

FAULT FINDING BY SYSTEM PRESSURE (8.2.07)

To use this chart, first consider pressures on Cooling cycle to narrow the field, then consider pressures on Heating cycle to zero in on possible fault.

| COOLING Suction Pressure | COOLING Discharge Pressure | HEATING Suction Pressure | HEATING Discharge Pressure | Possible Symptoms COOLING | Possible Symptoms HEATING | Probable Cause |
|--------------------------|----------------------------|--------------------------|----------------------------|---------------------------|---------------------------|---|
| LOW | LOW | LOW | LOW | 2, 3, 4 | 2, 3, 4 | Undercharge of refrigerant |
| | | | NORMAL | | | |
| | | | HIGH | | | |
| | | NORMAL | LOW | | | |
| | | | NORMAL | 1 | None | Operation of cooling cycle in too low ambient and/or room condition |
| | | | HIGH | | | |
| | | HIGH | LOW | | | |
| | | | NORMAL | | | |
| | | | HIGH | 1 | 7 | Low indoor air flow, dirty filters, blocked coil, indoor fan motor failure |
| | NORMAL | LOW | LOW | | | |
| | | | NORMAL | | | |
| | | | HIGH | | | |
| | | NORMAL | LOW | 1 | None | Operation of cooling cycle in too low room condition |
| | | | NORMAL | 1 | None | Operation of cooling cycle in too low room condition |
| | | | HIGH | 1 | 7 | Short circuiting of indoor air supply-return; low indoor air flow |
| | | HIGH | LOW | | | |
| | | | NORMAL | | | |
| | | | HIGH | | | |
| | HIGH | LOW | LOW | | | |
| | | | NORMAL | | | |
| | | | HIGH | | | Closed liquid or suction shut off valve(s), blockage in liquid or suction lines or components |
| | | NORMAL | LOW | | | |
| | | | NORMAL | | None | Indoor TXV/Accurator blockage, Outdoor unit check valve stuck/blocked/installed back to front |
| | | | HIGH | | | |
| HIGH | | LOW | | | | |
| | | NORMAL | | | | |
| | | HIGH | | | | |

Possible Symptoms legend:

- (1) Frosting or Icing of Indoor Coil, (2) High Superheat, (3) Low Amps, (4) Loss of Capacity, (5) Low Superheat, (6) High Amps
- (7) High Pressure Switch Tripping, (8) Premature Icing of Outdoor Coil, (9) Noisy Scroll Compressor



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| COOLING Suction Pressure | COOLING Discharge Pressure | HEATING Suction Pressure | HEATING Discharge Pressure | Possible Symptoms COOLING | Possible Symptoms HEATING | Probable Cause | | | |
|--------------------------|----------------------------|--------------------------|----------------------------|---------------------------|---------------------------|---|---|---|---|
| NORMAL | LOW | LOW | LOW | | 2, 3, 4 | Slight undercharge of refrigerant | | | |
| | | | NORMAL | | | | | | |
| | | | HIGH | | | | | | |
| | | NORMAL | LOW | NORMAL | LOW | | | | |
| | | | | | NORMAL | | None | | |
| | | | | | HIGH | | | | |
| | | | HIGH | NORMAL | LOW | | | | |
| | | | | | NORMAL | | | | |
| | | | | | HIGH | | | | |
| | NORMAL | NORMAL | LOW | LOW | None | | Slight undercharge of refrigerant | | |
| | | | | NORMAL | None | | | | |
| | | | | HIGH | None | | Outdoor TXV/accumulator blockage, Indoor unit check valve stuck/blocked/installed back to front | | |
| | | | NORMAL | NORMAL | LOW | None | | | |
| | | | | | NORMAL | None | None | No obvious fault diagnosable by pressures alone | |
| | | | | | HIGH | None | 6 | Operation of heating cycle in too high ambient and/or room temp, room air short circuit | |
| | | | | HIGH | NORMAL | LOW | None | 3, 4 | R/Valve not fully closed in heat mode, outdoor unit check valve not sealing/stuck open |
| | | | | | | NORMAL | None | | |
| | | | | | | HIGH | None | 6 | Operation of heating cycle in too high ambient and/or room temp, room air short circuit, low air flow |
| | | HIGH | LOW | NORMAL | LOW | | | | |
| | | | | | NORMAL | 6, 7 | 8 | Outdoor coil air flow impeded or short circuiting, eg ducting on outdoor coil | |
| | | | | | HIGH | | | | |
| | | | NORMAL | NORMAL | LOW | | | | |
| | | | | | NORMAL | | None | | |
| | | | | | HIGH | | | Overcharge of refrigerant, non-condensables in system (moisture?) | |
| | HIGH | NORMAL | LOW | | | | | | |
| | | | NORMAL | | | | | | |
| | | | HIGH | | | Overcharge of refrigerant, non-condensables in system (moisture?) | | | |

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|--------------------------|----------------------------|--------------------------|----------------------------|---------------------------|---------------------------|---|---|
| HIGH | LOW | LOW | LOW | | | | |
| | | | NORMAL | | | | |
| | | | HIGH | | | | |
| | | NORMAL | LOW | LOW | | | |
| | | | | NORMAL | 3, 4 | None | R/Valve not fully closed in cool mode, indoor unit check valve not sealing/stuck open |
| | | | | HIGH | | | |
| | | | HIGH | LOW | 3, 4, 9 | 3, 4, 9 | R/Valve stuck mid-way, compressor valve/pipe leak from high to low side, incorrect comp rotation |
| | | | | NORMAL | | | |
| | | | | HIGH | | | |
| | NORMAL | LOW | LOW | | | | |
| | | | NORMAL | | | | |
| | | | HIGH | | | | |
| | | NORMAL | LOW | LOW | | | |
| | | | | NORMAL | | None | Operation of cooling cycle in too high room condition |
| | | | | HIGH | | | Operation of cooling cycle in too high room condition, Short circuiting of indoor air supply-return |
| | | | HIGH | LOW | | | |
| | | | | NORMAL | | | |
| | | | | HIGH | | | |
| | HIGH | LOW | LOW | 6, 7 | 8 | Outdoor coil air blocked or short circuiting, outdoor fan fail, high indoor air flow, extreme ambient | |
| | | | NORMAL | | | | |
| | | | HIGH | | | | |
| | | NORMAL | LOW | LOW | | | |
| | | | | NORMAL | 6, 7 | None | Operation of cooling in too high ambient and/or room condition |
| | | | | HIGH | 6, 7 | 6, 7 | Operation of cooling and heating in too high ambient and/or room condition |
| HIGH | | | LOW | | | | |
| | | | NORMAL | | | | |
| | | | HIGH | 5, 6, 7 | 5, 6, 7 | Overcharge of Refrigerant, Non-condensables in system, i.e.moisture | |

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