

# ITB Customer Care Center

## Pressure and Temperature Symptoms Chart

**Purpose:** The purpose of this document is to provide a clear communication on what the relationship between pressure, temperature, and the use of Superheat and Subcooling to troubleshoot.

Pressure and Temperature Symptoms Chart:

Symptoms Exhibited *					Condition Solutions	
Suction Pressure	Discharge Pressure	Super Heat	Sub Cooling	Comp. Amps	Symptom	Possible Solutions
↓	↓	↓	↓	↓	Light load	Check filter, blower speed tap selected, blower motor, wheel, and capacitor.
↓	↓	↑	↓	↓	Insufficient refrigerant charge; undercharge; leak	Check system for leak(s). Recover refrigerant, repair leak(s), evacuate system to 500 microns, and re-charge with refrigerant.
↓	↓	↑	↑	-	Restriction in refrigerant circuit	Look for significant temperature difference at point of restriction. Possible incorrect orifice pin (too small) or TXV stuck closed.
↑	↑	↑	↑	↑	Heavy load	Due to excessive air flow across coil or open return duct in unconditioned space. Check blower speed tap setting (too high) and return duct for leakage.
↑	↑	↓	↓	↑	Restricted outdoor coil	Insufficient air flow across Condenser coil. Check cleanliness of coil. Check condenser fan motor, blade, and capacitor.
↑	↑	↓	↑	↑	Excessive refrigerant charge; overcharge	Recover refrigerant from system and weigh in refrigerant
↑	↑	↓	↕	↑	Air and/or Non-condensable in system	Recover refrigerant from system, evacuate system to 500 microns, and weigh in refrigerant.
↑	↓	↓	↓	-	Over feeding Metering device	Check for proper pin size or loose TXV sensing bulb or TXV stuck open.
↑	↓	↕	↕	-	Compressor defective	I.E. runs but doesn't pump, abnormally low Amp draw and abnormally high compressor temperature may be indicated.

\* "Normal" refers to Pressures, Temperatures, and/or values obtained at rated air flow under a given set of conditions and assumes that no changes have been made to factory refrigerant charge.