MARSTAIR
REFRIGERATION AND SPECIALIST AIR CONDITIONING

Cellar Cooling Fault Finding Sheet

The indoor unit is working but the outdoor isn't.

The following procedure should only be attempted by a F-gas trained refrigeration engineer with essential electrics qualifications.

CKC systems

1. Switch the system off by an Isolation and then switch it back on again after 1 minute.
2. Check there is power to live and neutral on the outdoor unit.
3. Does the outdoor unit run for a short period then stop? If so, the system likely being switching via the LP switch. There is a timer board which ignores the LP switch on start up. Check the system pressure to see if it is short of gas and check the functionality of the LP switch.
4. Check that the compressor contactor down not look damaged.
5. Check the compressor runs by pushing in the compressor contactor on the outdoor unit for a short period (1 second). If the compressor is cold and there is power to the compressor but it still won't run, look to replace the compressor. If there is power before the contactor but not after when it is pulled in, look to replace the contactor. If the compressor is warm and there is power to the compressor, it may have switched its own internal klixon. Wait for the compressor to cool (4 hours) and try to run the compressor again. If the compressor runs, check the system pressures and look for a refrigeration problem (Such as blocked condenser coil, condenser fan failure or over charged system).
6. Check that there is power to the indoor unit controller, if not check for loose wire connection to power the controller. If there is power to the controller, then check that the controller in the indoor unit is giving a run signal. If not, check that the controller is set lower than the current internal ambient. If this is the case, look to replace the controller.
7. Check that the Cellar cooler has a live on terminal CC. If not, check that the De-ice stat, if fitted, is functioning correctly. If this isn't the problem, track run signal back to the cellar cooler controller to find a loose connection
8. Check that there is a live signal on terminal 3 of the outdoor condensing unit. If not, check for a loose connection, or incorrect wiring between the indoor and outdoor unit.
9. Check that there is a live signal both sides of the HP switch. If there is a live before and not after, replace the HP switch. If there isn't a live before the HP switch, check for a loose connection.
10. Check that there is a live signal both sides of the LP switch. If there is a live before and not after, check the pressure of the refrigerant. If pressures are normal replace the LP switch. If they are not, the system is probably short of gas, recover the system and start a leak testing procedure.
11. Check that there is a live on terminal 3 of the timer PCBA, if not check for a loose connection prior to the timer board. Check, if there is a live on terminal CO of the timer PCBA. If not replace the PCBA. Check if there is a live on terminal NO, if not, go back to step 10. Check if there is a live on terminal 95, if not replace the PCBA.
12. Check there is a live on the violet wire to the contactor from the timer PCBA. If not, check for a loose wire prior to the contactor.
13. If no fault can be found, start procedure again from point 1.

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CKA 35 & 50 systems

1. Switch the system off by an Isolation and then switch it back on again after 1 minute.
2. Does the outdoor unit run for a short period then stop? If so, the system likely being switching via the LP switch. There is a timer board which ignores the LP switch on start up. Check the system pressure to see if it is short of gas and check the functionality of the LP switch.
3. Check the compressor runs by giving the outdoor unit a permanent live. If the compressor is cold and there is power to the compressor and it still won't run, look to replace the compressor. If the compressor is warm and there is power to the compressor, it may have switched its own internal klixon. Wait for the compressor to cool (4 hours) and try to run the compressor again. If the compressor runs, check the system pressures and look for a refrigeration problem (Such as blocked condenser coil, condenser fan failure or over charged system).
4. Check that there is power to the indoor unit controller, if not check for loose wire connection to power the controller. If there is power to the controller, then check that the controller in the indoor unit is giving a run signal. If not, check that the controller is set lower than the current internal ambient. If this is the case, look to replace the controller.
5. Check there is a live both side of the de-ice stat. If there is a live before and not after, check for a frozen coil, if there isn't, look to replace the De-ice stat.
6. Check that there is a live signal both sides of the LP switch. If there is a live before and not after, check the pressure of the refrigerant. If pressures are normal replace the LP switch. If they are not, the system is probably short of gas, recover the system and start a leak testing procedure.
7. Check that there is a live on terminal 3 of the timer PCBA, if not, check for a loose connection prior to the timer board. Check, if there is a live on terminal CO of the timer PCBA. If not replace the PCBA. Check if there is a live on terminal NO, if not, go back to step 6. Check if there is a live on terminal 95, if not replace the PCBA.
8. Check that the Cellar cooler has a live on terminal 1. If not, check the relay is operating correctly, if not replace, If the relay is operating correctly, track run signal back to the cellar cooler controller to find a loose connection
9. Check that there is a live signal on terminal 1 of the outdoor condensing unit. If not, check for a loose connection, or incorrect wiring between the indoor and outdoor unit.
10. If no fault can be found, start procedure again from point 1.

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CKA 70 systems

1. Switch the system off by an Isolation and then switch it back on again after 1 minute.
2. Check there is power to live and neutral on the outdoor unit.
3. Does the outdoor unit run for a short period then stop? If so, the system likely being switching via the LP switch. There is a timer board which ignores the LP switch on start up. Check the system pressure to see if it is short of gas and check the functionality of the LP switch.
4. Check that the compressor contactor down not look damaged.
5. Check the compressor runs by pushing in the compressor contactor on the outdoor unit for a short period (1 second). If the compressor is cold and there is power, but it still won't run, look to replace the compressor. If there is power before the contactor but not after when it is pulled in, look to replace the contactor. If the compressor is warm and there is power to the compressor, it may have switched its own internal klixon. Wait for the compressor to cool (4 hours) and try to run the compressor again. If the compressor runs, check the system pressures and look for a refrigeration problem (Such as blocked condenser coil, condenser fan failure or over charged system).
6. Check that there is power to the indoor unit controller, if not check for loose wire connection to power the controller. If there is power to the controller, then check that the controller in the indoor unit is giving a run signal. If not, check that the controller is set lower than the current internal ambient. If this is the case, look to replace the controller.
7. Check there is a live both side of the de-ice stat. If there is a live before and not after, check for a frozen coil, if there isn't, look to replace the De-ice stat.
8. Check that there is a live signal both sides of the LP switch. If there is a live before and not after, check the pressure of the refrigerant. If pressures are normal replace the LP switch. If they are not, the system is probably short of gas, recover the system and start a leak testing procedure.
9. Check that there is a live on terminal 3 of the timer PCBA, if not, check for a loose connection prior to the timer board. Check, if there is a live on terminal CO of the timer PCBA. If not replace the PCBA. Check if there is a live on terminal NO, if not, go back to step 8. Check if there is a live on terminal 95, if not replace the PCBA.
10. Check that the Cellar cooler has a live on terminal 1. If not, check the relay is operating correctly, if not replace, If the relay is operating correctly, track run signal back to the cellar cooler controller to find a loose connection
11. Check that there is a live signal on terminal 1 of the outdoor condensing unit. If not, check for a loose connection, or incorrect wiring between the indoor and outdoor unit.
12. If no fault can be found, start procedure again from point 1.

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