



KONO KOGS, INC.
USED THERMAL OXIDIZER SUPPLIER

Thermal Oxidizer Repair

Troubleshooting Guide

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Disclaimer: for reference only. Not applicable for all thermal oxidizer systems. Contact Kono Kogs or your equipment OEM for a troubleshooting table for your specific equipment.

CONDITION	CHECK	CORRECTIVE ACTION
Emergency Stop Fault	E-Stop push buttons.	Pull out and lightly turn the push button clockwise to reset.
	Electrical connections.	Electrical connections.
Combustion Blower Fault	Combustion blower starter heaters are tripped.	Remove obstructions from the blower / replace the bad motor.
	Verify the blower motor turns freely.	Remove obstructions from the blower / replace the bad motor.
	Verify the current draw of the motor and compare it to the motor nameplate.	If the current draw is high, check the motor and blower (bearings...).
Combustion Blower Pressure Fault	Is the combustion blower running?	See combustion blower fault.
	Verify the pressure switch sensing lines are connected and clean.	Replace broken tubing, and or clean out debris or condensation in the tubing.
	Proper operation of the switch.	Repair or replace the pressure switch.
	Electrical connections.	Tighten any loose connections.
Fan Run Fault	Electrical connections.	Tighten any loose connections.
	Proper signal from the VFD.	Repair or replace any malfunctioning cards in the PLC or VFD.
VFD Fault (Exhaust Fan Drive Fault, Exhaust Fan Out of Range)	Electrical connections.	Tighten any loose connections.
	Proper signal from the VFD.	Repair or replace any malfunctioning card in the PLC or VFD.
Fan Pressure Fault	Is the system fan running?	See VFD fault.
	Verify the pressure switch sensing lines are connected and clean.	Replace broken tubing, and or clean out debris or condensation in the tubing.
	Proper operation of the switch.	Repair or replace the pressure switch.
	Electrical connections.	Tighten any loose connections.

CONDITION	CHECK	CORRECTIVE ACTION
High Negative Pressure Fault (Fan)	Verify the pressure switch sensing lines are connected and clean.	Replace broken tubing, and or clean out debris or condensation in the tubing.
	Fan operating properly?	Verify proper control with associated signals.
	Proper operation of the switch.	Repair or replace the pressure switch.
	Electrical connections.	Tighten any loose connections.
Isolation Damper/ T-Damper (Vent Collect Damper) Close Fault	Electrical connections on the solenoid valve or actuator.	Tighten any loose connections.
	Airline leaks (if applicable).	Tighten or repair any broken or leaking airline.
	(Electric actuator) Verify actuator operation.	Repair or replace the actuator.
	(Pneumatic actuator) Verify cylinder operation.	Repair or replace the cylinder.
	Limit switch location.	Adjust internal limit switch.
	Obstruction between the blade and seat.	Remove any obstructions between the blade and seat.
Isolation Damper/ T-Damper (Vent Collect Damper) Open Fault	Electrical connections on the solenoid valve or actuator.	Tighten any loose connections.
	Airline leaks (if applicable).	Tighten or repair any broken or leaking airline.
	(Electric actuator) Verify actuator operation.	Repair or replace the actuator.
	(Pneumatic actuator) Verify cylinder operation.	Repair or replace the cylinder.
	Limit switch location.	Adjust internal limit switch.
	Obstruction between the blade and seat.	Remove any obstructions between the blade and seat.
Inlet (TE0721) High Temperature Fault	Electrical connections.	Tighten any loose connections.
	Fire in ductwork.	Shut down the system and put out the fire.
Combustion (TE1028) High Temperature Fault	Electrical connections.	Tighten any loose connections.
	Tighten any loose connections.	Reduce VOC concentration entering oxidizer.
	Combustion chamber temperature >1900°F.	Allow the system to cool down and go through a normal startup.
Exhaust (TE0740) High Temperature Fault	Electrical connections.	Tighten any loose connections.
	Poppet valve has not switched.	See poppet valve fault.
	Solvent loading too high.	Reduce VOC concentration entering oxidizer.
	The exhaust duct to the stack has exceeded 400°F.	Allow the system to cool down and go through a normal startup.

CONDITION	CHECK	CORRECTIVE ACTION
Gas Pressure Fault	Electrical connections.	Tighten any loose connections.
	Incoming gas pressure too high or low.	Set the gas pressure to the original setting.
	Regulator setting.	Repair or replace the regulator.
Ignition/Burner Failure Fault	Flame safeguard not reset.	Reset the flame safeguard unit.
	Pilot solenoid valve failed.	Repair or replace the pilot solenoid valve.
	Pilot regulator failed.	Repair or replace the pilot regulator.
	Pilot regulator out of calibration.	Reset the pilot regulator back to the original start-up settings found on the start-up sheets.
	Proper incoming gas pressure.	Verify the incoming gas pressure is the same as what was indicated on the initial start-up sheets.
	Electrical connections.	Tighten any loose connections.
	Proper operation of the flame safeguard.	Repair or replace the flame safeguard as needed.
	Proper operation of the spark ignitor and spark generator.	Reset the dimension of the spark ignitor.
		Repair or replace the spark generator.
	Proper operation of the UV scanner.	Repair or replace the UV scanner.
Flame Out Fault	Electrical connections.	Tighten any loose connections.
	Proper operation of the flame safeguard.	Repair or replace the flame safeguard as needed.
	Proper operation of the spark ignitor and spark generator.	Reset the dimension of the spark ignitor.
		Repair or replace the spark generator.
	Proper operation of the UV scanner.	Repair or replace the UV scanner.
Process Line Fault	Proper operation of dampers.	Check dampers, limits, prox. switches.
	Proper operation of exhaust fans.	Reset breakers repair belts electrical connections.
		High Negative Pressure Fault (Header)
	Verify the pressure switch sensing lines are connected and clean.	Replace broken tubing, and or clean out debris or condensation in the tubing.
	Proper operation of the switch.	Repair or replace the pressure switch.
	Fan operating properly?	Verify proper control with associated signals.
	Electrical connections.	Tighten any loose connections.

CONDITION	CHECK	CORRECTIVE ACTION
Low Negative Pressure Fault (Header)	Verify the pressure switch sensing lines are connected and clean	Replace broken tubing, and or clean out debris or condensation in the tubing.
	Proper operation of the switch.	Repair or replace the pressure switch.
	Fan operating properly?	Verify proper control with associated signals.
	Electrical connections.	Tighten any loose connections.
Fresh Air Damper Open Fault (Stuck Open, Not Open)	Electrical connections on the solenoid valve or actuator.	Tighten any loose connections.
	Airline leaks (if applicable).	Tighten or repair any broken or leaking airline.
	(Electric actuator) Verify actuator operation.	Repair or replace the actuator.
	(Pneumatic actuator) Verify cylinder operation.	Repair or replace the cylinder.
	Limit switch location.	Adjust internal limit switch.
	Obstruction between the blade and seat.	Remove the obstruction between the blade and seat.
Fresh Air Damper Closed Fault (Stuck Closed, Not Closed)	Electrical connections on the solenoid valve or actuator.	Tighten any loose connections.
	Airline leaks (if applicable).	Tighten or repair any broken or leaking airline.
	(Electric actuator) Verify actuator operation.	Repair or replace the actuator.
	(Pneumatic actuator) Verify cylinder operation.	Repair or replace the cylinder.
	Limit switch location.	Adjust internal limit switch.
	Obstruction between the blade and seat.	Remove the obstruction between the blade and seat.
Low Fire Fault	Actuator motor.	Verify the actuator motor is responding to the control signals, if not have the motor repaired or replaced.
	Electrical connections.	Tighten any loose connections.
	Limit switch location.	Adjust internal limit switch
	Obstruction between the blade and seat.	Remove the obstruction between the blade and seat.

CONDITION	CHECK	CORRECTIVE ACTION
High Fire Fault	Actuator motor.	Verify the actuator motor is responding to the control signals, if not have the motor repaired or replaced.
	Electrical connections.	Tighten any loose connections
	Limit switch location.	Adjust internal limit switch.
	Obstruction between the blade and seat.	Remove the obstruction between the blade and seat.
PLC Battery Fault	Electrical connections.	Attach the battery connections to the battery.
	Battery is dead or missing.	Replace the battery.