



GASBLASTER

Ozone Generator

User Guide



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## Warranty

All Enchlor products are protected by a one year limited warranty.

This warranty covers all parts and labor for all Enchlor products used under normal operating conditions and procedures as described in the User Guide supplied with each product. Enchlor's obligation under this warranty is limited to the repair, replacement, or return/refund of the unit or component determined to be defective.

Any misuse, improper operation or installation of any Enchlor parts or equipment, as determined by Enchlor, will void any and all warranty claims to the primary component as well as all supporting components.

Any repair, modifications, or service performed by someone other than a Enchlor authorized technician will void any and all warranty claims to the primary component as well as all supporting components.

Warranty of equipment and / or accessories from outside sources, purchased by Enchlor and incorporated into Enchlor products, is subject to that manufactures standard warranty.

Enchlor shall not be liable to the purchaser or others for loss of use of any product or for other special, indirect, incidental or consequential damages.

The Enchlor warranty policy does not cover shipping and handling charges incurred during the warranty claim process.

The warranty will be voided by the following:

- Allowing water to enter the ozone generator.
- Supplying feed gas that is not clean and free of oil or other contaminates.
- Supplying feed gas that is not dry to -60° F minimum dew point (excluding generators that have onboard oxygen concentrators). Ref. ISO 8573-1 Quality Class 1.
- Connecting an improper power source to the unit that does not match the incoming power requirements as outlined in the User Guide.
- Locating any product in an environment that is not well ventilated and protected.

### **Limits of Liability**

Enchlor shall not be liable for any special, indirect, incidental or consequential damages that result from the use or malfunction of any system, ozone generator and/or any of its components.

Enchlor equipment and components are sold for use in industrial and commercial applications only.

Carefully review and familiarize yourself with the following important safety information statements concerning Enchlor generators.

**WARNING:**



Oxygen is a fire hazard. It is very dangerous and vigorously accelerates the burning of combustible materials. To avoid fire and/or explosion, never use oil, grease, cotton fibers or any other combustible material on or near the ozone or oxygen generators. Smoking, heat, and open flame should be kept at a distance of no less than 5 feet from any part of the system. It is **STRONGLY** recommended that only individuals experienced in the safe handling of oxygen be allowed to operate this equipment.

**WARNING:**

OSHA exposure limit to ozone is 0.1 ppm for a period of 8 hours.  
(Ref. OSHA Air Contaminants Standard, 29 CFR 1910.1000)  
(EU Directives - 96/62/EC, 92/72/EC, 99/30/EC.)



**WARNING:**

Ozone is a highly toxic oxidizer. Ozone has a distinctive odor, which is easily recognized at very low concentrations. If this odor presents itself at any level, disconnect the generator and contact your installer.

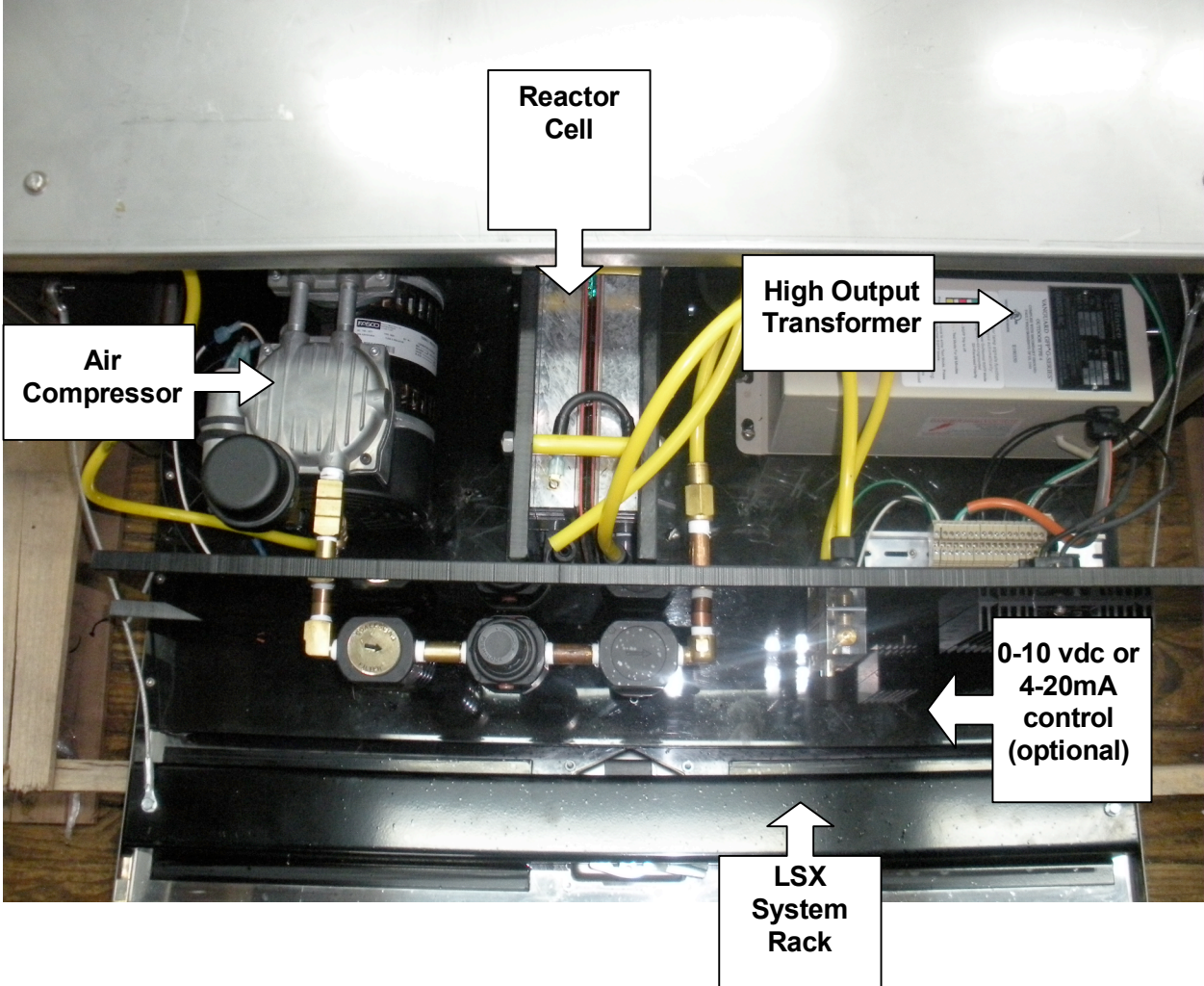


**WARNING:**

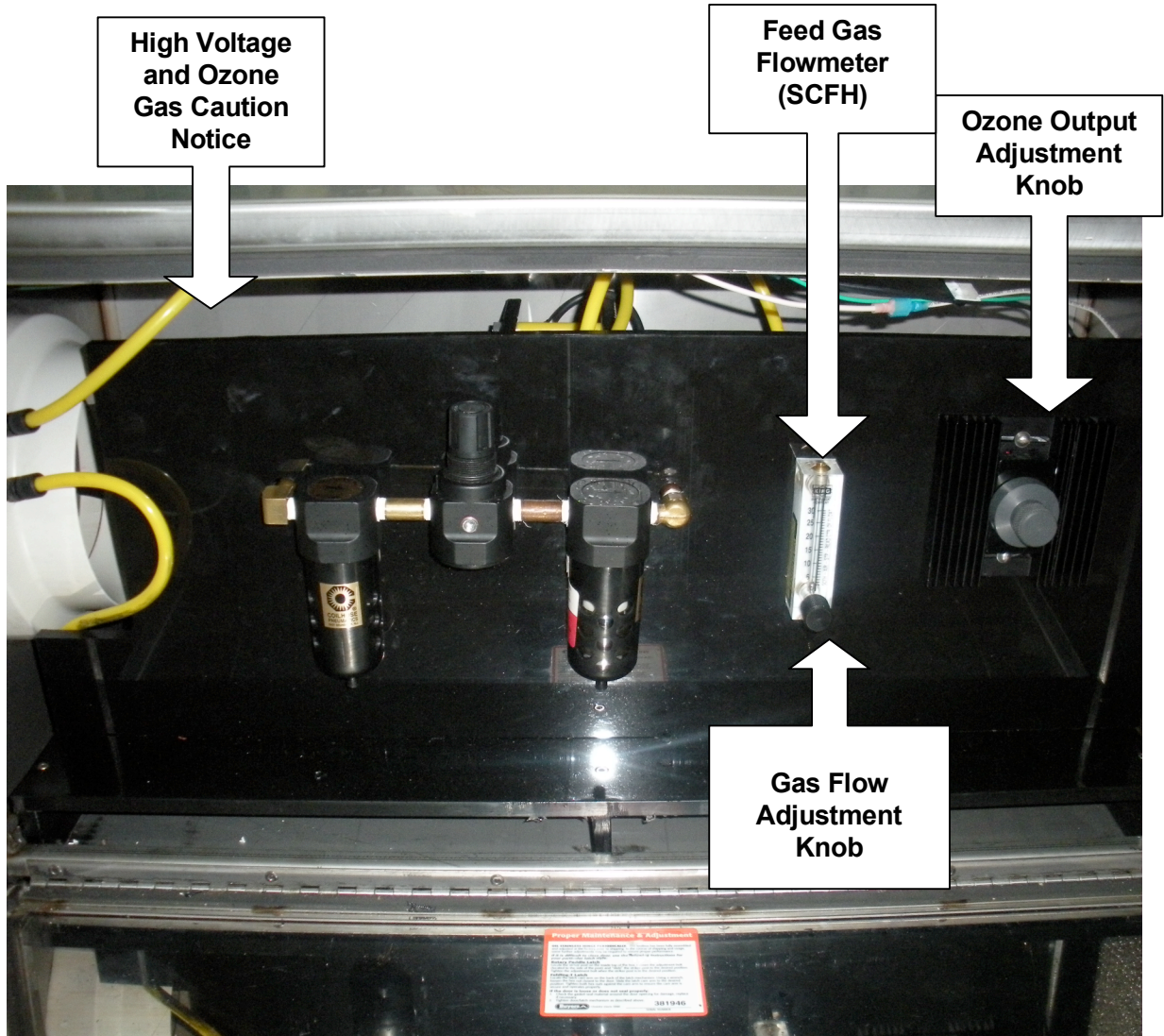
High voltage and high capacitance is present in ozone generators. Only qualified electricians should work on this equipment.



Ozone Generator Chassis Layout



Standard LSX Series Control Panel Layout



## Standard OEM Control Panel Description

**Gas Flow Meter Knob:** Controls the amount of oxygen or dry air feed gas that is fed through the ozone production cells.

**Ozone Output Indicator (GREEN Light):** Verifies that the ozone modules are working and producing ozone. (LOCATED ON SIDE OF TRANSFORMER)

**Ozone Output Adjustment Knob:** Controls ozone produced by the machine from 0% through 100% of the certified maximum ozone production shown on the serial number and certification plaque.

**On/Off Main Power Breaker Switch:** Controls ALL incoming power to the ozone generator. Located on outside of LSX enclosure

## Generator Installation

### Location Requirements

- Clean and dry-protected from direct rain and snow
- Well ventilated
- A 12" minimum free air space maintained on all sides of the ozone generator
- Stable cabinet or frame mount or similar placement
- Ambient temperature 32° F (0° C) to 100 °F (43° C)
- A degree of protection from airborne water and dirt

### Electrical Requirements

- Dedicated 115/240 VAC - 15-amp outlet on a circuit with disconnect a maximum 50 feet away and in the line of sight of the ozone generator's operator panel.

**Note:** Incoming power must be free of any power surges or spikes.

- Do not add or remove length to the incoming power cord.
- The generator must be grounded to an external ground source supplied with the incoming power wiring.

**WARNING:** No liquid water should be allowed to enter the ozone generator. The compressed air inlet water load saturated at 120°F at 30 PSIG is acceptable (.0216 lb water/lb dry air).

**WARNING:** No oil in vapor or aerosol form greater than 0.008 ppm should be allowed to enter the ozone generator. Air quality should be equivalent to the output of an oil-less compressor (no hydrocarbons).

- The feed gas connection is via the 3/8" polyethylene tube leading to the lower port of the Feed Gas Flowmeter
- Ozone out is from the 3/8" tube coming from the outlet of the ozone reactor cell.
- It is recommended that an anti-siphon loop or other back flow protection be used to prevent water from backing up into the ozone production cells. Damage incurred from water is not covered by the manufacturer's warranty.



## StartUp

1. Make sure the amber On/Off Main Power Breaker Switch is in the OFF position.
2. Power down or close off the external incoming oxygen or dry air gas source (if equipped).

**WARNING:** No liquid water should be allowed to enter the ozone generator.

**WARNING:** No oil in vapor or aerosol form greater than 0.008 ppm should be allowed to enter the ozone generator (no hydrocarbons).

3. Completely open any back pressure control valves that may be installed in the ozone output line.
4. Set the Ozone Output Adjustment Knob to 0%.
5. Turn the On/Off Main Power Breaker Switch to the ON position.
6. Set the Gas Flow Adjustment Knob so that the Gas Flowmeter indicates a minimum of (15 SCFH – LSX-100) (20 SCFH – LSX-200) .
7. To control the amount of ozone production, rotate the Ozone Output Adjustment Knob clockwise. The signal demand can be seen on the Reference Meter and the activation of the ozone generator cells will be indicated by the Ozone Output Indicator Light located on the transformer.

**Supply Air Specifications:** The quality of the air supplied to the ozone generator is critical to its proper operation. Damage incurred from improper feed gas quality is not covered by the manufacturer's warranty. Outside air enters the system through the air intake hood. A filter is installed in the hood to prevent most contaminants from entering. It is critical that this filter remain in place and be cleaned on a regular basis. Water **MUST** be prevented from entering the air intake hood. The system must be located so that during rain or snow conditions, the air intake hood is not subject to rainfall, standing water, snow etc.

## On Board Sensors

**High temperature sensor:** If the temperature of the transformer exceeds 160°F, the transformer will shut down in order to protect the electronic components from excessive heat. After the temperature of the cell drops below the set point, the unit will re-engage.

## ShutDown

1. Rotate the Ozone Output Adjustment Knob counterclockwise to 0%, wait until the Reference Meter shows less than 2 Volts DC, and the red Ozone Output Indicator Light is off.
2. Allow two minutes to purge ozone out of system.
3. Turn the amber On/Off Main Power Breaker Switch to the OFF position.

**Note:** In a shut down mode, air or oxygen in a receiver tank may expand and contract in the tank. This will cause water to be pulled over the anti-siphon loop. During shut down, open the receiver tank to atmosphere or disconnect the ozone generator from the air or oxygen line.

### **Technical Support and Parts**

Technical support is available by telephone directly from Enchlor at **(215) 453-2533**. When calling, please have the following information available:

- Model number
- Serial number
- Brief description of installation
- Confirm line voltage
- Confirm inlet air conditions
- Confirm output connections

### **Online Support**

Technical Online Support is available through the Enchlor web site at [www.enchlor.com](http://www.enchlor.com) and includes topics such as:

- Troubleshooting guides
- Product specifications

### **Field Services**

Complete field services are also available. Please contact Enchlor Services for prices and scheduling. Enchlor will confirm all field service requests in writing prior to scheduling.

**GASBLASTER APPLICATION WORKSHEET**

This sheet is designed to help gather the information required to assist in the selection of the correct odor control device to neutralize the odor challenge.

*NOTE: Wastewater odors can be composed of numerous gases and concentrations. For the purpose of sizing, H<sub>2</sub>S (hydrogen sulfide) concentration will be used as the indicator gas to determine odor level. If another gas and concentration are known, and desired to be used for sizing, please consult the factory.*

Date: \_\_\_\_\_ Job Reference: \_\_\_\_\_

Salesperson: \_\_\_\_\_ Organization: \_\_\_\_\_

Customer: \_\_\_\_\_

Contact: \_\_\_\_\_

Customer Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Phone: \_\_\_\_\_,

Fax: \_\_\_\_\_

Customer E-mail: \_\_\_\_\_

Application type: \_\_\_\_\_

Site Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

## GASBLASTER SIZING

Sizing formula is an estimating guide only. Many factors will affect the actual sizing required. These factors include: volume of lift station chamber, contents of wastewater, cycle timing of station, outside peak temperature etc.

Hydrogen Sulfide concentration in vent stream: \_\_\_\_\_ ppm

Average inflow of sewage at above concentration: \_\_\_\_\_ gpm

FLOW: average station flow rate generating normal H<sub>2</sub>S levels (GPM)

H<sub>2</sub>S: peak VENT level of H<sub>2</sub>S monitored in normal operating conditions and temperatures (PPM)

Flow (gpm) x H<sub>2</sub>S (in ppm) = EOR (Estimated Oxidizer Required)

\_\_\_\_\_ (gpm) x \_\_\_\_\_ (ppm) x 0.13 = \_\_\_\_\_ (EOR)

Select GasBlaster model corresponding to GBR number. It is recommended that the units GBR (Gas Blaster Rating) should always exceed the EOR value. If a unit cannot be found, please consult the factory for specialized unit configuration.

### EXAMPLE 1:

A small lift station with a flow rate of 250,000gpd has a vent reading that peaks at 40ppm of H<sub>2</sub>S. First, convert the GPD to GPM = 173.6

**173.6gpm X 40ppm X 0.13 = 902.72 EOR**

A selection of a model LSX-100 or LSX-3001 would be suggested as the GBR rating for each of these models is 3000 GBR

### EXAMPLE 2:

A large lift station has a flow rate of 5mgd and has a peak vent H<sub>2</sub>S reading of 40ppm  
First, convert the flow to GPM = 6944gpm

**3472gpm X 40ppm X 0.13 = 18,054 GBR**

A selection of a single LSX-3006 model with a GBR rating of 19,200 would be acceptable –OR– a selection of two model LSX-3003 with a GBR rating of 9600 each.

<b>MODEL #</b>	<b># of generators</b>	<b>gm/h ozone</b>	<b>PPD OZONE air feed</b>	<b>PPM OZONE** 200CFM fan</b>	<b>PPM OZONE 400CFM fan</b>	<b>Supply Gas Feed SCFH</b>	<b>GAS BLASTER RATING* (GBR)</b>
EPRO-4	4 plates	4	0.22	N/A	N/A	N/A	N/A
EPRO-8	8 plates	8	0.44	N/A	N/A	N/A	N/A

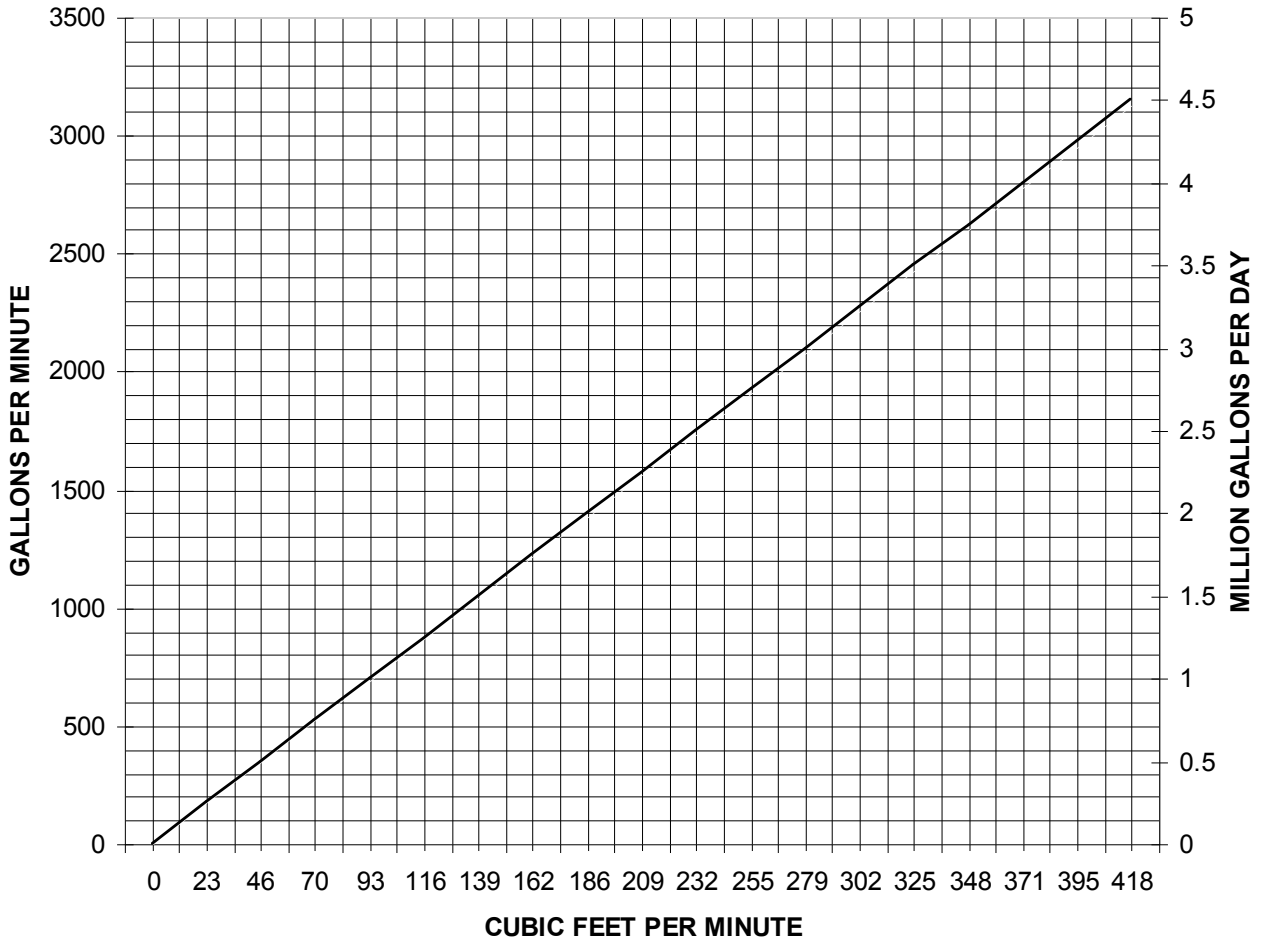
LSX-100	1	10	0.55	16	7.5	10	3200
LSX-200	2	20	1.10	32	15.0	20	6400

LSX-3001	1	10	0.55	16	7.5	10	3200
LSX-3002	2	20	1.10	32	15.0	20	6400
LSX-3003	3	30	1.66	48	22.5	30	9600
LSX-3004	4	40	2.21	64	30.0	40	12800
LSX-3005	5	50	2.76	80	37.5	50	16000
LSX-3006	6	60	3.31	96	45.0	60	19200

\*all ratings calculated with 200cfm discharge fan rating and dry air supply (standard)

\*\*all PPM Ozone ratings are calculated with a 20% efficiency reduction

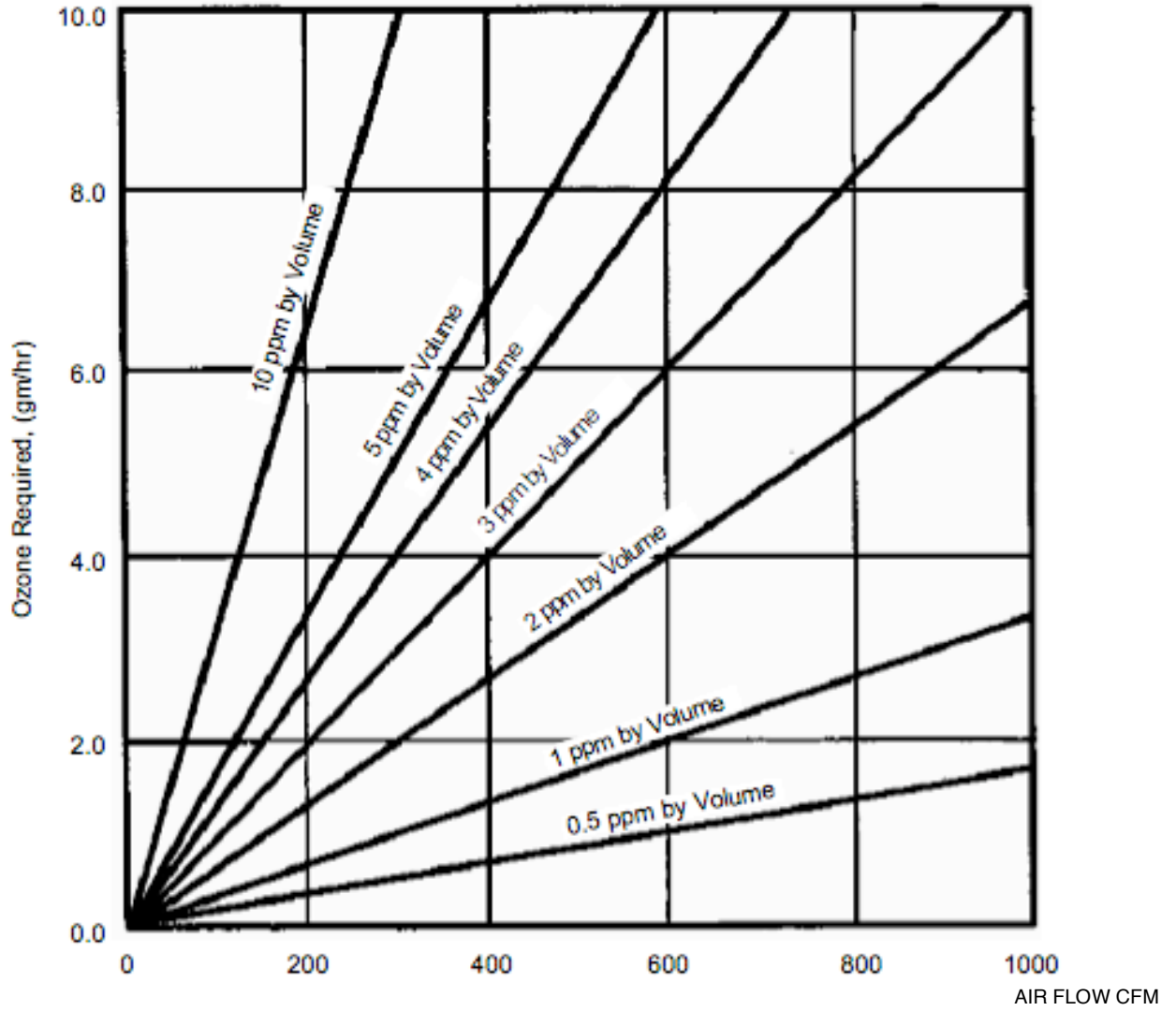
# CONVERSION - GPM TO CFM TO MGPD





REFERENCE

OZONE REQUIRED (gm/h) for PRESCRIBED DOSAGE in PPM/Volume



## APPLICATION / INSTALLATION OVERVIEW

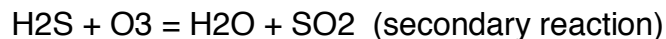
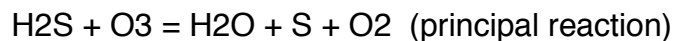
The treatment and transfer of wastewater produces odor emissions what are sometimes disturbing for the population living nearby a waste treatment facility or pumping station. The main sources of bad odors are sludge and its treatment as well as the collecting and primary treatment stages. The measurement of odors and the tolerance threshold of bad smells are subjective and no legislation about it has been made. The two main sources of nauseous odors are H<sub>2</sub>S and NH<sub>3</sub>.

To aid in the removal of these odors, Enchlor Inc. has developed the Gasblaster Series of Ozone generators specifically designed to remove these odors. The Gasblaster prevents these odors from escaping the treatment or transfer chamber by injecting high concentrations of ozone into the air above the wastewater providing destruction of the offending gaseous odors and reducing them to simple compounds that simply returns to the wastewater for disinfection.

### ***Direct Ozonation***

Two methods are available to control the odors related to wastewater facilities and treatment, the simplest one is the direct ozonation. This method is suitable for small plants and can be relatively inexpensive. The alternative is washing the air with ozonized water. The method of elimination of odors by direct ozonation consists in putting in contact ozone molecules (O<sub>3</sub>) and nauseous molecules (H<sub>2</sub>S, NH<sub>3</sub> and CH<sub>4</sub>). Those last compounds are mainly reducers whereas ozone is a strong oxidant, consequently they react so that the ozone molecule loses an oxygen atom and an oxygen molecule (O<sub>2</sub>) is released. At the same time the addition of an oxygen atom to the odorous compound provokes it to break up into smaller compounds or to transform into a stable compound. Those new molecules are not odorous.

Concerning hydrogen sulphide two ways of reaction are possible:



Obviously the principal reaction is environmentally more interesting since the secondary reaction releases sulphur dioxide (SO<sub>2</sub>) that belongs to the family of sulphur oxide gases (SO<sub>x</sub>). SO<sub>2</sub> dissolves in water vapor to form acid, and interacts with other gases and particles in the air to form sulphates and other products that can be harmful to people and their environment.

Ammonia and methane also react with ozone and gives stable products (carbon dioxide and nitrogen gas):



These reactions gives water (H<sub>2</sub>O), oxygen (O<sub>2</sub>), carbon dioxide (CO<sub>2</sub>) and nitrogen (N<sub>2</sub>). There are all stable molecules and do not have harmful or nauseous effects.

Five parameters have to be taken into account in order to design a proper ozonation process:

1. Concentration of the nauseous molecules
2. Temperature and moisture
3. Type of contact between the gas and the ozone
4. Contact time between the gas and the ozone
5. Volume to be treated and flow of air

Ozonation can as well remove totally the odors as reduce them at a suitable level. Generally if the ratio ozone molecule by hydrogen sulphide molecule (O<sub>3</sub>: H<sub>2</sub>S) is comprised between 1.5 and 2, it is enough to obtain a sufficient result. Nevertheless a ratio of 2 permits to prevent from peaks.

Higher quantity of ozone can be used in case of difficult conditions (such as high temperature and high moisture content). It can also be required for highly concentrated odorous compounds, especially when treating the sludge.

The installation of the ozone generator is also important. The ozone reacts better when injected into a warm and wet medium, but its production by the generator is the best when it occurs in a dry and fresh place. Then the generator uses to be installed outside or a least not at the same place where the reaction happens.

**As mentioned before the contact surface between the ozone and the nauseous gas is critical for the process. This is reinforced by the fact that the concentrations of hydrogen sulphide are only around a few ppm.**

### **Safety Issues of high Hydrogen Sulfide Levels**

Hydrogen sulfide levels are an indication of the aggressiveness of the atmosphere. This situation greatly increases the rate at which corrosion occurs inside the wet well. Severe corrosion damage can be expected at stations with high Hydrogen sulfide levels and without effective protection these stations can quickly be considered to be structurally compromised to the point where repairs are required or operator safety is compromised. This corrosion produces conditions, which are considered unsafe for manned entry into a wet well. These conditions included failed access ladders, corroded/disintegrated handrails, access platforms with missing sections of grating etc.

The Gasblaster series of control units provides valuable benefits in both odor control and a reduction in corrosion to facility equipment from the reduction and removal of H<sub>2</sub>S. For additional information and system details, please contact your local Enchlor Inc. representative.

## General Ozone Information

Ozone (O<sub>3</sub>) is a colorless gas with a distinct, pungent odor. It is a molecule made up of 3 atoms of oxygen. Interestingly ozone occurs quite readily in nature, most often as a result of lightning strikes that occur during thunderstorms.

In fact that "fresh, clean, spring rain " smell that we notice after a storm most often results from nature's creation of ozone. Ozone generators create ozone in your home or business ensuring the same clean air as found in nature.

Ozone is one of the most powerful disinfectants in the world, second only to Fluorine. It is three thousand times more potent than chlorine in destroying germs, bacteria, and viruses.

## Benefits of Ozone Cleaning

It doesn't have as strong, or over-powering odor like Fluorine or Chlorine, yet it is so powerful, it actually kills those odors. Once generated, ozone is quite unstable, one of the three oxygen atoms eagerly splits off the molecule and attaches itself to any particle or pollutant with which it comes in contact. That single oxygen atom from the ozone air purifier proceeds to "oxidize" that particle. As a result, the particle will no longer be toxic, and will no longer be able to reproduce, if it is biological.

In other words, the toxic particle becomes completely harmless once ozone does its job.

When the single oxygen (O<sub>1</sub>) molecule oxidizes the particle, it too is destroyed.

Ozone cleaning leaves behind the O<sub>2</sub>, from which it split away, or pure and clean oxygen.

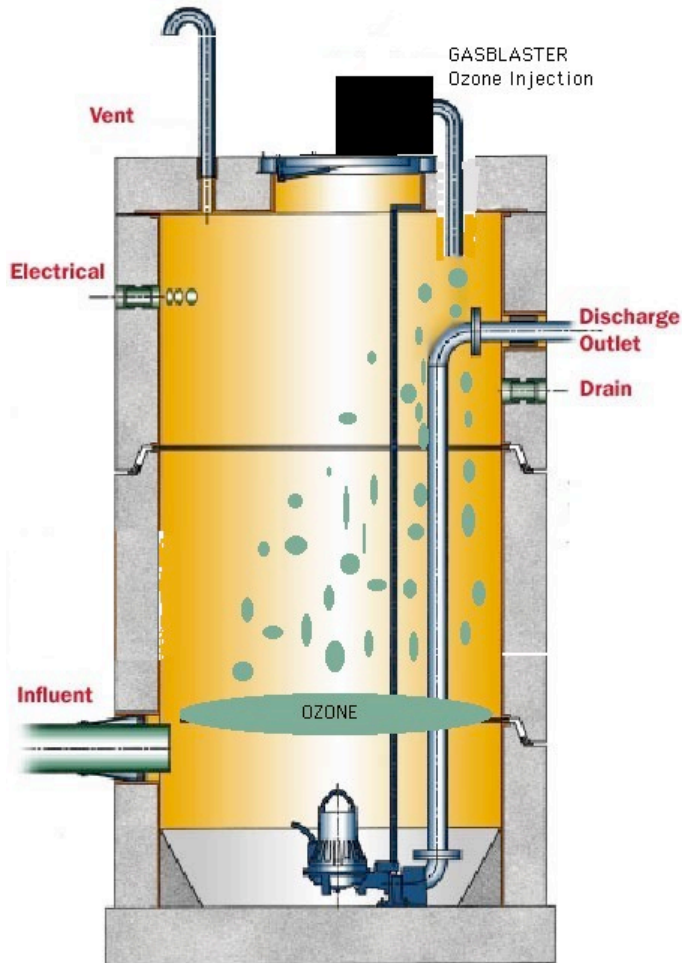
## EPA / OSHA Information

The National Institute of Occupational Safety and Health (NIOSH) recommends an upper limit of 0.10 ppm for occupied spaces not to be exceeded at any time.

EPA's National Ambient Air Quality Standard for ozone is a maximum 8-hour average outdoor concentration of 0.08 ppm.

If an ozone air purifier is going to be running *while people are present*, the EPA recommends the proper settings should be selected so that the ozone level is less than 0.08 ppm.

**NOTE:       The Gasblaster systems are designed for use in NON-OCCUPIED spaces only. If access to the lift station/wet-well chamber is required, the system must be turned-off and the chamber ventilated prior to entering.**



### **Installation:**

The Gasblaster is portable and ready to operate.

POWER: The unit is supplied with an external power cord that can be fitted with a supplied outlet connection for connection to an extension cord. Alternatively, the provided cord can be removed and the unit can be wired directly with use of standard ½" conduit connection to the rear of the unit.      Electrical:    120 VA, 60hz

OZONE FEED: The unit is supplied with a 10' length of 4" (LSX-100) or 8" (LSX-200) feed tubing to deliver the ozonated airflow to the lift station chamber. The unit should be mounted as close as possible to the lift station to minimize the length of tubing required. If necessary, the tubing can be cut with a razor knife or saw. The final discharge of the ozone flow should be approximately 24" below the cover of the station but at no time should the open end of the feed tubing be exposed to the sewage flow. The Gasblaster unit should be mounted above the lift station chamber so that the airflow from the unit is downward at all times. The efficiency of the unit is reduced if the ozonated air must be 'pushed' up-hill before entering the lift station.

**CAUTION: HIGH VOLTAGE POWER SUPPLY**

**NEVER REMOVE THE GENERATOR COVER WITHOUT FIRST UNPLUGGING THE UNIT**

**DO NOT OPERATE THE SYSTEM CONTINUOUSLY IN INHABITED SPACES**

Although ozone is a healthful constituent of clean fresh air, high concentrations for prolonged period can produce respiratory irritation and distress. This unit is capable of producing ozone concentrations that are unsafe for occupancy when used in confined spaces. DO NOT direct the output of the system at your face for any prolonged period of time.

130 West Main Street, Silverdale, PA 18962

telephone 215-453-2533    facsimile 215-453-1101

e-mail [sales@enclor.com](mailto:sales@enclor.com)    online [www.enclor.com](http://www.enclor.com)

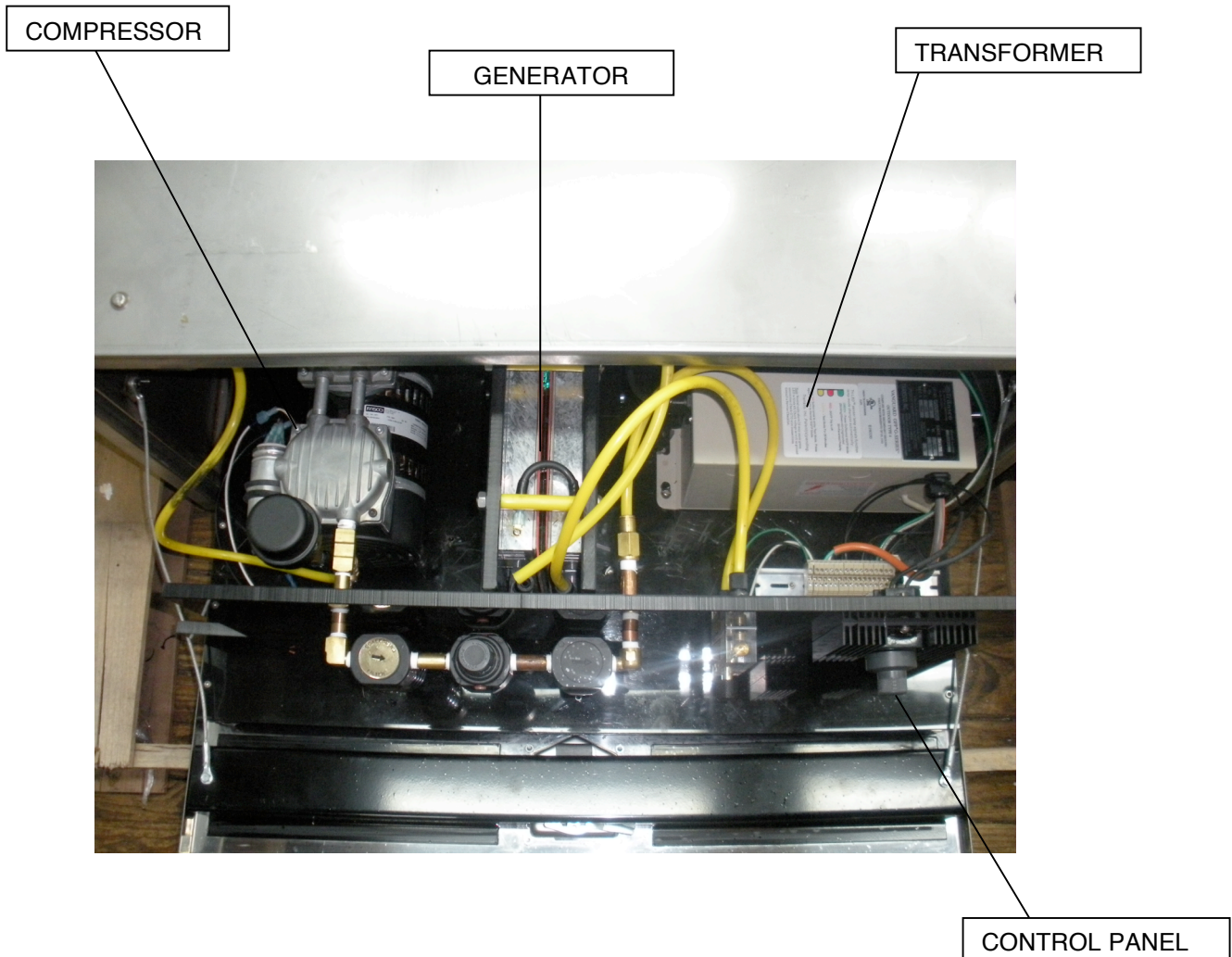
## GASBLASTER LSX Series

### 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
3. Control Panel - regulates feed air/oxygen to generator and ozone output
4. Transformer - provides electrical current to generator
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

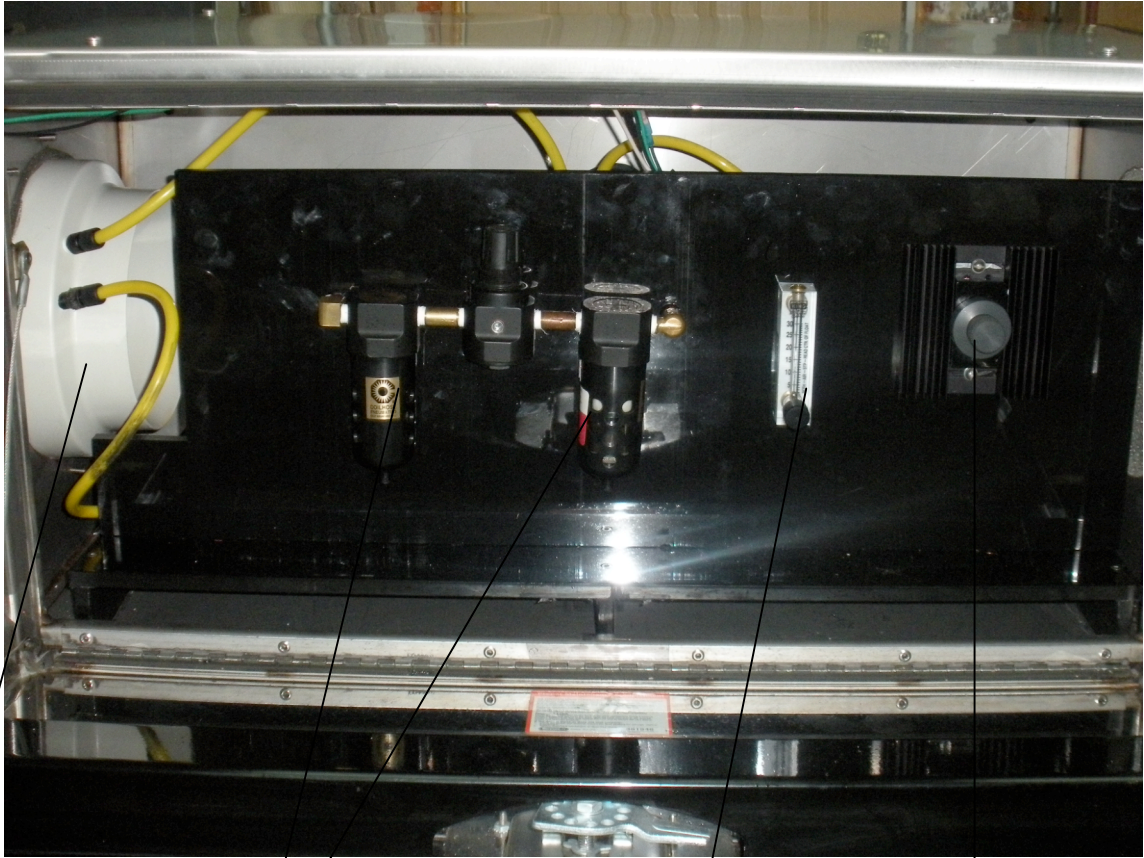


**Danger!**  
**High Voltage**  
**High Capacitance**  
**Troubleshooting should be performed by a qualified electrician**

Problem	Reason	Remedy
<i>Machine does not power up when switch is in the on position</i>  <i>Fan, reference-meters, and gauges remain off.</i>	AC power not connected to unit	Connect AC power to the unit
	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
	Unit Power Switch non-functional	Check switch for continuity / replace if necessary
	Loose / corroded connections	Check / replace connectors
<i>Generator runs but the LED on the transformer is RED or OFF</i>	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.
	Transformer breaker has tripped	Push the reset switch on the side of the transformer
	External input not properly connected (option)	See <b>External Input Option</b> section, page 4
	Controller connections are loose	Check controller connections
	Controller is non-functional	See <b>Controller Operation</b> section, page 5
	Power supply connections are loose	Check power supply connections
	Power supply non-functional	See <b>Power Supply Operation</b> section, page 7



	Damaged / disconnected wiring	Fix or reconnect wiring
<i>Generator operates, but the main fan does not run or ozonated air is not being discharged from unit</i>	Fan blades jammed against screen or guard	Adjust screen or guard or remove obstruction.
	Fan motor failure	Replace fan
	No AC power at the fan plug	Trace fan wires to the AC power. Reconnect wires
	Obstruction in discharge duct	Remove obstructions or open any closed duct valves
	Reactor Cell failure	Return unit to factory for reactor cell exchange
	Flow meter closed or adjusted improperly	Adjust flow meter knob (counter-clockwise)
	Excessive backpressure	Blockage in air feed to generator. Check all tubing connections and tubing condition.
	Defective flow meter	Replace flow meter
<i>Air flow but no ozone</i>	Flow meter set too low	Adjust flow meter (counter-clockwise)
	Transformer reset	Check LED light on side of transformer. If RED, push reset.
	Ozone feed line connection	Check for proper connection of line from generator output to fan input
	Air feed to generator	Check for operation of air compressor and for any blockage in air filter or concentrator
<i>Red ozone indicator light erratic.</i>	Transformer Short	Push reset button on transformer. Conform proper power supply and grounding or power supply
	High Voltage Power Wires	TURN POWER OFF. Check for connections of both high voltage lines from the transformer to the generator.



MAIN  
FAN

AIR FILTER & DRYER  
SYSTEM

AIR FLOW REGULATOR  
TO GENERATOR

OUTPUT  
CONTROLLER

***OPTIONAL***

Standard on –BC series

1700 SERIES GAS DETECTOR

**1710 Single Point**

**1720 Dual Point**

INSTALLATION AND OPERATION  
MANUAL

*Enchlor Inc.*

130 West Main Street

**Silverdale, PA 18962**

PHONE: 215-453-2533

FAX: 215-453-1101

# 1700 Series Monitor

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## SPECIFICATION:

Power Supply	115/230 VAC Switch selectable.
Power Consumption	12W
Display	LCD, backlit, 16 characters by 2 lines, 5mm character height, 5x8 character matrix.
Pushbuttons	Four, tactile dome.
Relays	Three, Mechanical (AC or DC)
Buzzer.	103 DB
Rating	1.2A, 125VAC. Optional: 5A @ 250VAC.
Analog Input	two, 4 to 20mA.
Analog Output	Isolated 4 to 20mA, 0-500ohm load, active.
Digital Output	20mA Serial (remote computer)

## *QUICK START*

## INSTALLATION:

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- 1). Mount the 1700 Series Monitor at eye level. Mount the sensor 12" off the floor. The 1700 Series Monitor is provided with 12' of cable for the sensor.

2). Attach the cable from the 1700 Series Monitor to the sensor. The

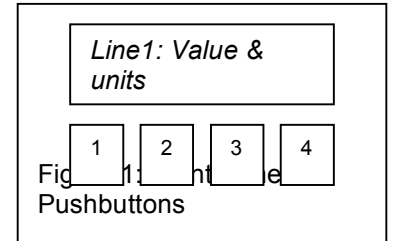
red LED will go on when powered up.

3). The 1700 Series Monitor requires 117VAC (+/-10%) power at 48-62Hz and 1/4 amp.

After proper installation the monitor is ready to operate.

**DISPLAY:**

The top line of the LCD display is formatted to show a selected value along with its engineering units. The second line normally provides function labels for the four pushbuttons located below the function. The pushbuttons do not have any labels.



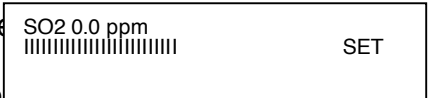
## 1700 Series Monitor OPERATION:

### MAIN RUN SCREEN:

The value displayed is the type of sensor and its scaled output in ppm.

Below the sensor type and value is a fifty segment bar-graph representation

of the monitors full scale and the 4mA to 20mA output (PO1). To enter



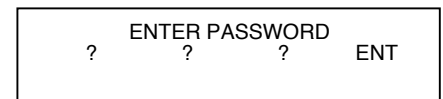
configuration and calibration screens press SET. The display will prompt

you to enter a password.

1		
2		
3		
4	SET	Press SET to enter a password screen.

### PASSWORD ENTRY SCREEN:

From the run screen, press SET and the user will be prompted to enter a password (default is 000). If the password is correct, the MONITOR SETUP SCREEN will be displayed. If an incorrect password is entered, The MAIN RUN SCREEN will be displayed.



1	?, 0-9	Steps from 0 to 9 and then back to 0.
2	?, 0-9	Steps from 0 to 9 and then back to 0.
3	?, 0-9	Steps from 0 to 9 and then back to 0.
4	ENT	Press ENT to enter monitor setup screen..

## MONITOR SETUP SCREEN:

From the Monitor Setup screen, you can select CAL, ALM or RUN. The Calibration screen provides the ability to calibrate the analog output. The alarm screen provides the ability to set the Danger values.

MONITOR SETUP		
CAL	ALM	RUN

1	CAL	Enter calibration screen.
2	ALM	Enter danger and critical alarm setup screen
3		
4	RUN	Go back to the main run screen.

## 1700 Series Monitor ALARM:

### SELECT ALARM:

From the MONITOR SETUP SCREEN, press the pushbutton under ALM.

MONITOR SETUP		
CAL	<b>ALM</b>	RUN

1	CAL	Enter calibration screen
2	<b>ALM</b>	<b>Enter alarm select screen</b>
3		
4	RUN	Go back to the main run screen

## ALARM SCREEN:

Press the pushbutton under CRT or DGR, to configure.

SEL	SO2	CH1	ALM
CRT	DGR		ESC

1	CRT	Critical alarm screen to set value for relay contact.
2	DGR	Danger alarm screen to set value for relay contact.
3		
4	ESC	Go back to the monitor setup screen.

### CRITICAL ALARM SETUP SCREEN:

From the critical alarm setup screen you can view the current value. To

change, press the pushbutton under UP or DWN to change the value. Press the pushbutton under SET to enter the new value and return back to alarm setup screen.

CRITICAL	
UP	DWN

1	UP	To increase the value.
2	DWN	To decrease the value.
3		
4	SET	Go back to the alarm setup screen.

### DANGER ALARM SETUP SCREEN:

From the danger alarm setup screen you can view the current value. To

change, press the pushbutton under UP or DWN to change the value. Press the pushbutton under SET to enter the new value and return back to alarm setup screen

DANGER	
UP	DWN

1	UP	To increase the value.
2	DWN	To decrease the value.
3		
4	SET	Go back to the alarm setup screen.

# 1700 Series Monitor CALIBRATION:

## SELECT CALIBRATION

From the MONITOR SETUP SCREEN, press the pushbutton under CAL.

MONITOR <b>CAL</b>	SETUP ALM	RUN
-----------------------	--------------	-----

1	<b>CAL</b>	Enter calibration screen..
2	ALM	Enter alarm select screen.
3		
4	RUN	Go back to the main run screen

Press the pushbutton under CH1 or IOU. Press ESC to

CALIBRATION SCREEN: return.

1	CH1	Press to calibrate 4-20mA analog input..
2		
3	IOU	Press to calibrate 4-20mA analog output.
4	ESC	Will ask to set new password yes /no

CALIBRATION <b>CH1</b>	IOU	ESC
SET		

CALIBRATE ANALOG  
INPUT CH1 SCREEN:

A device generating a calibrated 4-20mA output is required.  
The current  
analog input is displayed in the top right of the screen. Use a

SET CH1	ES
ZRO SPAN	

calibrated  
analog input or other device to calibrate the zero and full scale value.

1	ZRO	Press to enter the value being input as the calibrated zero.
2	SPAN	Press to enter the value being input as the calibrated standard.
3		
4	ESC	Go back to the calibration screen.

## CALIBRATE ANALOG OUTPUT IOU SCREEN:

A DMM is required to proceed with calibration. Attach a DMM, press the  
pushbutton under 4mA or 20mA to enter setup screen.

SET ANALOG C	EX
4mA 20mA	

1	4mA	Press to enter 4mA setup screen.
2	20mA	Press to enter 20mA setup screen.
3		
4	EXIT	Go back to the CALIBRATION screen.

SET 4.0mA ANALOG  
OUTPUT:

A DMM is required to proceed with calibration. While viewing the DMM,  
press the pushbutton under up or down to new  
under SET to enter the new value and return back to set

UP DWN	SET 4.00mA OUT	SET
--------	----------------	-----

1	UP	Press to drive analog output up. View on DMM.
2	DWN	Press to drive analog output down, View on DMM.
3		
4	SET	Press SET to enter the new value and return to SET ANALOG OUT screen.

SET 20.0mA ANALOG  
OUTPUT:

A DMM is required to proceed with calibration. While viewing  
the DMM,

press the pushbutton under UP or DWN to new value. Press the pushbutton  
under SET to enter the new value and return back to Set Analog Output  
screen.

UP DWN	SET 20mA OUT	SET
--------	--------------	-----

1	UP	Press to drive analog output up. View on DMM.
2	DWN	Press to drive analog output down, View on DMM.
3		
4	SET	Press SET to enter the new value and return to set analog output screen.

1700 Series

Monitor

BATTERY

STATUS:

**MAIN RUN SCREEN:**

If the monitor is equipped with the battery backup option the battery status can be displayed from the main run screen. To display battery status depress #1 pushbutton. When pressed the battery status will be displayed for 30 sec.



After 30 sec. The display will revert to the Main Operate Screen.

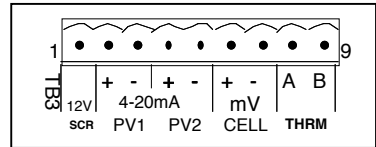
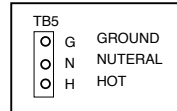
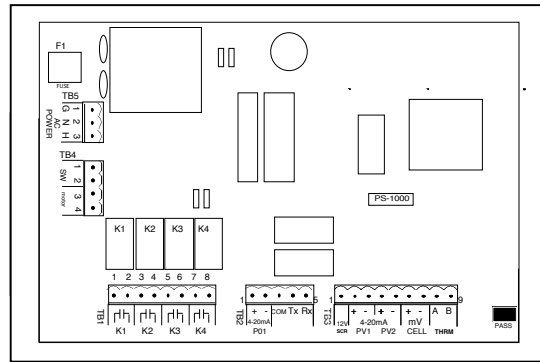
1		Press to display battery status. In battery power mode, hold to power down.
2		
3		
4		

**TERMINATIONS:**

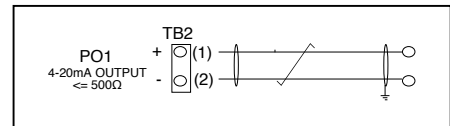
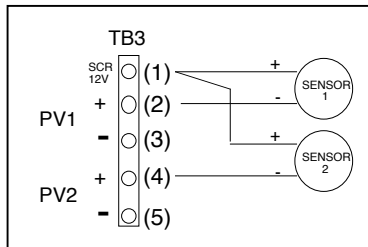
1700 Series

Monitor

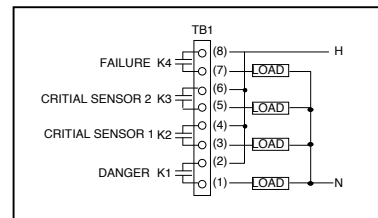
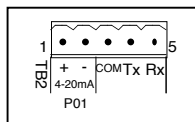
WIRING:



**SENSOR INPUT:**

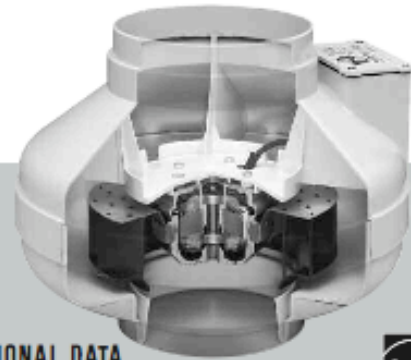


**ANALOG OUTPUT:**



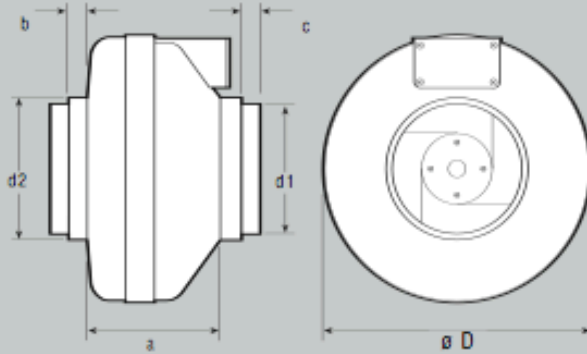






# FR SERIES

## THE ORIGINAL MITIGATOR



### DIMENSIONAL DATA

model	ØD	d1	d2	a	b	c
FR100	9 1/2	3 7/8	4 7/8	6 1/8	7/8	7/8
FR110	9 1/2	3 7/8	4 7/8	6 1/8	7/8	7/8
FR125	9 1/2	-	4 7/8	6 1/8	7/8	-
FR140	11 3/4	5 7/8	6 1/4	5 7/8	1	7/8
FR150	11 3/4	5 7/8	6 1/4	5 7/8	1	7/8
FR160	11 3/4	5 7/8	6 1/4	6 3/8	1	7/8
FR200	13 1/4	7 7/8	9 7/8	6 1/4	1 1/2	1 1/2
FR225	13 1/4	7 7/8	9 7/8	6 1/4	1 1/2	1 1/2
FR250*	13 1/4	-	9 7/8	6 1/4	-	1 1/2

All dimensions in inches



### PERFORMANCE DATA

Fan Model	Energy Star	RPM	Volts	Rated Watts	Wattage Range	Max. Amps	CFM vs. Static Pressure in Inches W.G.							Max. Ps	Duct Dia.
							0"	.2"	.4"	.6"	.8"	1.0"	1.5"		
FR100	✓	2900	115	19	13 - 19	0.18	122	100	78	55	15	-	-	0.87"	4"
FR125	✓	2950	115	18	15 - 18	0.18	148	120	88	47	-	-	-	0.79"	5"
FR150	✓	2750	120	71	54 - 72	0.67	263	230	198	167	136	106	17	1.58"	6"
FR160	-	2750	115	129	103 - 130	1.14	289	260	233	206	179	154	89	2.32"	6"
FR200	✓	2750	115	122	106 - 128	1.11	408	360	308	259	213	173	72	2.14"	8"
FR225	✓	3100	115	137	111 - 152	1.35	429	400	366	332	297	260	168	2.48"	8"
FR250*	-	2850	115	241	146 - 248	2.40	649	600	553	506	454	403	294	2.58"	10"

FR Series performance is shown with ducted outlet. For HVI's Certified Ratings Program, charted air flow performance has been derated by a factor based on actual test results and the certified rate at .2 inches WG.  
\* Also available with 8" duct connection. Model FR 250-8. Special Order.

#### NOTE:

Installations that will result in condensate forming in the outlet ducting should have a condensate bypass installed to route the condensate outside of the fan housing. Conditions that are likely to produce condensate include but are not limited to: outdoor installations in cold climates, long lengths of outlet ducting, high moisture content in soil and thin wall or aluminum outlet ducting. Failure to install a proper condensate bypass may void any warranty claims.

### FIVE YEAR WARRANTY

#### DURING ENTIRE WARRANTY PERIOD:

FANTECH will replace any fan which has a factory defect in workmanship or material. Product may need to be returned to the Fantech factory, together with a copy of the bill of sale and identified with RMA number.

#### FOR FACTORY RETURN YOU MUST:

- Have a Return Materials Authorization (RMA) number. This may be obtained by calling FANTECH either in the USA at 1.800.747.1782 or in CANADA at 1.800.565.3548. Please have bill of sale available.
- The RMA number must be clearly written on the outside of the carton, or the carton will be refused.
- All parts and/or product will be repaired/replaced and shipped back to buyer; no credit will be issued.

#### OR

The Distributor may place an order for the warranty fan and is invoiced.

The Distributor will receive a credit equal to the invoice only after product is returned prepaid and verified to be defective.

FANTECH WARRANTY TERMS DO NOT PROVIDE FOR REPLACEMENT WITHOUT CHARGE PRIOR TO INSPECTION FOR A DEFECT. REPLACEMENTS ISSUED IN ADVANCE OF DEFECT INSPECTION ARE INVOICED, AND CREDIT IS PENDING INSPECTION OF RETURNED MATERIAL. DEFECTIVE MATERIAL RETURNED BY END USERS SHOULD NOT BE REPLACED BY THE DISTRIBUTOR WITHOUT CHARGE TO THE END USER, AS CREDIT TO DISTRIBUTOR'S ACCOUNT WILL BE PENDING INSPECTION AND VERIFICATION OF ACTUAL DEFECT BY FANTECH.

#### THE FOLLOWING WARRANTIES DO NOT APPLY:

- Damages from shipping, either concealed or visible. Claim must be filed with freight company.

- Damages resulting from improper wiring or installation.
- Damages or failure caused by acts of God, or resulting from improper consumer procedures, such as:
  1. Improper maintenance
  2. Misuse, abuse, abnormal use, or accident, and
  3. Incorrect electrical voltage or current.
- Removal or any alteration made on the FANTECH label control number or date of manufacture.
- Any other warranty, expressed, implied or written, and to any consequential or incidental damages, loss or property, revenues, or profit, or costs of removal, installation or reinstallation, for any breach of warranty.

#### WARRANTY VALIDATION

- The user must keep a copy of the bill of sale to verify purchase date.
- These warranties give you specific legal rights, and are subject to an applicable consumer protection legislation. You may have additional rights which vary from state to state.

### DISTRIBUTED BY:



**Fantech**

United States 1712 Northgate Blvd. • Sarasota, FL 34234 • 1.800.747.1782 • www.fantech.net  
Canada 50 Kanalfakt Way • Boutouche, NB E4S 3M5 • 1.800.565.3548 • www.fantech.ca

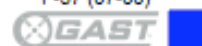
Item #: 411741  
Rev Date: 011807

Fantech reserves the right to modify, at any time and without notice, any or all of its products' features, designs, components and specifications to maintain their technological leadership position.



# Oiless Rocking Piston Pump

F-57 (07-00)



## 75R Series

Performance at 60 Hz

### MODEL 75R647

20 PSI MAX. PRESSURE, 27" HG MAX. VACUUM  
5.1 CFM OPEN FLOW

### MODEL 75R645

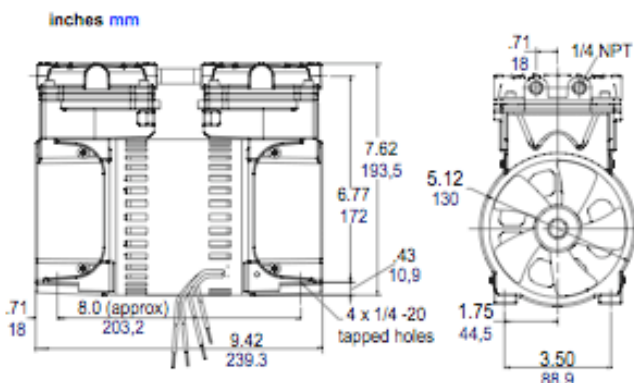
30 PSI MAX. PRESSURE, 4.90 CFM OPEN FLOW

### MODEL 75R640

40 PSI MAX. PRESSURE, 4.45 CFM OPEN FLOW

### MODEL 75R635

30 PSI MAX. PRESSURE, 4.05 CFM OPEN FLOW



### Product Specifications

Model Number	Motor Voltage	HP	kW	Net Wt. lbs.	kg
75R635-P101-H301X	100/100-115-50/60-1	1/3	0.25	17.1	7.8
75R640-P101-H301X	115-60-1	1/3	0.25	17.1	7.8
75R645-P101-H301X	115-60-1	1/3	0.25	17.1	7.8
75R647-P101-H301X	115-60-1	1/3	0.25	17.5	7.9
75R647-V101-H301X	115-60-1	1/3	0.25	17.5	7.9
75R645-P101-H302X	220-240/230-50/60-1	1/3	0.25	17.6	8.0
75R647-P101-H302X	220-240/230-50/60-1	1/3	0.25	18.0	8.2

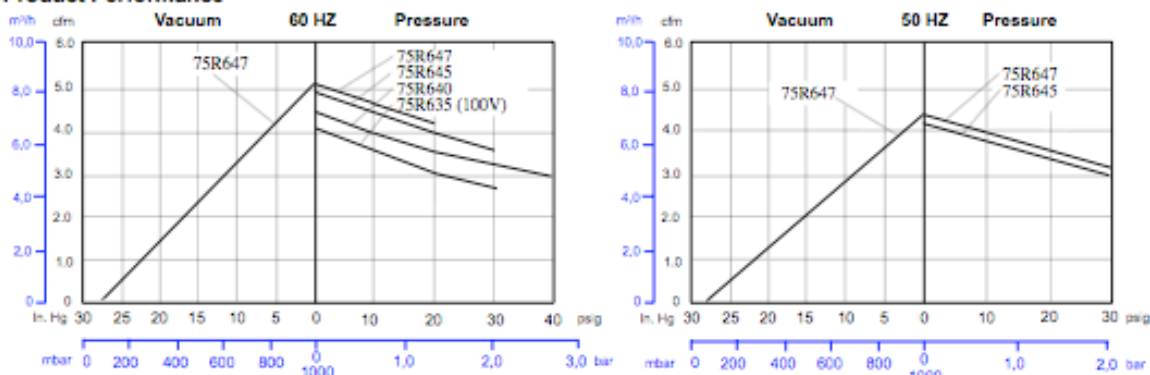
### PRODUCT FEATURES

- ✓ Oilless operation
- ✓ All wetted aluminum parts treated for corrosion protection from moisture
- ✓ Rugged motor shell construction

### RECOMMENDED ACCESSORIES

- ✓ Relief valve AF592S (pressure)
- ✓ Pressure gauge AA644B (0-30 psig)
- ✓ Relief valve AA207A (vacuum)
- ✓ Vacuum gauge AA640
- ✓ Foot mount kit AF713A
- ✓ Filter B300A
- ✓ Capacitors:
  - AT250 - 75R645-P101-H302X
  - AT251 - 75R647-P101-H302X
  - AT367 - 75R645-P101-H301X
  - AT546A - 75R635-P101-H301X, 75R640-P101-H301X, 75R647-P101-H301X
- ✓ Repair kit K797

### Product Performance

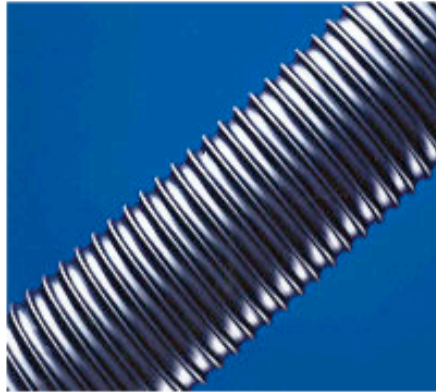


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**GAST MANUFACTURING, INC.**  
A Unit of IDEX Corporation  
PO Box 97, Benton Harbor, Michigan 49623-0097  
Phone: 616-926-6171 • Fax: 616-925-8288  
[www.gastmfg.com](http://www.gastmfg.com)



## GASBLASTER Duct Tubing & Clamps



LSX-100      size 4"  
#USP48657

LSX-200      size 8"  
#USP48685

Lightweight, very flexible, excellent chemical resistance. Excellent compressibility and good flex fatigue resistance. Can be molded or squeezed into tight space.

Temp range: -40°F to 225°F.

Polypropylene reinforced with a polypropylene rod helix.

Color: Black.

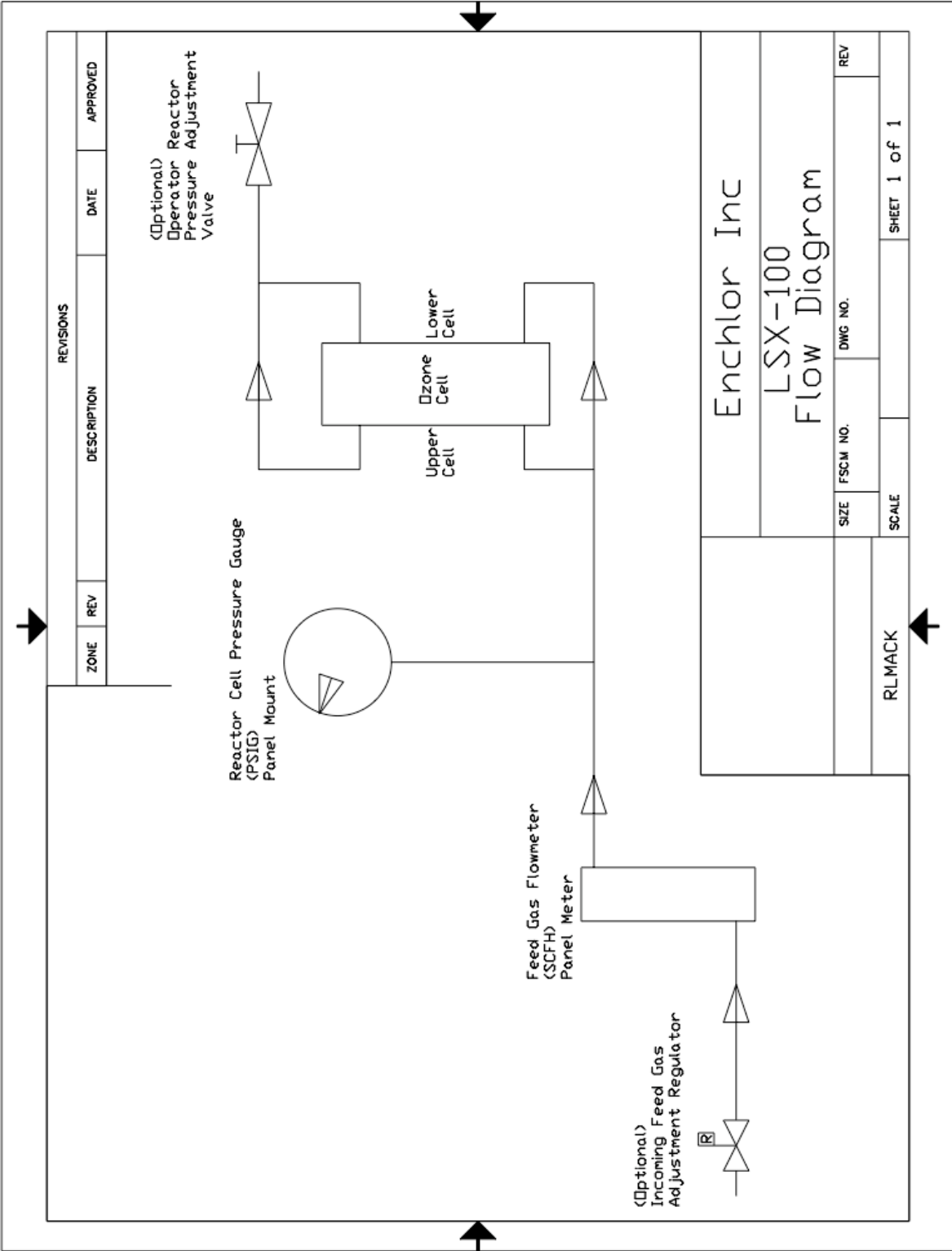
Supplied Length: 10' standard

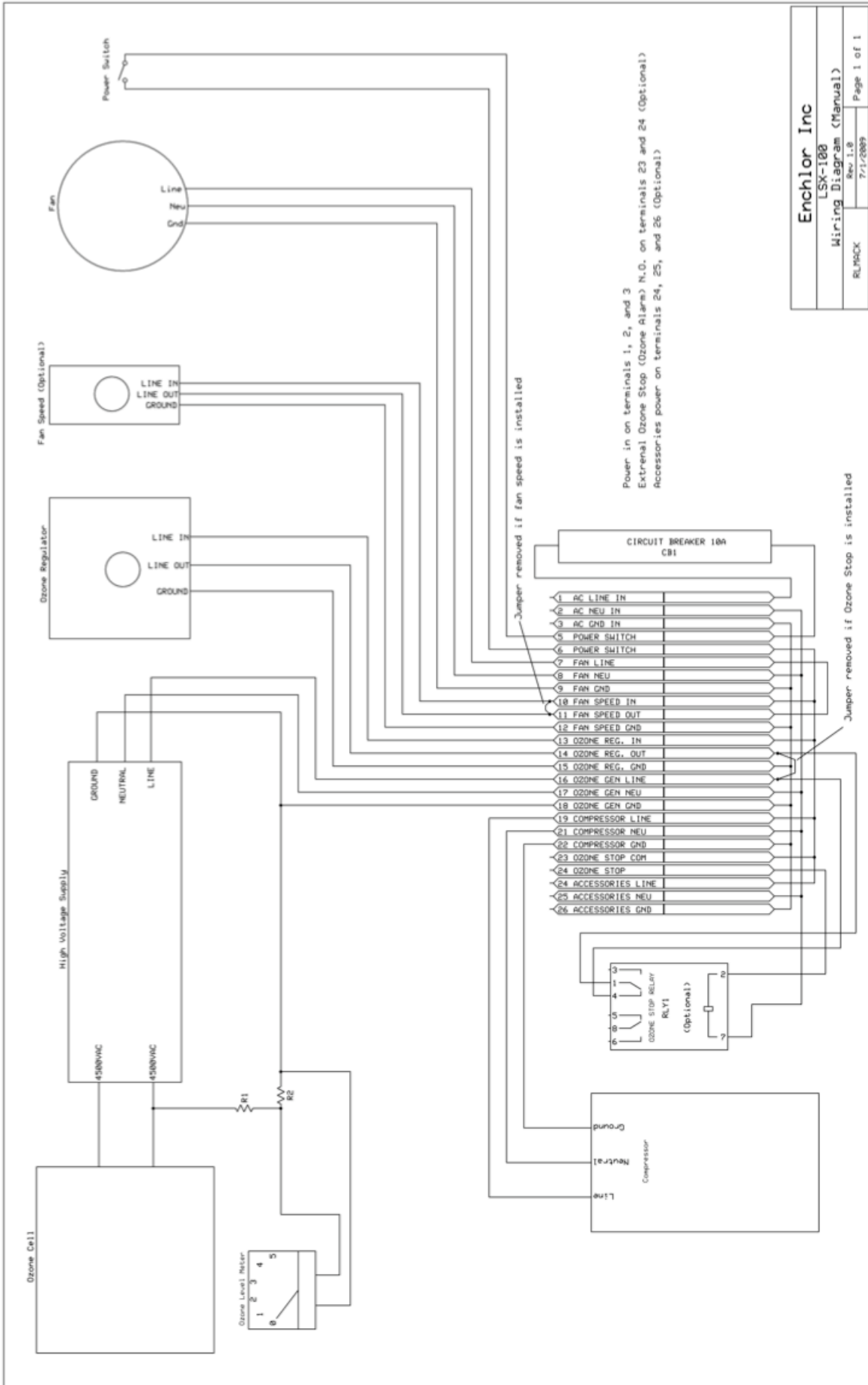
### Clamps shall be SUPRA W4 Heavy Duty T-Bolt hose clamp with 304SS band and 304SS Screw

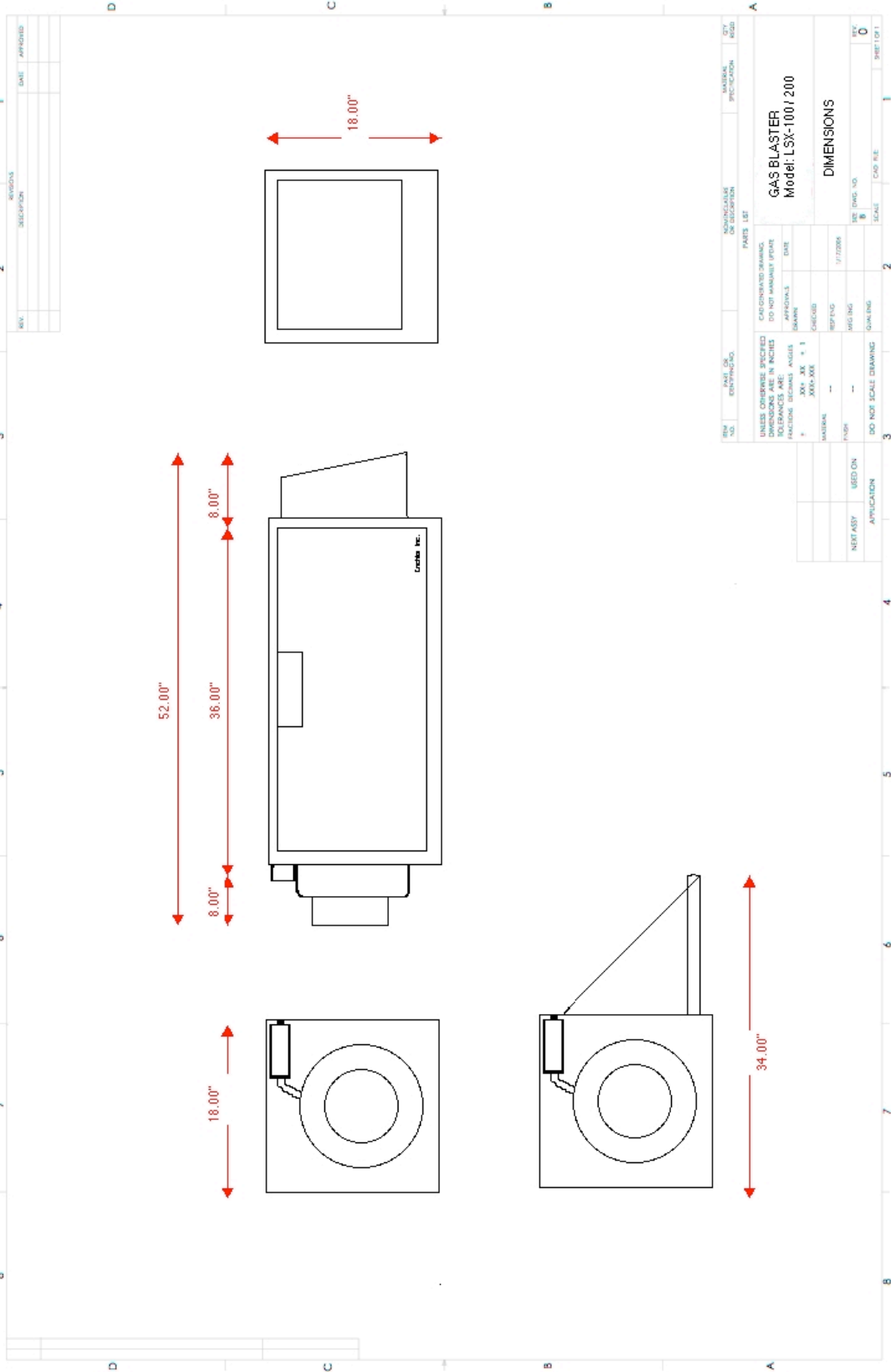
Both the nut and bolt support are captive and cannot be lost. The clamp shall require only regular tools to tighten the bolt. Deep sockets to reach a nut are not required. The stainless steel band shall have beveled edges to prevent damage to the duct hose.



**Enchlor Inc., Box 99, 130 West Main Street, Silverdale, PA 18962**  
Phone: 215-453-4533 Fax: 215-453-1101 [www.enchlor.com](http://www.enchlor.com)







REV.	DESCRIPTION	DATE	APPROVED

REV. NO.	PART OR IDENTIF. NO.	QUANTITY	DESCRIPTION	MATERIAL SPECIFICATION	QTY. ISSUED

UNLESS OTHERWISE SPECIFIED		CAD GENERATED DRAWING	
ALL DIMENSIONS ARE IN INCHES	DO NOT MANUALLY UPDATE	DATE	
FRACTIONS DECIMALS ANGLES		APPROVALS	

PARTS LIST	

GAS BLASTER	
Model: LSX-100/200	
DIMENSIONS	
REV. NO.	
SCALE	
CAD FILE	

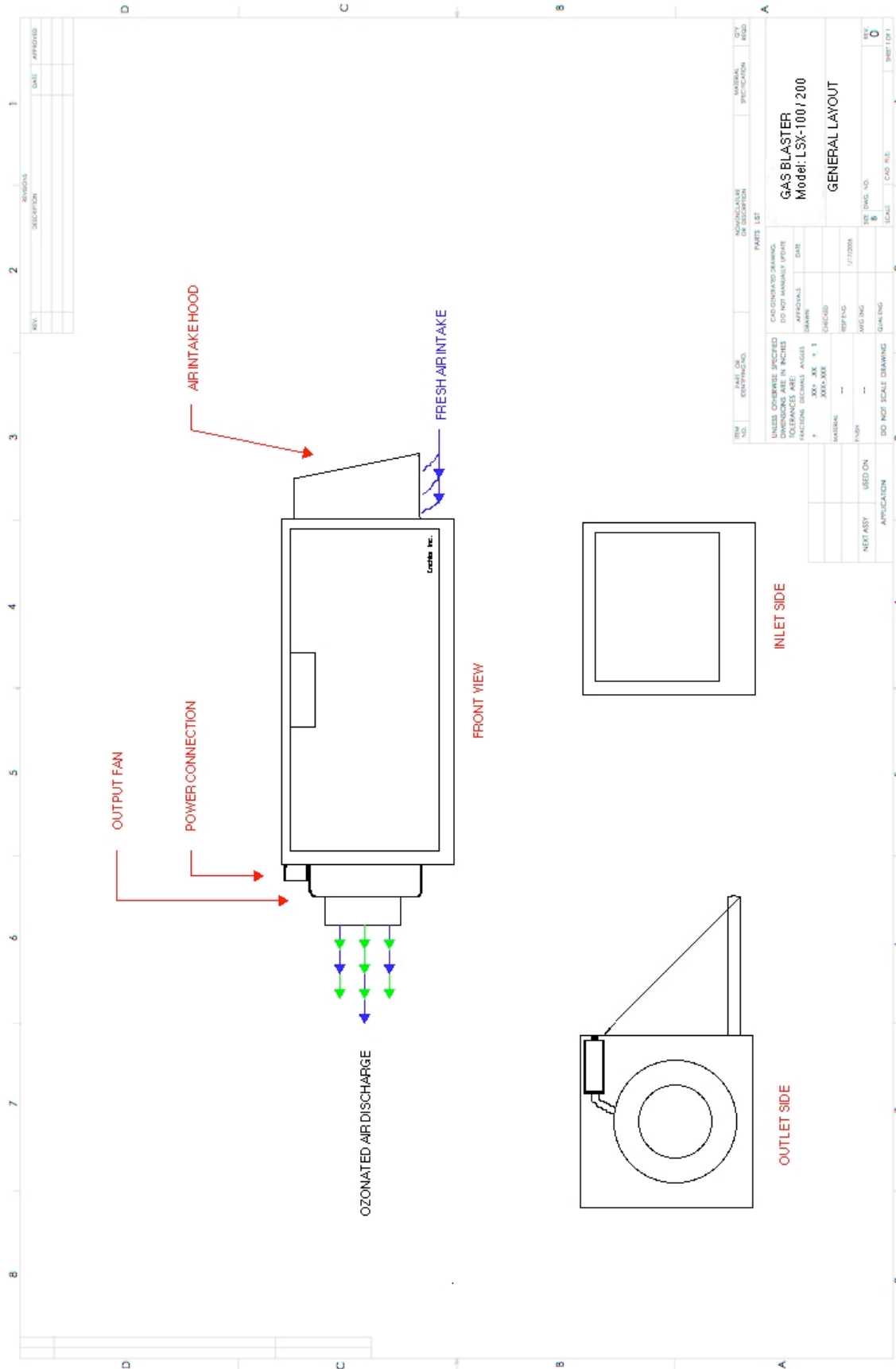
DO NOT SCALE DRAWING	
NEXT ASSY	USED ON

APPLICATION	

DIMENSIONS	
REV. NO.	
SCALE	
CAD FILE	

DO NOT SCALE DRAWING	
NEXT ASSY	USED ON

APPLICATION	



REV. NO.	REV. OR EXPLANATION	REVISED BY	DATE	APPROVED

REV. NO.	REV. OR EXPLANATION	REVISED BY	DATE	APPROVED

PART NO. PART DESCRIPTION QUANTITY SPECIFICATION UNIT REQD	<b>GAS BLASTER</b> <b>Model: L SX-100/200</b> <b>GENERAL LAYOUT</b>
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DIMENSIONS IN INCHES DIMENSIONS ARE IN INCHES TOLERANCES ARE: FRACTIONS DECIMALS ANGLES XXX .XX * .1	PARTS LIST DIMENSIONS IN INCHES DIMENSIONS ARE IN INCHES TOLERANCES ARE: FRACTIONS DECIMALS ANGLES XXX .XX * .1
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PART NO. PART DESCRIPTION QUANTITY SPECIFICATION UNIT REQD	DIMENSIONS IN INCHES DIMENSIONS ARE IN INCHES TOLERANCES ARE: FRACTIONS DECIMALS ANGLES XXX .XX * .1
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PART NO. PART DESCRIPTION QUANTITY SPECIFICATION UNIT REQD	DIMENSIONS IN INCHES DIMENSIONS ARE IN INCHES TOLERANCES ARE: FRACTIONS DECIMALS ANGLES XXX .XX * .1
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PART NO. PART DESCRIPTION QUANTITY SPECIFICATION UNIT REQD	DIMENSIONS IN INCHES DIMENSIONS ARE IN INCHES TOLERANCES ARE: FRACTIONS DECIMALS ANGLES XXX .XX * .1
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DIMENSIONS IN INCHES DIMENSIONS ARE IN INCHES TOLERANCES ARE: FRACTIONS DECIMALS ANGLES XXX .XX * .1	PARTS LIST DIMENSIONS IN INCHES DIMENSIONS ARE IN INCHES TOLERANCES ARE: FRACTIONS DECIMALS ANGLES XXX .XX * .1
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PART NO. PART DESCRIPTION QUANTITY SPECIFICATION UNIT REQD	DIMENSIONS IN INCHES DIMENSIONS ARE IN INCHES TOLERANCES ARE: FRACTIONS DECIMALS ANGLES XXX .XX * .1
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PART NO. PART DESCRIPTION QUANTITY SPECIFICATION UNIT REQD	DIMENSIONS IN INCHES DIMENSIONS ARE IN INCHES TOLERANCES ARE: FRACTIONS DECIMALS ANGLES XXX .XX * .1
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PART NO. PART DESCRIPTION QUANTITY SPECIFICATION UNIT REQD	DIMENSIONS IN INCHES DIMENSIONS ARE IN INCHES TOLERANCES ARE: FRACTIONS DECIMALS ANGLES XXX .XX * .1
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PART NO. PART DESCRIPTION QUANTITY SPECIFICATION UNIT REQD	DIMENSIONS IN INCHES DIMENSIONS ARE IN INCHES TOLERANCES ARE: FRACTIONS DECIMALS ANGLES XXX .XX * .1
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PART NO. PART DESCRIPTION QUANTITY SPECIFICATION UNIT REQD	DIMENSIONS IN INCHES DIMENSIONS ARE IN INCHES TOLERANCES ARE: FRACTIONS DECIMALS ANGLES XXX .XX * .1
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PART NO. PART DESCRIPTION QUANTITY SPECIFICATION UNIT REQD	DIMENSIONS IN INCHES DIMENSIONS ARE IN INCHES TOLERANCES ARE: FRACTIONS DECIMALS ANGLES XXX .XX * .1
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PART NO. PART DESCRIPTION QUANTITY SPECIFICATION UNIT REQD	DIMENSIONS IN INCHES DIMENSIONS ARE IN INCHES TOLERANCES ARE: FRACTIONS DECIMALS ANGLES XXX .XX * .1
---	--

PART NO. PART DESCRIPTION QUANTITY SPECIFICATION UNIT REQD	DIMENSIONS IN INCHES DIMENSIONS ARE IN INCHES TOLERANCES ARE: FRACTIONS DECIMALS ANGLES XXX .XX * .1
---	--

PART NO. PART DESCRIPTION QUANTITY SPECIFICATION UNIT REQD	DIMENSIONS IN INCHES DIMENSIONS ARE IN INCHES TOLERANCES ARE: FRACTIONS DECIMALS ANGLES XXX .XX * .1
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**ENCHLOR** inc.

## GBE-464-500 120v Heater Assembly

***Designed for Gasblaster LSX-100/200  
Application heating. Keeps electronics  
Warm during cold weather operation.***

### Solid Billet Aluminum Construction



### Heater Element Specifications:

Internal Heater Length: 1-1/4" (31.8mm)

Overall Heater Length: 6"

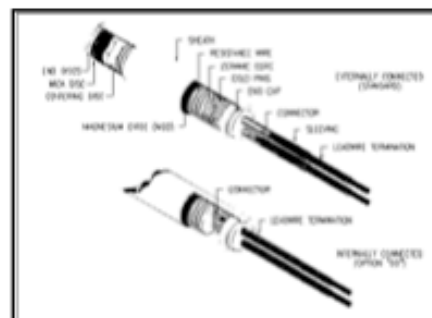
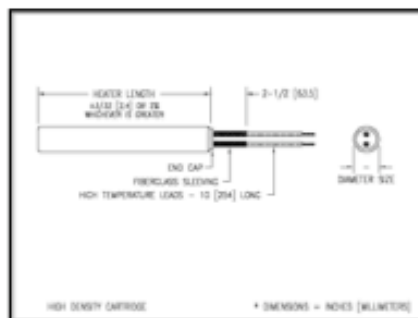
Watts: 150

Tube Material: High temperature corrosion resistant alloy sheath

Finish Diameters: 3/8" = .374" +.000 -.004 (9.5 mm +.00 -.10)

Temperature Limits: Suitable for heater tube temperature up to 1200 F (650 C)

Termination: 10" long (254 mm) lead wires Stranded nickel-copper conductors -  
Teflon/fiberglass insulation 482 deg F (250 deg C) temperature rating



*Producing Solutions for Water & Wastewater*

130 West Main Street, Silverdale, PA 18962 – (215) 453-2533 – [www.enchlor.com](http://www.enchlor.com)

**GASBLASTER  
WALL MOUNTING BRACKETS**



- Easily mount Gasblaster Series LSX-100/200 on wall
- Pre drilled holes
  - Stainless Steel (standard on BC series) or Powdercoated 2" x 2" steel angle iron – standard
  - measures 14" x 26"
  - provided as a set of (2)

**Enchlor Inc., Box 99, 130 West Main Street, Silverdale, PA 18962  
Phone: 215-453-4533 Fax: 215-453-1101 [www.enchlor.com](http://www.enchlor.com)**

## OZONE GENERATOR Series 26: AIR FILTRATION SYSTEM

### Application:

The 26 Series Filter is rugged, yet compact so it offers an ideal solution for most design problems. These units are also available with many popular options so they can be tailored to suit your application.

### Features & Benefits:

- Supplied with 1/4" in / out ports.
- Excellent water removal efficiency.
- Coalescing filter removes 99.97% of oil and water aerosols as well as solids larger than .3 microns.
- Bowl guard supplied as standard and mounts directly to the filter body not the bowl.



### General Description of Operation:

#### Coalescing Filter – STAGE 1

Contaminated compressed air enters through the center of the graded porous element. Solid particles are captured and held by direct impact, interception or diffusion, depending on their size. Liquid aerosols are also captured, but are forced through the filter matrix by the compressed air. The element density lessens towards the outer surface, forcing the collected liquid to agglomerate into larger and larger droplets. As the enlarged droplets emerge on the outside of the element they are conducted to the drain sites by the drain layer. Gravity pulls the collected liquid to the bottom of the bowl and is drained away by opening the draincock.

#### Filter – STAGE 2

Pressurized air enters through a curved inlet and deflector vane plate directing the incoming air in a downward whirling pattern. Centrifugal force huris the larger solids and liquid water particles outward where they collect on the inner surface of the filter bowl. The particles spiral down past a retainer baffle into a quiet chamber. The baffle prevents turbulent air in the upper bowl from re-entering liquid contaminants and carrying them downstream. Then the dry, clean air follows a convoluted path through the filter element, where finer solid particles are filtered out.

#### Maximum Supply Pressure:

Plastic Bowl .....150 PSI  
Metal Bowl .....250 PSI

#### Maximum Operating Temperature:

Plastic Bowl .....120° F

#### Filter Element:

Standard ..... .5 micron

#### Material:

Body .....Die Cast Aluminum  
Standard Bowl .....Transparent Polycarbonate with High Impact Guard  
Filter Element .....Porous Polypropylene

#### Dimensions and Weights:

Height .....6 1/2" each  
Width .....2" each

130 West Main Street, PO Box 99, Silverdale, PA 18962 USA  
PHONE: 215-453-2533 FAX: 215-453-1101 EMAIL: [sales@enclor.com](mailto:sales@enclor.com) WEB: [www.enclor.com](http://www.enclor.com)

## OEM SERIES OZONE GENERATOR

The OEM Series ozone generators are built on the strong foundation of Enchlor's air-cooled stainless steel and glass reactor. The rugged and reliable industrial ozone generators are packaged in versatile stainless steel and polyethylene chasses.

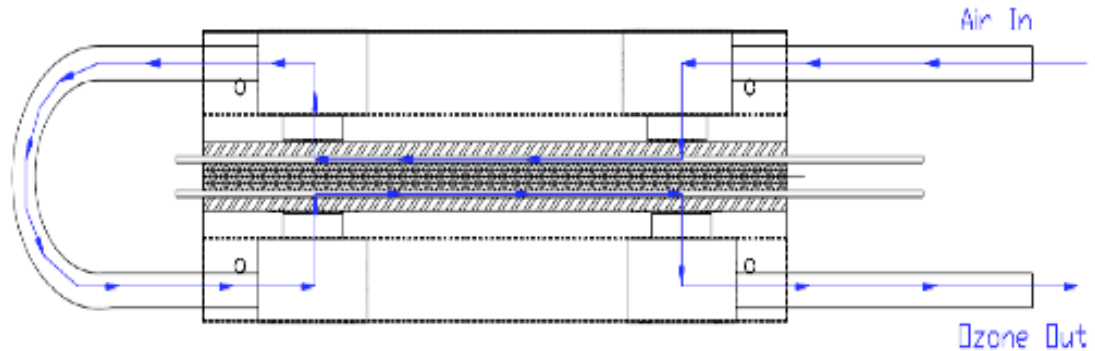
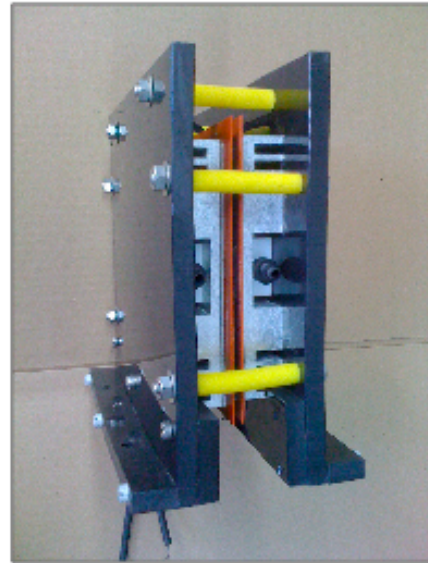
Controls

- Variable Output Control
- Feed Gas Flow Control
- LED Visual Ozone Indicator

**FTC Standards:** ALL Enchlor products comply with the FTC Act, 15 U.S.C § 45

Percentage of U.S. Content: all components shall be of 100% U.S. content, Made in USA: all equipment, parts and accessories shall be 100% made in the USA no foreign content or assembly shall be acceptable Domestic Origin:

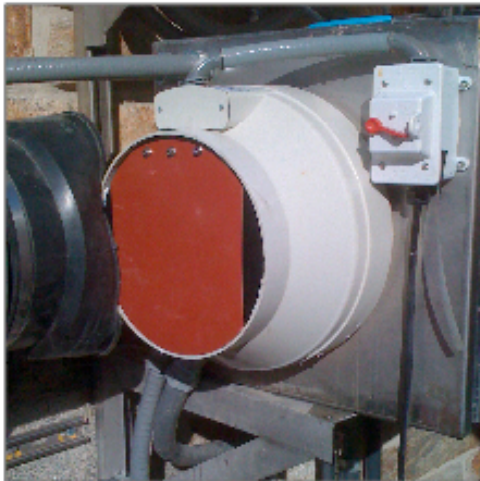
all equipment, parts, raw material and labor shall be of U.S. origin, Manufactured in USA: all equipment shall be manufactured AND assembled in the U.S.



MODEL#	MAX O3 PPD(g/h)	GENERATOR PRESSURE	AIR FEED SCFH	INLET	OUTLET
OEM-21	1.0(16)	12	20	1/4"NPT	1/4"NPT
OEM-22	1.6(30)	12	20	1/4"NPT	1/4"NPT
OEM-23	2.4(45)	12	40	1/4"NPT	1/4"NPT
OEM-24	3.0(60)	12	60	1/4"NPT	1/4"NPT

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**GASBLASTER  
DISCHARGE CHECK VALVE  
LSX-100 & LSX-200  
Standard on –BC systems**



**LSX-100 size 4"  
Part # LSX-100-DD**

**LSX-200 size 8"  
Part # LSX-200-DD**

Installed in the fan discharge of the LSX series systems, the check valve minimizes the back flow of wet well gasses into the Gasblaster system when the system is not being used. Constructed of machined Polyethylene and chemical resistant silicone, the check valve assembly provides system protection when multiple systems are ducted together.

**Enchlor Inc., Box 99, 130 West Main Street, Silverdale, PA 18962  
Phone: 215-453-4533 Fax: 215-453-1101 [www.enchlor.com](http://www.enchlor.com)**

## SERIES 1700-OZ-HZ OZONE SENSOR – HAZARDOUS ENVIRONMENT

GAS SENSOR - Each Series E1700 OZONE-HZ Sensor is housed in Class 1, Div. 1 & 2 enclosure for installation within environments requiring explosionproof ratings. Each sensor is stable and practically maintenance free. Its cell is designed to provide trouble free performance throughout its life and can be replaced easily. Each sensor is a high-resolution transducer that reacts quickly to the changing levels of ambient gas, proportional to the level of the specific gas to the Alarm Indicating Unit.



### SENSOR ELEMENT

#### Performance Characteristics

Nominal Range	0-10ppm
Maximum Overload	100ppm
Expected Operating Life	Two years
Output Signal	2.2 ± 0.5 μA/ppm
Resolution at 20°C	20ppb
Temperature Range	-20°C to +50°C
Pressure Range	Atmospheric ± 10%
Pressure Coefficient	No data
T <sub>90</sub> Response Time	<40 seconds
Relative Humidity Range	15 to 90% non-condensing
Typical Baseline Range (pure air)	0 to 0.1ppm equivalent
Maximum Zero Shift (+20°C to +40°C)	0.1ppm equivalent
Typical Long Term Output Drift	<10% signal loss/year in air
Recommended Load Resistor	33Ω
Bias Voltage	Not required
Repeatability	1% of signal
Output Linearity	Linear

### SENSOR ENCLOSURE

#### Standard Materials:

- Bodies – *Feraloy*<sup>®</sup> iron alloy
- Covers – copper-free aluminum

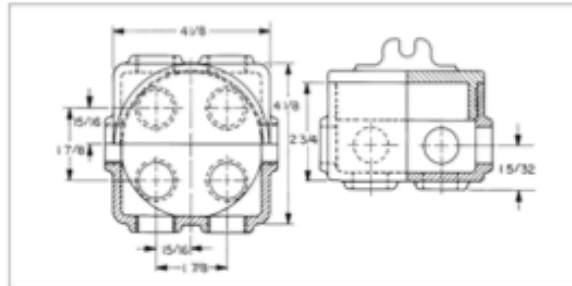
#### Standard Finishes:

- *Feraloy* iron alloy – electrogalvanized and aluminum acrylic paint
- Copper-free aluminum – natural

#### Certifications and Compliances:

- NEC/CEC:
  - Class I, Division 1 & 2, Groups C,D
  - Class II, Division 1, Groups E,F,G
  - Class II, Division 2, Groups F,G
  - Class III
- UL Standard: 886
- CSA Standard C22.2 No. 30

#### Dimensions



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