

# OPERATING INSTRUCTIONS



## LAB2B LABORATORY OZONE GENERATOR

# INTRODUCTION

## GENERATOR MODEL LAB2B

The Ozonia Triogen laboratory ozone generator is designed for use on applications where small quantities of ozone gas are required and is the most advanced and competitively priced unit available on the marketplace.

The generator can produce ozone either from dry air or oxygen operating at either negative or positive pressure.

**NOTE: THIS GENERATOR PRODUCES TOXIC GAS AND SHOULD ONLY BE OPERATED BY QUALIFIED PERSONNEL WHO ARE FAMILIAR WITH THE USE OF THIS TYPE OF EQUIPMENT.**

### ELECTRONIC POWER BOARD

The unit utilises a high frequency/high voltage power board which is designed for continuous operation and the circuitry has been specifically designed to incorporate “fold-back” protection which senses if a higher than normal current is being drawn by the ozone generating module and automatically reduces the power to protect itself from overload or short circuiting. It also incorporates variable frequency control which is utilised to vary the ozone production between 5-100% which is controlled via a manual control knob located on the front panel of the unit.

### OZONE GENERATING MODULE

The air cooled ozone generating module is located at the rear of the enclosure and is incorporated within a 316 stainless steel shrouded housing which surrounds the cooling fan. The shrouded housing has thermostatic protection to stop ozone production if the module temperature rises due to failure of the cooling fan. The module consists of a ceramic dielectric with 316 stainless steel electrode contained within an aluminium finned outer heatsink housing. The module end caps are manufactured from PTFE with PVDF tubing connectors.

### OZONE GENERATOR ENCLOSURE

The enclosure incorporates ventilation slots for the air supply to and from the module cooling fan and these must be kept clear of obstructions at all times. The rear panel of the unit incorporates the feed gas inlet connector and the ozone outlet connector as well as the mains electrical connection socket. The front panel is fitted with an illuminated ozone on-off switch, fault indicator, variable output controller and feedgas flowmeter.

# OPERATION

## GENERATOR MODEL LAB2B

Operating the ozone generator :

- 1 - Electrically connect the unit to the mains supply utilising the cable supply lead supplied with the unit.
- 2 - Start feedgas flow through the generator and set to required flowrate.
- 3 - Depress the main ON-OFF switch on the generator front panel which will illuminate indicating that ozone gas is being produced.
- 4 - Set the variable control knob to the output required by utilising the output graphs included in this manual.
- 5 - The unit takes ten minutes initially to reach its normal operating temperature and output.

Note: The red FAULT indicator will illuminate briefly after pressing the main ON-OFF switch due to the fractional delay in the power board relays latching.

In the event of the red FAULT light illuminating, this indicates that there is a fault in the system which could be the result of the following problems:

CAUSE 1 - The ozone module or power board have developed a short-circuit.

ACTION - Check the main fuses on the power board.  
Check the HT transformer and connector cable for signs of arcing.

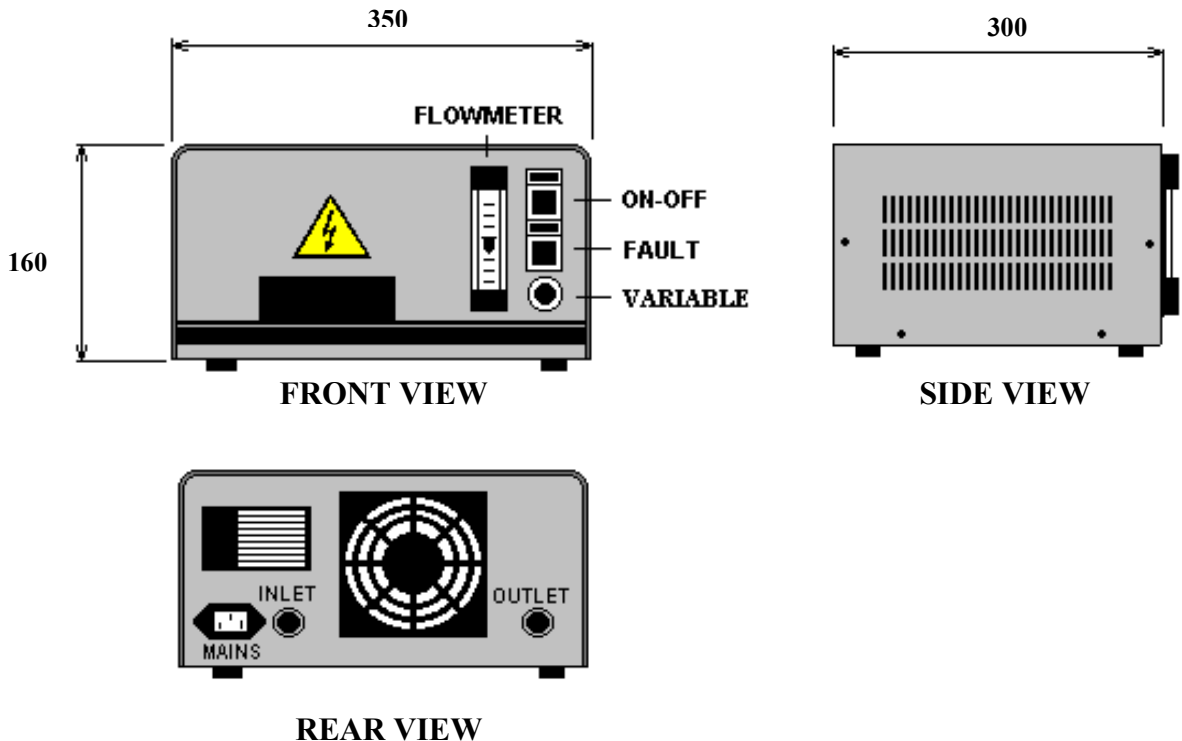
CAUSE 2 - The thermostat on the ozone module cooling shroud has activated due to higher than normal operating conditions.

ACTION - Check the cooling fan is operational.  
Check the unit is not being subjected to ambient temperatures above 40oC.

CAUSE 3 - The thermostat protection on the power board has activated due to higher than normal operating conditions.

ACTION - Switch off the ON-OFF switch and allow the unit to cool down for fifteen minutes then restart the unit. If the unit starts properly, this indicates that the internal temperature of the enclosure is overheating.

# TECHNICAL INFORMATION



## GENERAL INFORMATION

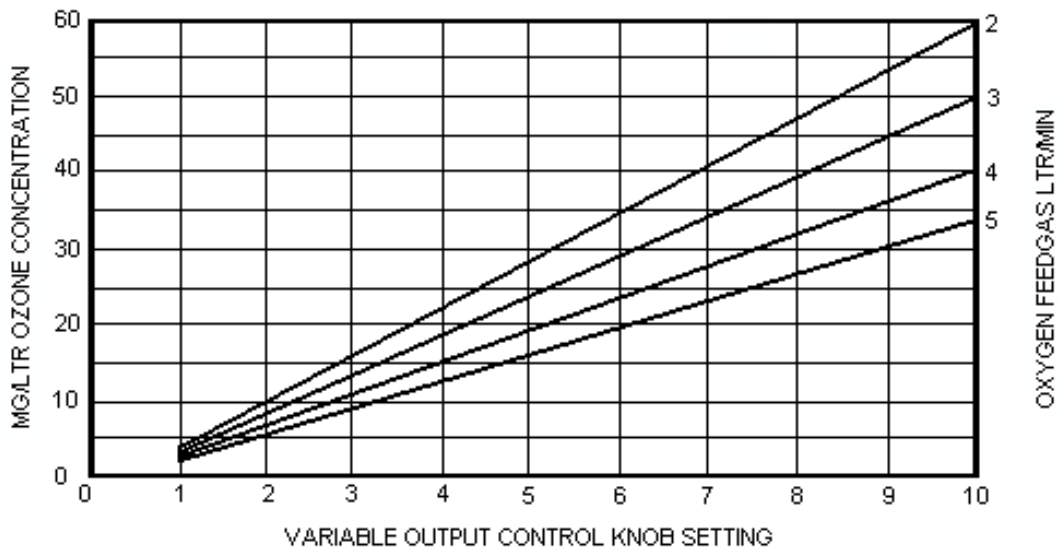
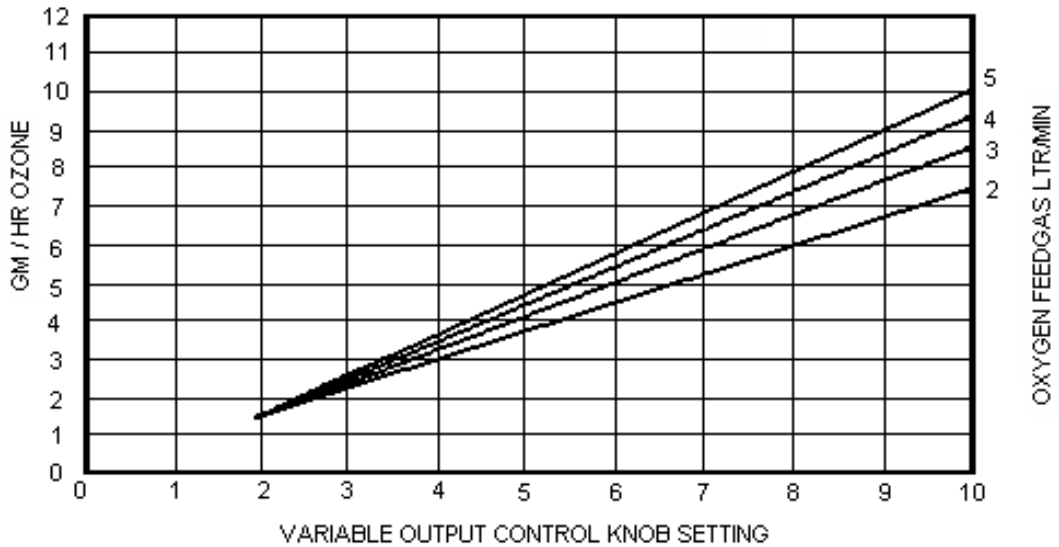
OZONE OUTPUT (MAX):	4.0 GM/HR ( FEEDGAS: DRY AIR -60oC DEWPOINT)
OZONE OUTPUT (MAX):	10.0 GM/HR (FEEDGAS: OXYGEN BOTTLED)
FEED GAS FLOWRATE:	4-10 LTR/MIN DRY AIR 2-5 LTR/MIN OXYGEN
OPERATING METHOD:	VACUUM OR PRESSURE (10 psi. max.)
MODULE COOLING MEDIUM:	AMBIENT AIR (FAN ASSISTED)
VARIABLE OUTPUT CONTROL:	15 - 100%
POWER SUPPLY:	230V-1PH-50HZ OR 115V-1PH-60HZ
POWER CONSUMPTION:	105 WATTS
CONNECTIONS:	PVDF COMPRESSION FITTING TO SUIT 8mm OD PIPE
WEIGHT:	6 KG

## CONTROLS & INDICATIONS

OZONE ON - OFF:	GREEN ILLUMINATED SWITCH
FAULT:	RED ILLUMINATED INDICATOR
FLOWMETER:	2 - 10 LTR/MIN

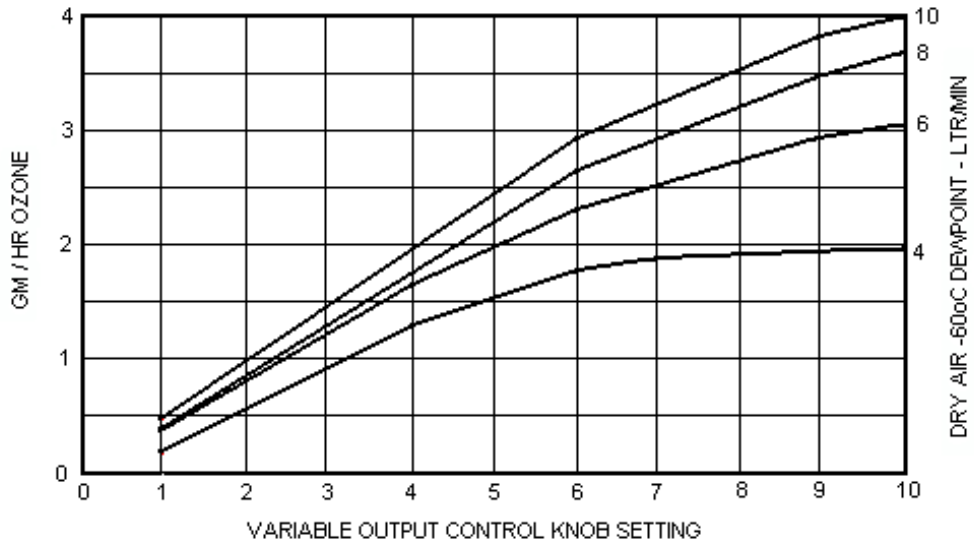
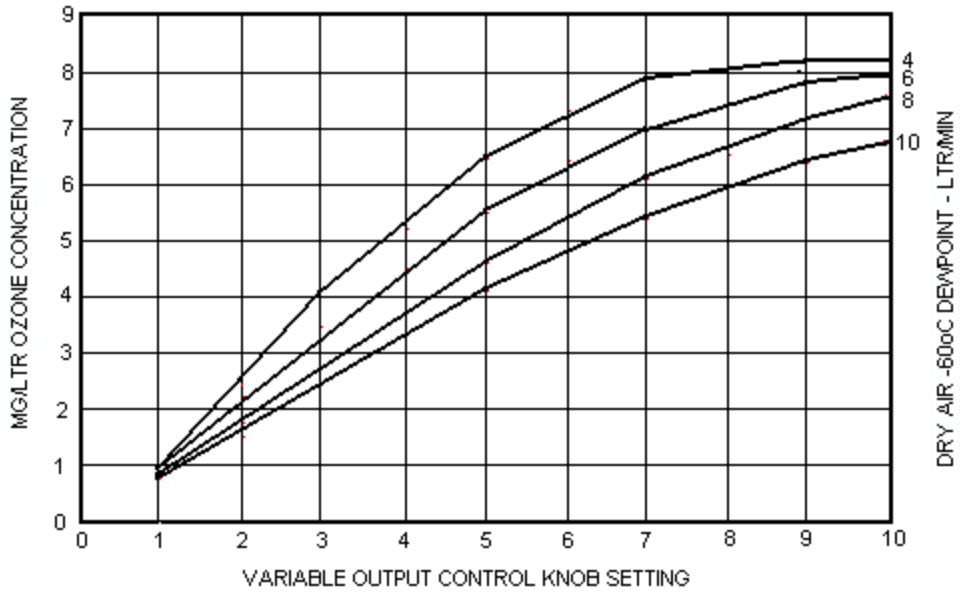
# TECHNICAL OUTPUT GRAPHS

**FEEDGAS - 100% OXYGEN  
PRESSURE - 10 psi (max)**



# TECHNICAL OUTPUT GRAPHS

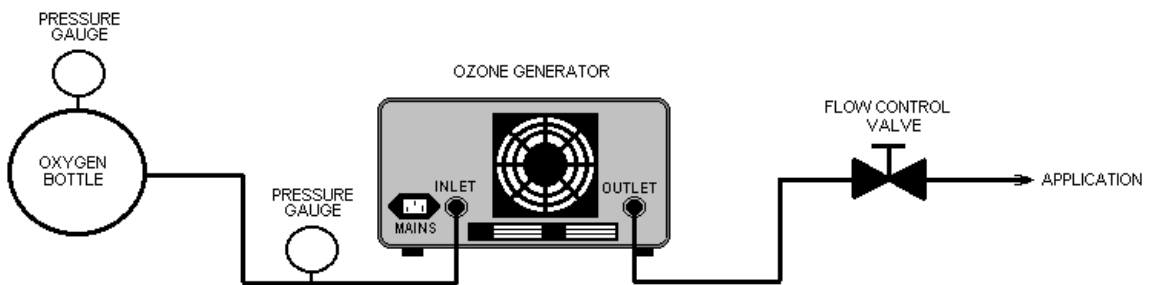
**FEEDGAS - DRY AIR -60oC DEWPOINT  
PRESSURE - 10 psi (max)**



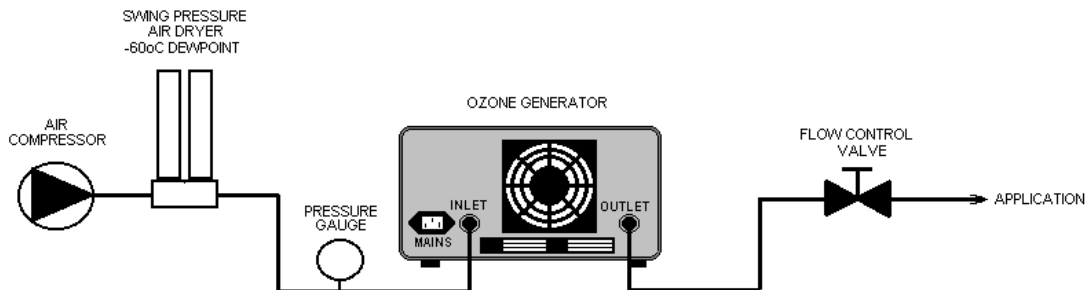
# TECHNICAL

## TYPICAL INSTALLATIONS

**NOTE: IN APPLICATIONS WHERE OZONE IS TO BE APPLIED TO FLUIDS CARE SHOULD BE TAKEN TO ENSURE THAT THE FLUID CANNOT FLOW BACKWARDS INTO THE OZONE GENERATOR AS ANY FORM OF MOISTURE INGRESS INTO THE OZONE GENERATING MODULE WILL RESULT IN A FAILURE OF THE UNIT.**



**FEEDGAS - 100% OXYGEN  
PRESSURE - 10 psi (max)**



**FEEDGAS - DRY AIR -60°C DEWPOINT  
PRESSURE - 10 psi (max)**