Contractor Service Tips

Tip Card 28

Metering Device

Many air conditioning systems incorporate a TXV style metering device as the standard. It is extremely important for the HVAC technician to understand the design and operation of these valves. If proper service practices are not followed, severe system damage will result.

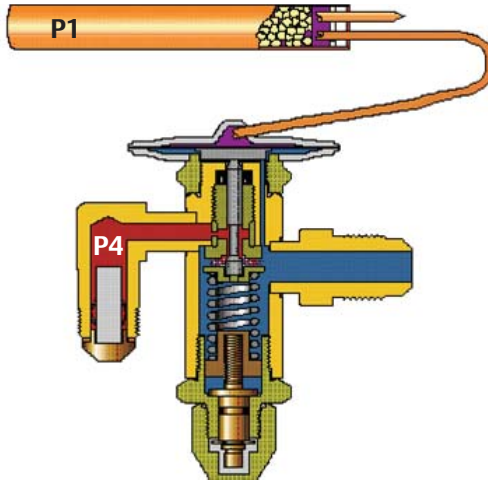
When charging a system, follow the manufacturer's recommendations. If extra charge is required due to long line sets and the system incorporates a TXV metering device, charging should be done with respect to subcooling at highest load. The greatest chance for a TXV to lose control of the evaporator load is during this time. If subcooling is present during highest load, enough refrigerant is circulating throughout the system to control the evaporator loads.

To adjust evaporator coil superheat, follow the manufacturer's recommendations. If these are not available, the following guide lines could apply, depending upon the system design temperature:

High Temp	8°F - 12°F
Medium Temp	5°F - 8°F
Low Temp	2°F - 6°F

EMERSON
Climate Technologies

Thermostatic Expansion Valve



P1 = Bulb Pressure (Opening Force)
P2 = Evaporator Pressure (Closing Force)
P3 = Superheat Spring Pressure (Closing Force)
P4 = Liquid Pressure (Opening Force)

TXV Pressure Balance Equation
P1 + P4 = P2 + P3