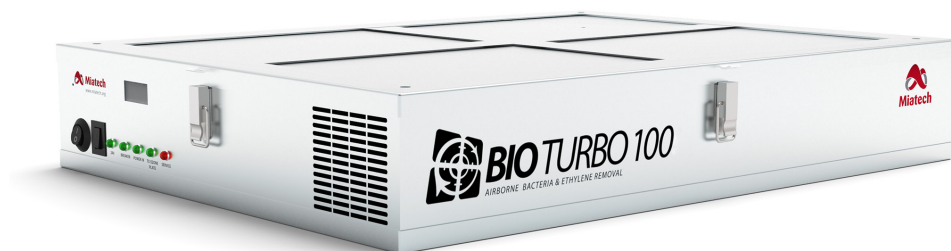


TECHNICAL INSTRUCTIONS

Bio Turbo 100 User Guide

AIRBORNE BACTERIA & ETHYLENE REMOVAL

Specification Sheet	2
Installation Guide.....	3
Layout Diagram.....	4
Maintenance Guide	5
Wiring Diagram.....	6
Pull Sheet	8



Bio Turbo 100

Specification Sheet

Features

- LED lights for quick diagnostics
- Easy service
- Easy changing of ozone plates and filters
- Four models for proper coverage
- Aluminum and Stainless Steel generation chamber
- Easy to install and operate
- Low maintenance

Model(s)	Bio Turbo 100
Maximum volume up to	3300 ft ³ (100 m ³) per 24 hours
Airflow	3 CFM (0.1 CMM)
Location Requirements	
Electrical Source	100-240 VAC
Circuit Breaker	5A
Maintenance	
Air Filter	Change every 12 months
Ozone Plate(s)	Change every 12 months
Number of Ozone Plates	1
Specifications	
Size:	
Height	4 inches (10 cm)
Width	18 inches (45 cm)
Depth	24 inches (60 cm)
Weight	24 lb (11 kg)
Construction	
Materials:	
Unit Cabinet	Aluminum
Perforated Generator Plate	Stainless Steel
Controls	
Remote Control:	N/A
	Power Switch

Bio Turbo 100

Installation Guide

DESCRIPTION

The Bio Turbo 100 is referred to, as the BT 100. The 100 indicates the amount of Cubic Meters the unit can properly control within a 24 hour period. The BT 100 was designed to remove ethylene from cold rooms and storage areas where fruits and vegetables are stored in order to extend their storage life.

TECHNOLOGY OVERVIEW

STAGE 1: AIR FILTER

The air filter removes dust and visual particles from the air.

STAGE 2: CELL DISRUPTER

An anti-microbial chemical is applied to the surface of a specifically designed substrate. This combination pierces and ruptures cell membranes of airborne pathogens as they pass by, stopping the normal life development of the cells. This stage can be especially effective at controlling spores.

STAGE 3: OZONE CHAMBER

This chamber uses the positive effects of ozone to eliminate ethylene gas while destroying up to 99.5% of the bacteria and pathogens that are being broken down during the previous stage. The ozone is safely contained within the chamber providing a safe work environment.

STAGE 4: BIO CLEAN MODULE

In this final stage, a catalyst is used to change the ozone into clean oxygen. The catalyst creates a reaction that breaks down the ozone molecule. From here the clean oxygen is released back into the environment.

SYSTEM PLACEMENT

The Bio Turbo 100 is constructed to be mounted to the ceiling or on the wall as high as possible. Since ethylene is lighter than air it will rise toward the ceiling.

There are four snap clips on the sides for securing the system to its holding frame that can be easily installed to the ceiling (see picture 1).

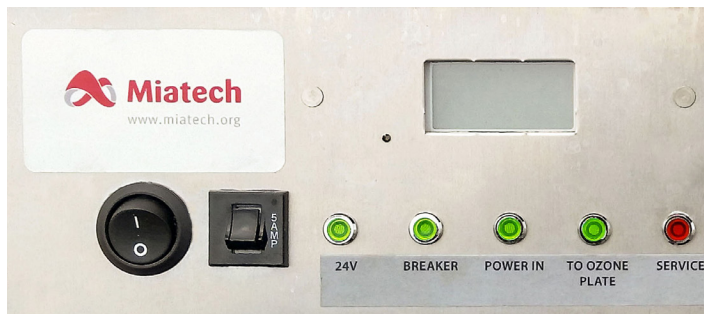


Picture 1

Before drilling inspect the area where the system will be mounted for any obstructions that could be damaged.

Use the supplied screws to attach the holding frame to the ceiling. After the holding frame is installed you can easily secure the system to its frame.

OPERATION



Picture 2

After supplying the power in to the system, “Breaker” LED should be glowing green. This shows that power is to the system and the circuit breaker is good.

Turn on the power switch. Three more LED’s should come “ON”. These indicate there is power to the transformer, power to the fan and to the ozone generator plate (a low hum should be detected after the unit is plugged in) (see picture 2).

COUNTDOWN SERVICE TIMER

System is equipped with the Service Timer which is counting down days to the next maintenance when system is operating. Timer is set to 360 days and when it gets down below 10 days it starts beeping and Service Red LED light on the system will flash, signaling maintenance is due. Service Timer has to be reset back to 360 days after maintenance is completed (see maintenance guide page for further instruction).

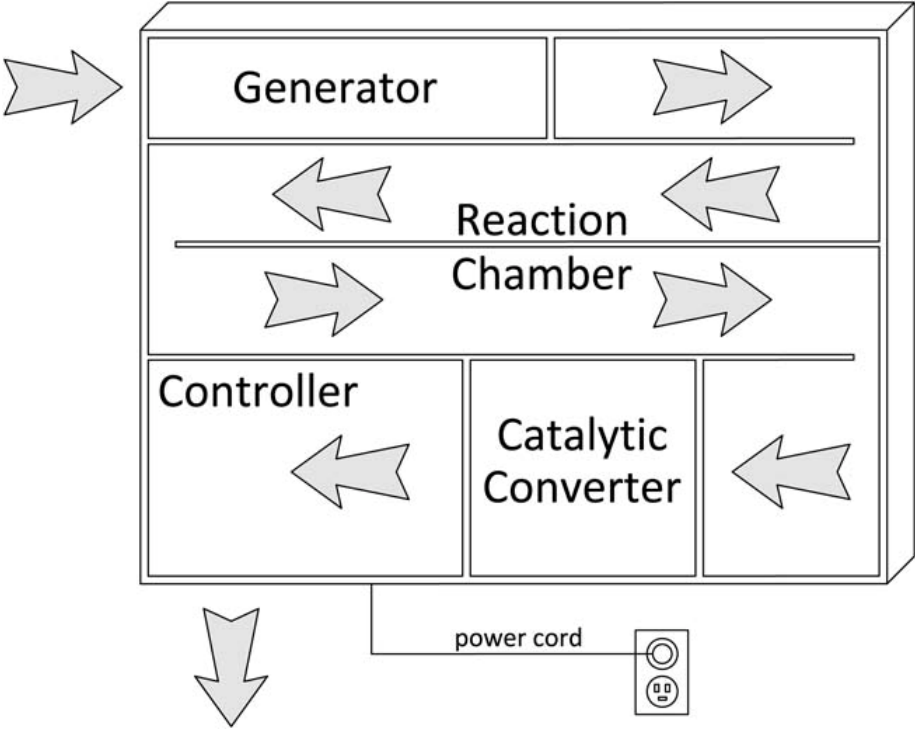
NOTE: Please apply the BT Facility Entrance Label #25070, supplied in a pack with system, near the facility entrance (see picture 3).



Picture 3

Bio Turbo 100

Layout Diagram



Bio Turbo 100

Maintenance Guide

CAUTION:
ALWAYS UNPLUG POWER BEFORE SERVICE!

Maintenance Requirements

Annual service requires the replacement of Air Filter (more often if environment is very dusty) and the replacement of the Ozone Generation Plates.

To replace the Air filter and the Ozone Generation Plates:

- Disconnect the unit’s power cable.
- Unscrew the system lid.
- Remove and replace the air filter (#6).
- To replace the Generator Plate (#8) release from the holder, remove and replace with new one.

System is equipped with the Service Timer (#11) which is counting down days to the next maintenance when system is operating. Timer is set to 360 days and when it gets down below 10 days it starts beeping and Service Red LED light on the controller box will flash, signaling maintenance is due. Service Timer has to be reset back to 360 days after maintenance is completed.

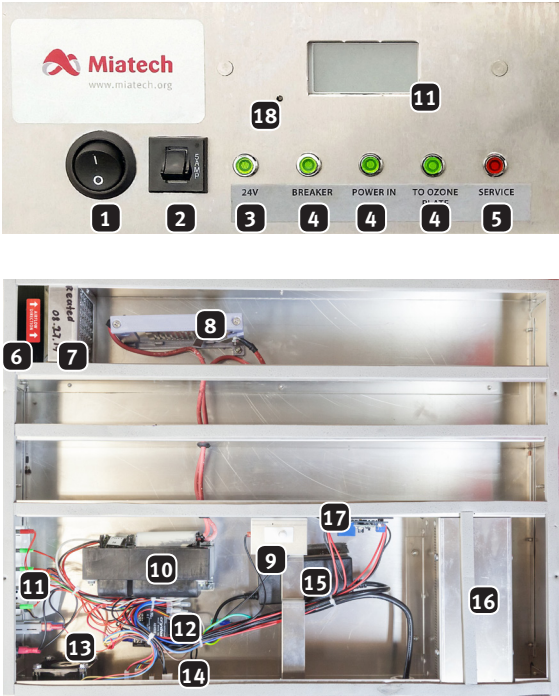
To reset the Service Timer:

Carefully press and hold the button for about 10 sec. until numbers will start flashing. By releasing and pressing again the same button select 360 from the options. Wait until it is defined (numbers will stop flashing).

NOTE: a blunt object should be used to reset, so damage won’t occur to the timer.

Diagnostic LED’s Name	Description
“Breaker” (on the Controller Chamber)	Power to the Unit
“Power IN” (on the Controller Chamber)	Power to the Power Supply
“24 V” (on the Controller Chamber)	Power to the Fan
“To the Generation Chamber” (on the Controller Chamber)	Power to the Generation Chamber
“Service” (on the Controller Chamber)	When the service is needed or when protection has triggered

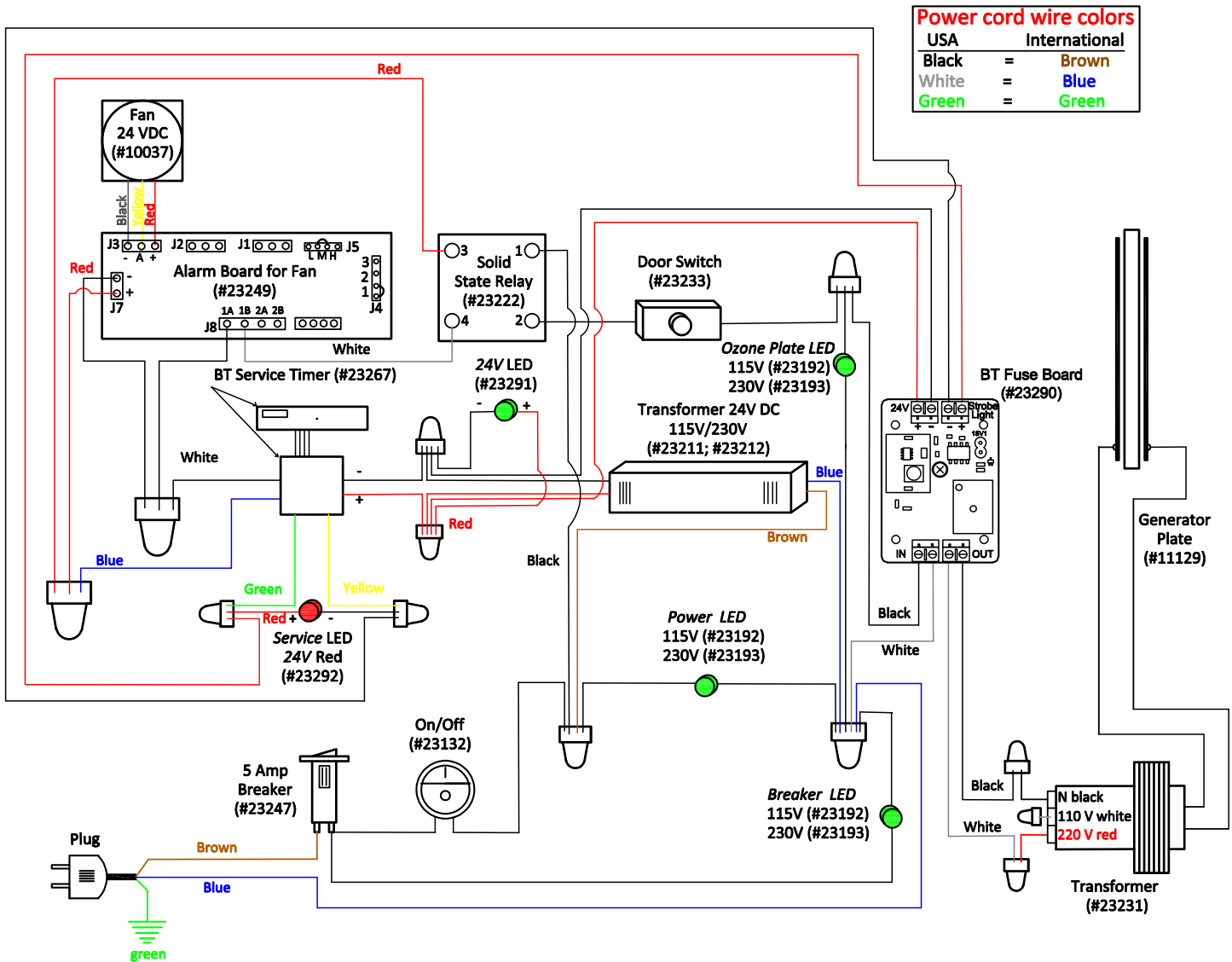
NOTE: If service Red LED comes ON along with strobe light, and timer is showing more than 10 — the ozone generation current protection might be triggered. This could happen due to the damage of ozone plates or power jump in power supply network. Unplug the system and check the ozone plates. If this happened because of power jump — restart the system by switching it OFF on a remote control and put back ON after 30 seconds.



- | | |
|--|----------------------------------|
| 1. Power Switch (#23132) | 11. BT Service Timer (#23267) |
| 2. 5 A Breaker (#23247) | 12. Solid State Relay (#23222) |
| 3. 24 V LED (#23291) | 13. Fan 24 V DC (#10037) |
| 4. 3 LEDs 230 V (#23193), 115 V (#23192) | 14. Alarm Board for Fan (#23249) |
| 5. Service 24 V LED Red (#23292) | 15. Transformer |
| 6. Air Filter (#11130) | 115 V (#23211) / 230 V (#23212) |
| 7. Cell Disrupter (#11163) | 16. Catalyst Container |
| 8. Generator Plate (#11129) | 17. BT Fuse Board (#23290) |
| 9. Door Switch (#23233) | 18. Timer Reset Hole |
| 10. Ozone Transformer (#23231) | |

Bio Turbo 100

Wiring Diagram



Notes

Bio Turbo 100

Pull Sheet Pack

PART NO.	PART NAME	AMOUNT	INSP.
24034	#14 x 2 1/2" Screw	5	
24035	#14 Plastic Anchor	5	
25070	BT Facility Entrance Label *See order for language	1	

DATE _____

PULLER _____

CHECKER _____



Miatech Inc.
9480 SE Lawnfield Road
Clackamas, OR 97015
www.miatech.org

For further technical support in North America call 1-800-933-6478
If outside North America call to the USA at 1-503-659-5680