

Trouble Shooting and Service Chart

Complaint	Possible Cause	Repair
A Compressor will not start - no hum	<ol style="list-style-type: none"> 1. Line disconnect open. 2. Fuse removed or blown. 3. Overload protector tripped. 4. Control stuck in open position. 5. Control off due to cold location. 6. Wiring improper or loose. 	<ol style="list-style-type: none"> 1. Close start or disconnect switch. 2. Replace fuse. 3. Refer to electrical section. 4. Repair or replace control. 5. Relocate control. 6. Check wiring against diagram.
B Compressor will not start - hums but trips on overload protector	<ol style="list-style-type: none"> 1. Improperly wired. 2. Low voltage to unit. 3. Starting capacitor defective. 4. Relay failing to close. 5. Compressor motor has a winding open or shorted. 6. Internal mechanical trouble in compressor. 7. Liquid refrigerant in compressor. 	<ol style="list-style-type: none"> 1. Check wiring against diagram. 2. Determine reason and correct. 3. Determine reason and replace. 4. Determine reason and correct, replace if necessary. 5. Replace compressor. 6. Replace compressor. 7. Replace compressor.
C Compressor starts, but does not switch off of start winding	<ol style="list-style-type: none"> 1. Improperly wired. 2. Low voltage to unit. 3. Relay failing to open. 4. Run capacitor defective. 5. Excessively high discharge pressure. 6. Compressor motor has a winding open or shorted. 7. Internal mechanical trouble in compressor (tight). 	<ol style="list-style-type: none"> 1. Check wiring against diagram. 2. Determine reason and correct. 3. Determine reason and correct, replace if necessary. 4. Determine reason and replace. 5. Check discharge shut-off valve, possible overcharge, or insufficient cooling on condenser. 6. Replace compressor. 7. Replace compressor.
D Compressor starts and runs, but short cycles on overload protector	<ol style="list-style-type: none"> 1. Additional current passing through overload protector. 2. Low voltage to unit (or unbalanced if three phase). 3. Overload protector defective. 4. Run capacitor defective. 5. Excessive discharge pressure. 6. Suction pressure too high. 7. Compressor too hot - return gas hot. 8. Compressor motor has a winding shorted. 	<ol style="list-style-type: none"> 1. Check wiring diagram. Check for added fan motors, pumps, etc., connected to wrong side of protector. 2. Determine reason and correct. 3. Check current, replace protector. 4. Determine reason and replace. 5. Check ventilation, restrictions in cooling medium, restrictions in refrigeration system. 6. Check for possibility of mis-application. Use stronger unit. 7. Check refrigerant charge (fix leak), add if necessary. 8. Replace compressor.

Trouble Shooting and Service Chart

Complaint	Possible Cause	Repair
E Unit runs OK, but short cycles on	<ol style="list-style-type: none"> 1. Overload protector. 2. Thermostat. 3. High pressure cut-out due to: <ol style="list-style-type: none"> a - Insufficient air/water supply b - Overcharge c - Air in system 4. Low pressure cut-out due to: <ol style="list-style-type: none"> a - Liquid line solenoid leaking b - Compressor valve leak c - Undercharge d - Restriction in expansion device 	<ol style="list-style-type: none"> 1. See D on previous page. 2. Differential set too close-widen. 3. <ol style="list-style-type: none"> a - Check air/water supply to condenser - correct. b - Reduce refrigerant charge c - Purge 4. <ol style="list-style-type: none"> a - Replace b - Replace c - Fix leak, add refrigerant d - Replace device
F Unit operates long or continuously	<ol style="list-style-type: none"> 1. Shortage of refrigerant. 2. Control contacts stuck or frozen closed. 3. Refrigerated or air conditioned space has excessive load or poor insulation. 4. System inadequate to handle load. 5. Evaporator coil iced. 6. Restriction(s) in refrigeration system. 7. Dirty condenser. 8. Filter dirty. 	<ol style="list-style-type: none"> 1. Fix leak, add charge. 2. Clean contacts or replace control. 3. Determine fault and correct. 4. Replace with larger system. 5. Defrost. 6. Determine location and remove. 7. Clean condenser. 8. Clean or replace.
G Start capacitor open, shorted, or blown	<ol style="list-style-type: none"> 1. Relay contacts not operating properly. 2. Prolonged operation on start cycle due to: <ol style="list-style-type: none"> a - Low voltage to unit b - Improper relay c - Starting load too high 3. Excessive short cycling. 4. Improper capacitor. 	<ol style="list-style-type: none"> 1. Clean contacts or replace relay if necessary. 2. <ol style="list-style-type: none"> a - Determine reason and correct b - Replace c - Correct by using pump down arrangement if necessary 3. Determine reason for short-cycle (E above) and correct. 4. Determine reason and correct.
H Run capacitor open, shorted, or blown	<ol style="list-style-type: none"> 1. Improper capacitor. 2. Excessively high line voltage (110% of rated-max). 	<ol style="list-style-type: none"> 1. Determine correct size and replace. 2. Determine reason and correct.

Trouble Shooting and Service Chart

Complaint	Possible Cause	Repair
I Relay defective or burned out	<ol style="list-style-type: none"> 1. Incorrect relay. 2. Incorrect mounting angle. 3. Line voltage too high or too low. 4. Excessive short cycling. 5. Relay being influenced by loose mounting. 6. Incorrect run capacitor. 	<ol style="list-style-type: none"> 1. Check and replace. 2. Remount relay in correct position. 3. Determine reason and correct. 4. Determine reason (See E on previous page) and correct. 5. Remount rigidly. 6. Replace with proper capacitor.
J Conditioned space temperature too high	<ol style="list-style-type: none"> 1. Control setting too high. 2. Expansion valve too small. 3. Cooling coils too small. 4. Inadequate air circulation. 	<ol style="list-style-type: none"> 1. Reset control. 2. Use larger valve. 3. Add surface area or replace. 4. Improve air movement.
K Suction line frosted or sweating	<ol style="list-style-type: none"> 1. Expansion valve passing excess refrigerant or is oversized. 2. Expansion valve stuck open. 3. Evaporator fan not running. 4. Overcharge of refrigerant. 	<ol style="list-style-type: none"> 1. Adjust valve or replace with smaller valve. 2. Clean valve or foreign particles, replace if necessary. 3. Determine reason and correct. 4. Correct charge.
L Liquid line frosted or sweating	<ol style="list-style-type: none"> 1. Restriction in filter-drier or strainer. 2. Liquid shut-off (king-valve) partially closed. 	<ol style="list-style-type: none"> 1. Replace part. 2. Open valve fully.
M Unit noisy	<ol style="list-style-type: none"> 1. Loose parts or mounting. 2. Tubing rattle. 3. Bent fan blade causing vibration. 4. Fan motor bearings worn. 	<ol style="list-style-type: none"> 1. Find and tighten. 2. Reform to be free of contact. 3. Replace blade. 4. Replace motor.