



CATALYTIC INDUSTRIAL SYSTEMS

TROUBLESHOOTING TIPS

PROBLEM	PROBABLE CAUSE	CORRECTIVE ACTION
Oven will not start and the operator interface panel is not operating.	<ol style="list-style-type: none"> 1. E-Stop button is pushed in. 2. Main power disconnect is turned off or tripped. 3. Control power transformer circuit breaker is tripped 4. 24 VDC power supply circuit breaker is tripped. 	<ol style="list-style-type: none"> 1. Pull the red E-Stop button out to restore power. 2. Turn the main power disconnect on. 3. Search for the trip cause (i.e. wiring short) and repair. Reset breaker. 4. Search for the trip cause (i.e. wiring short) and repair. Reset breaker or replace fuse.
Oven will not start purge cycle and operator interface displays "EXHAUST FAN FAILURE" screen.	<ol style="list-style-type: none"> 1. Exhaust fan circuit breaker tripped. 2. Motor starter overloads tripped. 3. Loose or broken fan belts 4. Faulty airflow interlock switch 5. Binding shaft bearings. 	<ol style="list-style-type: none"> 1. Search for the trip cause (i.e. wiring short) and repair. Reset breaker. 2. Search for the trip cause (i.e. wiring short) and repair. Reset or adjust overloads. 3. Tighten or replace fan belts. 4. See paragraph 9.4 of Section 9 – Maintenance 5. Grease or replace bearings.
Oven purge cycle completes but will not go into preheat.	No gas supply.	Check gas supply piping and shut-off valves. Reset gas train pressure switches.
Oven completes purge and preheat cycles but gas will not turn on.	<ol style="list-style-type: none"> 1. Heaters not at proper temperature 2. Preheat circuit breaker(s) tripped. 	<ol style="list-style-type: none"> 1. View the Heater Status screen to see if all heaters are "ready". If they are "not ready", investigate cause. 2. Search for the trip cause (i.e. wiring short) and repair. Reset breaker or replace fuse.
Oven starts and runs for short periods (1-2 hours), but shuts down with operator interface displaying "THERMOCOUPLE FAILURE" screen.	<p>Immediately check the Heater Status screen and note any heaters that are "not ready". Look for repetitiveness or randomness.</p> <ol style="list-style-type: none"> 1. Low gas supply to one heater. 2. Low gas supply to all heaters in a zone. 3. A heater cooled and the thermocouple reported the fault. 4. Heater was not properly preheated and catalyzation did not propagate 	<ol style="list-style-type: none"> 1. Check orifice in back of the heater for trash or obstruction. Clean orifice. 2. Check and reset minimum gas pressure to 1.5" WC and maximum gas pressure to 4" WC (at the farthest point from the gas train). 3. Check airflow across the face of the heater. If it exceeds 200 fps velocity, redirect airflow away from heater. 4. Check heater preheat element for proper function.



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The same heaters grouped together fail repeatedly.	<ol style="list-style-type: none"> 1. Preheat circuit breaker(s) tripped. 2. Low gas supply to zone. 	<ol style="list-style-type: none"> 1. Search for the trip cause (i.e. wiring short) and repair. Reset breaker. 2. Check and reset minimum gas pressure to 1.5" WC and maximum gas pressure to 4" WC (at the farthest point from the gas train).
A single heater fails repeatedly.	<ol style="list-style-type: none"> 1. Too much airflow on heater face. 2. Poor gas supply. 3. Faulty thermocouple. 4. Build-up on the face of the heater, causing lack of air supply to catalyst. 	<ol style="list-style-type: none"> 1. Check airflow across the face of the heater. If it exceeds 200 fps velocity, redirect airflow away from heater. 2. Check orifice in back of the heater for trash or obstruction. Clean orifice. 3. Test thermocouple electrically. If it fails test, replace thermocouple. 4. Try running the heater at maximum gas for four to eight hours. If this does not clean the heater face, it must be returned to CIS for repair.
Oven shuts down randomly with operator interface displaying "THERMOCOUPLE FAILURE" screen. Problem has not been identified using all other troubleshooting steps..	<ol style="list-style-type: none"> 1. Temperature control is set in the "Automatic" (PID) mode. 2. Inadequate or interrupted gas supply. 	<ol style="list-style-type: none"> 1. Operate the temperature control in the "Manual" mode and manually set gas percentage between 0 and 100. The proper setting is determined by process experimentation. 2. Check incoming gas supply line for size, capacity, pressure, flow, and intermittent loads.

If all troubleshooting steps have been non-productive and the problem persists, please call the CIS factory for further assistance. The telephone number is 800-835-0557 or 620-331-0750. Fax is 620-331-3402.