slide smoothly without getting stuck. If the plunger, after all attempts to open it, can not be moved or it does not slide smoothly, then the cage of the valve needs to be replaced.