GASBLASTER LSX Series

100/200 System Troubleshooting Guide

The Gasblaster series of equipment provides continuous odor control in lift stations, wet wells and other confined space environment by providing an ozonated airflow into the confined space. The ozone in the feed air oxidizes hydrogen sulfide and other organic compounds from the air. This process eliminates these compounds from exiting the confined space and causing odor issues or other health hazards.

The systems combine several major components for operation:

1. Fan	- produces system air flow
2. Air Compressor	- provides compressed air to generator/oxygen concentrator
3. Oxygen Concentrator	- maximizes oxygen in feed air to ozone generator
4. Control Panel	- regulates feed air/oxygen to generator and ozone output
5. Generator	- receives feed air and converts to ozone
6. Gas Detector	- optional – shuts system off if high ozone levels are reached in treatment area

Danger!

High Voltage
High Capacitance
Troubleshooting should be performed by a qualified electrician

Problem	Reason	Remedy
Machine does not power up when switch is in the on position *Fan, reference-meters, and gauges remain off.*	AC power not connected to generator	Connect AC power to the generator
	Main AC power source circuit breaker tripped	Reset breaker
	Control panel is not properly connected to the chassis	Check connections between the control panel and the chassis
	Generator Power Switch non-functional	Check switch for continuity / replace if necessary
	Loose / corroded connections	Check / replace connectors
Generator runs but the red LED on the control panel is off and the reference-meter is at 0	Control knob setting too low	Turn control to 100%
	External control setting too low (option)	Increase external control signal (if equipped)
	8 amp power supply fuses blown	Replace fuses as necessary.
	Potentiometer connections are loose	Confirm that the potentiometer connections are secure
	External input not properly connected (option)	See **External Input Option** section, page 4
	Controller connections are loose	Check controller connections
	Controller is non-functional	See **Controller Operation** section, page 5
	Power supply connections are loose	Check power supply connections
	Power supply non-functional	See **Power Supply Operation** section, page 7
	Damaged / disconnected wiring	Fix or reconnect wiring
Excessive back pressure indicated on reactor pressure gauge. (greater than 12 psi)	Outlet fitting or tubing clogged	Unclog outlet fitting or tubing
	Damaged ozone delivery tubing or back pressure control valve	Replace damaged tubing or valve
	Clogged diffuser stones	Refer to diffuser cleaning and maintenance information

	Clogged check valve	Clean or replace valve
	Clogged injector	Clean or replace injector
	Inoperable pump / inadequate water flow/ pressure through injector	Check pump & water flow
	Defective gauge	Replace gauge
	Reactor cell contaminated / clogged	Return unit to factory for reactor cell exchange
Generator operates, but the cooling fan does not run	Fan blades jammed against screen or guard	Adjust screen or guard or remove obstruction.

Fan motor failure	Replace fan
Fan plug not connected	Plug in fan
No AC power at the fan plug	Trace fan wires to the AC power. Reconnect wires

Red ozone indicator light erratic.	Moisture or contamination in reactor cell	Dry out Reactor Cell by running dry gas through equipment for 24 hours with power supply unplugged. See **Drying the Reactor Cell** section, page 8
	Reactor Cell failure	Return unit to factory for reactor cell exchange
Low feed gas flow indicated on flow meter	Flow meter closed or adjusted improperly	Adjust flow meter knob (counter-clockwise)
	Excessive backpressure	Refer to section regarding excessive backpressure
	Defective flow meter	Replace flow meter
Low pressure on reactor cell pressure gauge	Flow meter set too low	Adjust flow meter (counter-clockwise)

External Input Option

Turn the external device (usually a PID or other analog output device) to 100% (either 10 volts or 20 milliamps).
Open the generator cabinet and locate the analog input terminal block (see the circled portion in figure 2a).
Set your multi-meter to DC volts and check for voltage on terminals 1 (positive) and 2 (negative) (above the Driver assembly – circled in figure 2a).
If the full voltage is present, then the external input is properly connected.

Controller Operation

Disconnect power and open the generator cabinet.
Locate the controller.
Remove the mounting hardware and turn the controller over to gain access to the circuit board and wire connections.
Disconnect the circuit board control wires. See figure 3a (note: the orange wire is positive and the black wire is negative. For numbered wires, wire number 13 is positive and wire number 14 is negative).
Manual machines – check for continuity between these wires. Less than 1 ohm should be measured while the **control knob** is turned to 100%. If the resistance is less than 1 ohm, proceed to **step 5**. If the resistance is greater than 1 ohm, then check the **potentiometer circuit** for loose connections.
Automatic machines – Set your multi-meter to check for DC voltage. Connect your multi-meter to the disconnected wires. Turn the external device (usually a PID or other analog output device) to 100% (either 10 volts or 20 milliamps). If the full voltage is present, then the signal is reaching the controller. Proceed to step 5. If the voltage is not present, check this circuit for loose wires.
Re-connect the circuit board control wires.
Secure the door safety switch(es) in the closed position with a piece of electrical tape
Re-connect power to the ozone generator and turn on the generator.
Set the control to 100% by either turning the control knob to 100% (manual control) or by increasing your external output device to 10 volts or 20 milliamps.
Set your multi-meter to AC voltage and check for voltage at terminals 5 and 6 on the High Voltage Power Supply. See figure 3b, 3c, 3d, 3e (next page).
If the voltage is equal to the AC line voltage, then the controller is functioning properly. If the voltage is less than 90% of the line voltage, then proceed to step 11.
Check wires for continuity between the High Voltage Power Supply and the Controller. See wiring diagram for wire termination points.
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Power Supply Operation

Disconnect power and open the generator cabinet.

Confirm that both 8 amp Power Supply fuses are good.
Locate the Power Supply High Voltage lead and disconnect it from the Reactor Cell.
Insulate the high voltage lead to prevent arcing.
Secure the door safety switch(es) in the closed position with a piece of electrical tape
Re-connect power to the ozone generator.
Power up the ozone generator and turn the control knob to 100% (or increase the external control signal to 100% [10 volts or 20mA]).
Check Power Supply terminals 5 and 6 for AC voltage. See figures 3b, 3c, 3d, and 3e on the previous page. If full AC line voltage is present, proceed to step 9. If full AC voltage is not present, then check the wiring and the Controller.
Check terminals 3 and 4 for DC voltage. See figures 3d and 3e on the previous page.
If the voltage is between 1 and 7 volts then the Power Supply is functional. If the voltage is below 1 volt then the Power Supply has malfunctioned. If the Power Supply has malfunctioned then return the Power Supply to Enchlor Inc..
If the Power Supply is functional then turn off the generator and reconnect the high voltage lead to the reactor cell.

Drying the Reactor Cell

Disconnect power and open the generator cabinet.
Locate and unplug the green Power Supply connector by gently sliding it away from the circuit board. See figure 5a and 5b.
Close the generator cabinet and reconnect power.
Turn the generator on.
Set the gas flow and pressure to normal operating settings and allow the generator to run for 24 hours.
Turn the generator off.
Disconnect power and open the generator cabinet.
Plug in the green Power Supply connector. See figure 5a and 5b.
Close the generator cabinet and reconnect power.
Power up the generator and check for proper operation.

Figure 3a

Figure 2a

Control wires connections. The lower terminal is Negative.

4

3

Figure 3b
Ozone chassis with *enclosed* power supply

Figure 3c
Ozone chassis with *open frame* power supply

Power Supply

5

6

1

Figure 3d
Enclosed power supply terminal positions

Figure 3e
Open frame power supply terminal positions

4

3

1

6

Note:
Terminals 5 and 6 are the AC inputs to the power supply (from the controller).
Terminals 3 and 4 are the DC outputs from the Power Supply (to the red LED and Voltmeter). Terminal 3 is positive.

Figure 5a

Figure 5b