

## HVAC/REFRIGERATION TROUBLESHOOTING:

PROBLEM	POSSIBLE CAUSES	POSSIBLE CORRECTIVE STEPS
Compressor will not run	<ol style="list-style-type: none"> <li>No cooling being called for</li> <li>Main switch open</li> <li>Fuse blown or circuit breaker tripped</li> <li>Thermal overloads tripped</li> <li>Defective contactor or coil</li> <li>System shut down by safety devices</li> <li>Liquid line solenoid will not open</li> <li>Other electrical issues</li> <li>Loose wiring</li> </ol>	<ol style="list-style-type: none"> <li>None. Wait for thermostat to call for cooling</li> <li>Close switch</li> <li>Check electrical circuits for shorts or grounds. Check for possible overloading. Replace fuse or reset breaker only after fault is corrected.</li> <li>Overloads should automatically reset. Check system for proper operation once it come back online.</li> <li>Repair or replace</li> <li>Determine type and cause of shutdown before resetting safety devices.</li> <li>Determine cause, Repair or replace</li> <li>Check for open windings, short circuit or burn out</li> <li>Check all electrical connections, Tighten all terminal screws</li> </ol>
Compressor noisy or vibrating	<ol style="list-style-type: none"> <li>Flooding of compressor</li> <li>Improper suction/discharge line support</li> <li>Worn compressor</li> <li>Scroll compressor rotation reversed</li> </ol>	<ol style="list-style-type: none"> <li>Check expansion valve settings</li> <li>Relocate, add or remove supports</li> <li>Replace</li> <li>Rewire for correct phase</li> </ol>
High discharge pressure	<ol style="list-style-type: none"> <li>Noncondensibles in system</li> <li>System overcharged with refrigerant</li> <li>Discharge service valve partially closed</li> <li>Condenser fan not running</li> <li>Dirty or blocked condenser coil</li> </ol>	<ol style="list-style-type: none"> <li>Remove</li> <li>Reclaim excess</li> <li>Open valve</li> <li>Check</li> <li>Clean</li> </ol>
Low Discharge Pressure	<ol style="list-style-type: none"> <li>Suction valve partially closed</li> <li>Insufficient refrigerant charge</li> <li>Low suction pressure</li> </ol>	<ol style="list-style-type: none"> <li>Open valve</li> <li>Check for leaks. Correct and add correct amount</li> <li>See Low Suction pressure steps</li> </ol>
High Suction Pressure	<ol style="list-style-type: none"> <li>Excessive load</li> <li>Expansion device is overfeeding</li> </ol>	<ol style="list-style-type: none"> <li>Reduce load or add capacity</li> <li>Check bulb placement or orifice size</li> </ol>
Low Suction Pressure	<ol style="list-style-type: none"> <li>Loss of refrigerant</li> <li>Evaporator dirty or iced</li> <li>Clogged liquid line filter</li> <li>Expansion valve malfunctioning</li> <li>Condensing temperature too low</li> <li>Improper expansion valve</li> </ol>	<ol style="list-style-type: none"> <li>Check for leaks, add charge</li> <li>Clean and change air filter. Check airflow</li> <li>Change</li> <li>Replace</li> <li>Is outdoor ambient too low?</li> <li>Check for proper sizing</li> </ol>
Little or no oil pressure	<ol style="list-style-type: none"> <li>Excessive liquid in crankcase</li> <li>Worn bearings</li> <li>Low oil level</li> </ol>	<ol style="list-style-type: none"> <li>Check crankcase heater, Reset TXV for higher superheat</li> <li>Replace compressor</li> <li>Add oil</li> </ol>
Compressor loses oil	<ol style="list-style-type: none"> <li>Lack of refrigerant</li> <li>Excessive compressor ring blowby</li> <li>Refrigerant floodback</li> <li>Improper piping or traps</li> </ol>	<ol style="list-style-type: none"> <li>Check for leaks. Add charge</li> <li>Replace compressor</li> <li>Maintain proper superheat</li> <li>Correct piping</li> </ol>
Compressor thermal protector switch open	<ol style="list-style-type: none"> <li>Operating beyond design conditions</li> <li>Discharge service valve partially closed</li> <li>Dirty condenser coil</li> <li>Overcharged system</li> </ol>	<ol style="list-style-type: none"> <li>Check operating conditions. Add capacity so operating conditions are maintained</li> <li>Open valve</li> <li>Clean</li> <li>Correct charge</li> </ol>