

Oklin Food Waste Composting Machine

User Manual

GG10s



Oklin

Table of Contents

TABLE OF CONTENTS	3
INTRODUCTION	1
UNDERSTANDING THE MACHINE SAFETY LABELS	2
SAFETY INSTRUCTIONS – GENERAL.....	2
SAFETY INSTRUCTIONS – ELECTRICAL	3
IMPORTANT PRECAUTIONS	4
LED LIGHTS	6
COMPOSTABLE GOODS	7
NON-COMPOSTABLE GOODS.....	8
OKLIN FOOD WASTE COMPOSTING MACHINE – OPERATION	9
MACHINE START UP	9
MACHINE OPERATION – FOOD WASTE INPUT	9
MACHINE OPERATION – HYGIENIZATION	9
MACHINE OPERATION – COMPOST OFFLOAD.....	10
WHEN MACHINE IS USED AT FULL CAPACITY, COMPOST OFFLOAD SHOULD OCCUR ONCE A WEEK, OR WHEN COMPOST REACHES MAXIMUM FILL LINE LOCATED INSIDE TANK.	10
MACHINE OPERATION – CLEANING AND MAINTENANCE	10
TROUBLESHOOTING GUIDE	11
CONTACT US.....	13

Introduction

What is Oklin's Food Waste Composting Machine?

Oklin's Food Waste Composting Machine are in-vessel machines that use a microbial technology to compost organic waste and reduce volume by up to 90% in 24 hours. The output is an immature compost that is then cured and used as a soil amendment in various horticulture applications.

Features of the Oklin Food Waste Composting Machine

1. Acidulo™ Microorganisms

Oklin uses long-life Acidulo™ microorganisms. Unlike other microorganisms, it can withstand and multiply under extreme conditions like high temperature, high salinity and high acidity. This ensures the long durability and easy maintenance of the machines.

2. Nano Deodorization System

Oklin developed the Nano Deodorization System to complement the Oklin Food Waste Composting Machine. The Nano Deodorization System absorbs and reduces foul odour, providing an odour-controlled environment.



Understanding the Machine Safety Labels



Danger: Do not operate if guard and door removed

Lock out before servicing; after servicing, return guard to normal/closed position before resuming operation.



Danger: Keep off – trained personnel only

This unit is to be operated and serviced by trained and authorized personnel only.



Warning: Do not touch - moving parts can cause injury

Read all safety instructions. Lock out before servicing.

Safety Instructions – General



Warning: Read and understand this user manual and all other safety instructions before using this equipment.



Warning: Read and understand this user manual before using this machine.

Failure to follow the instruction could result in serious injury or death

Safety Instructions – Electrical



Warning: Electrical Equipment

Turn off power before accessing.
Lock out before servicing.



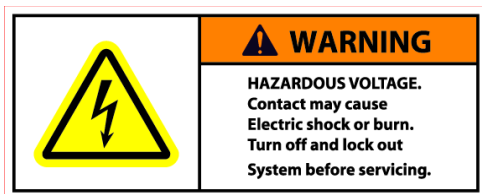
Danger: Keep off

Lock out/tag out before servicing.
Turn off and lock out machine before servicing.



Danger: Crush Hazard

Disconnect main power and lock out before servicing.



Danger: Electric Shock Hazard

Disconnect main power and lock out before servicing.

Important Precautions

The provided precautions are included to prevent injuries and accidents. Be sure to read all the instructions before using the machine, and keep manual for future reference.

1. Installation of the composting machine should be completed by a certified electrician and/or certified Oklin appointed technician.



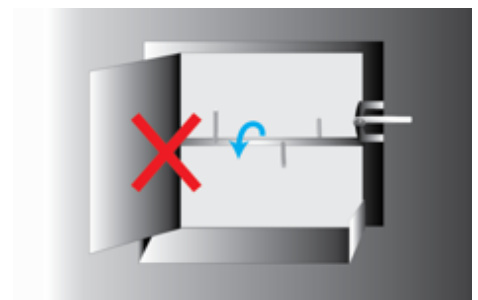
2. Oklin Food Waste Composting Machine must be installed on a level or hard floor that can support the machine's weight to prevent damages to the machine.



3. Do not touch the power plug if hands are wet.



4. Do not open the unloading lid if machine is operating.
The axis rotation will stop and compost will spill out.



5. Do not spray water directly onto the machine to avoid causing electric shock.

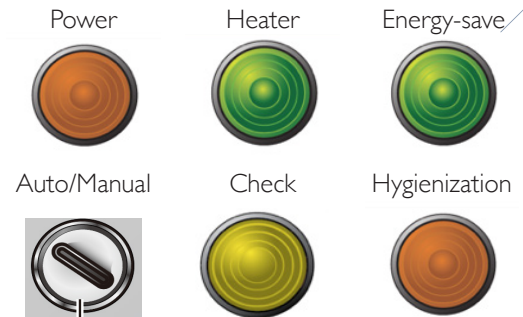
































6. Avoid a large space between composting machine and the deodorizer for maximum effectiveness of the deodorizer.



LED Lights

The LED lights on the main display of the machine provide operation information of the composting machine.



	Display	Definition
Power Heater Energy-save    Auto/Manual Check Hygienization   	Power Light - On	Operating Normally
Power Heater Energy-save    Auto/Manual Check Hygienization   	Power Light - Blinking	Lid/door is not closed
Power Heater Energy-save    Auto/Manual Check Hygienization   	Power Light and Energy Saving Light - On	Energy Saving Mode - On
Power Heater Energy-save    Auto/Manual Check Hygienization   	Power Light and Heater Light - On	Operating normally and heating up
Power Heater Energy-save    Auto/Manual Check Hygienization   	Power light and check light - On	Check machine for problems (eg. Overloading)

Compostable Goods

To prevent damaging the machine or compost contamination, ensure that all waste input is compostable goods only.

What Can be Composted

Oklin Food Waste Composting Machine can handle all sorts of food products, raw or cooked.



Fruit and Vegetables



Meat Products i.e.
Chicken, Pork, Fish



Fish Bones, Soft Bones



Soft Shells i.e. Egg Shells,
Shrimp Shells



Liquid Food i.e. Soup,
Stew



Bread, Noodles, Tacos
etc.



Grains i.e. Rice, Cereal



Dairy Products,
Confectionary



Coffee Grounds



Wood Shavings, Organic
Kitty Litter



Biodegradable PLA/CPLA
items



Bagasse/Compostable
Products

Non-Compostable Goods

To prevent damaging the machine or compost contamination, ensure that all waste input is compostable goods only.

What Can NOT Be Composted

To ensure Oklin Food Waste Composting Machine's maximum efficiency, do not pour oil or oil blends, hard shells like oyster or clam shells, fruit pits like lychee, peach fruit pits, or any non-organic materials like plastic or metal products into the machine.



Large Bones i.e. Steak Bones, Swine Bones



Shells i.e. Oyster or Clam Shells



Cooking Oils



Metal or Plastic Chopsticks, Toothpicks



Plastic Products i.e. Bags, Bottles



Medicine, Chemicals



Fruit Pits or Stems



Tea bags, cloth, tape, and doggie bags



Cigarettes



Metal, glass, kitchen utensils



Batteries



Coated Paper

Oklin Food Waste Composting Machine – Operation

Machine Start Up

Oklin's Acidulo microorganisms will need approximately two weeks to adapt and adjust to food waste as the microbes are dormant due to the shipping process. In order to reactivate the microbes, gradually increase the amount of food waste from 20% to full machine capacity over a two-week period.

Refer to machine start up schedule document on page 11 for details on how to best activate microbes.

1. Empty microbe sawdust into composting machine prior to operation
2. Add water to moisten sawdust (so it takes on a porridge like consistency) and to activate the humidity sensor
3. Close the loading lid
4. Press the "start" button to begin machine start up process
5. Ensure energy save mode is activated when composting process is complete and humidity is at 20% (sawdust mix is dry)

Machine Operation – Food Waste Input

1. Open the loading lid
2. Empty food waste into composting machine
 - GG10s maximum daily capacity is approximately 25kg.
3. Close the loading lid
4. Press "start" if needed

Machine Operation – Hygienization

The machine is equipped with a hygienization function to kill all potential pathogens. During the hygienization process, the tank temperature is maintained at 70°C for 60 minutes. The process must be uninterrupted for it to be successful.

1. Prior to offloading machine, ensure machine is in energy save mode
 - Ensure that compost is mostly dry prior to starting the hygienization process; high moisture content in compost will delay the hygienization process
2. Press "hygienization" button to activate process
3. During hygienization mode, the light will blink continuously. At the completion of a hygienization process, the light will remain steady.

Machine Operation – Compost Offload

When machine is used at full capacity, compost offload should occur once a week, or when compost reaches maximum fill line located inside tank.

1. Turn machine onto manual mode by turning “manual/auto” switch to “manual mode”
2. Place tote or container under offload door, and open offload door
3. Allow for compost to be emptied out of machine, use a shovel to assist in emptying machine
4. Empty compost to the axis level – some compost needs to remain in the machine to facilitate the composting process

Machine Operation – Cleaning and Maintenance

Cleaning and maintaining the machine ensures machine’s optimum performance.

1. Do not overload composting machine
 - It can affect machine operation and damage motor
2. When offloading compost, ensure there are no compost residual surrounding the offload door prior to shutting it
 - Compost residual can affect offload door’s sealing effect
3. Clean air filter screen weekly to prevent dust build up
 - Dust build up affects motor efficiency
4. Dust the electrical board monthly to reduce dust build up
 - **For safety reasons, shut off machine and electrical power prior to dusting electrical board**
5. Avoid slamming shut the input or offload door as it can damage the magnetic sensors
6. Do not shut off machine during composting process.
 - Food waste will harden, and may cause mixing blade to break once machine power is on
7. Remove water from deodorizer on a bi-weekly basis to guarantee deodorizer’s efficiency
8. Do not spray composter with water. When cleaning the machine, wipe down the surface areas of the machine with a damp cloth.

Machine Start Up Schedule



Schedule for starting up an Oklin composting machine (14-day Program to warm-up, wake-up, break-in and ramp-up)

Machine	Maximum Top Capacity		Minimum Top Capacity		Table of Food Waste to Input Per Day (kg)														
	Tons/Yr	KG/Day	Tons/Yr	KG/Day	Day 0	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10	Day 11	Day 12	Day 13	Day 14
					(Warm-up)	(Warm-up)	(Wake-up)	(Wake-up)	(Wake-up)	(Break-in)	(Break-in)	(Break-in)	(Break-in)	(Ramp-up)	(Ramp-up)	(Ramp-up)	(Ramp-up)	(Ramp-up)	(Ramp-up)
GG-10s	10	27	7	20	0	0	4	6	8	10	10	12	12	14	14	16	18	18	20
GG-30s	30	82	22	60	0	0	12	18	24	30	30	36	36	42	42	48	54	54	60
GG-50s	50	137	37	100	0	0	20	30	40	50	50	60	60	70	70	80	90	90	100
GG-100s	100	274	73	200	0	0	40	60	80	100	100	120	120	140	140	160	180	180	200
GG-200s	200	500	150	450	0	0	90	135	180	225	225	270	270	315	315	360	405	405	450
GG-300s	300	822	219	600	0	0	120	180	240	300	300	360	360	420	420	480	540	540	600
GG-500s	500	1370	365	1000	0	0	200	300	400	500	500	600	600	700	700	800	900	900	1000
Percent of "minimum top capacity" to input					0%	0%	20%	30%	40%	50%	50%	60%	60%	70%	70%	80%	90%	90%	100%

Start-up Notes

A 14-day machine start up period can be followed if there is a tight timeline. It is recommended to use the 21-day start up schedule to ensure maximum performance.

1 - "Start-up" occurs whenever a machine is (a) installed and started up for the first time, (b) restarted after a period of inactivity greater than two weeks, or (c) ramped up from a low level of use (less than one-third of capacity) to a much higher level of use.

2 - "Day 0" is installation completion day. On this day, the machine is turned on and starts to warm up for the first time.

3 - On "Day 0" where machine is warming up, sawdust needs to be emptied into machine, and water needs to be added to trigger the heater

GG10s	30L	GG200s	600L
GG30s	90L	GG300s	900L
GG50s	150L	GG500s	1500L
GG100s	300L		

4 - Each period of time serves a purpose:

Warm-up	lasts one-two days, and during this period, the distributor's personnel thoroughly checks the operation of the machine to ensure that everything works flawlessly, prior to when food waste is added.
Wake-up	lasts three days, and is the period during which the Oklin's microbes emerge from dormancy and become active. During this time, just enough food waste is added to 'wake up' and feed a healthy microbe population. A 20% load is suggested here, increasing to 40% by the end of the 6 day period.
Break-in	lasts four days, and is the period in which there is a significant increase in food waste added, and the capabilities of the machine and its microbe population are first seriously tested. From 50% to 60% of 'Minimum Top Capacity' can be added during this period.
Ramp-up	lasts one week, and is the period in which there is a significant increase in food waste added, and the capabilities of the machine and its microbe population are first seriously tested. From 50% to 60% of 'Minimum Top Capacity' can be added during this period.

5 - After the two week start-up period, users can consider whether their composting situation will allow them to ramp up to "Maximum Top Capacity."

6 - Maximum Top Capacity can be achieved by users who:

- a - Put in a wide variety of food waste
- b - In addition to food waste, also add high carbon (C) materials such as sawdust or paper
- c - have oil temp set at 120C
- d - Grind the bones and bulky food waste prior, to input to reduce size of material
- e - Remove compost every week

7 - By the end of the three week start-up period, it may be necessary to remove compost from the machine. The distributor's personnel should be present at this first unloading. It should not be necessary during the three week start-up period, and if it is, it may indicate a composting problem. By three weeks, the compost should have changed color from a light to medium brown to dark brown, with a rich, sweet musty odor when you open the loading door.

8 - Refer to the user manual for more information on operating Oklin's composters properly and to its highest potential, or consult with Oklin's distributors.

Troubleshooting Guide

Troubleshoot

If machine is not operating normally, refer to the troubleshooting guide to determine the source of the problem.

Problem	Reason	Solution
Power light is blinking	<ul style="list-style-type: none"> Input door or offload door is ajar 	<ul style="list-style-type: none"> Completely shut input door and/or offload door
Overload light is on	<ul style="list-style-type: none"> Too much food waste or compost in machine 	<ul style="list-style-type: none"> Turn off power and remove food waste or compost that is above the maximum line
	<ul style="list-style-type: none"> Mixing blade is blocked due to foreign object 	<ul style="list-style-type: none"> Turn off power and remove foreign object that may be stuck in mixing arm
Power switch is turned to "on", but machine is not operating	<ul style="list-style-type: none"> Emergency switch is activated 	<ul style="list-style-type: none"> Pull emergency switch to deactivate it
	<ul style="list-style-type: none"> Input or offload door is not shut 	<ul style="list-style-type: none"> Completely shut input door and/or offload door
	<ul style="list-style-type: none"> Power is shut off at main panel 	<ul style="list-style-type: none"> Ensure power is on at main panel
Composting Process ≥ 24 hours	<ul style="list-style-type: none"> Water content too high 	<ul style="list-style-type: none"> Add sawdust
	<ul style="list-style-type: none"> Water content too low 	<ul style="list-style-type: none"> Add water
Motor Sounds	<ul style="list-style-type: none"> Machine overload due to excess food waste or compost 	<ul style="list-style-type: none"> Offload food waste or compost that is above the maximum line
	<ul style="list-style-type: none"> Foreign object causing blockade 	<ul style="list-style-type: none"> Remove foreign object that may have cause mixing blade to be stuck
Perceivable Odour	<ul style="list-style-type: none"> Input or offload door not shut 	<ul style="list-style-type: none"> Completely seal input or offload door
	<ul style="list-style-type: none"> Fan is not operational 	<ul style="list-style-type: none"> Turn on fan
	<ul style="list-style-type: none"> Deodorizer piping is clogged or flooded 	<ul style="list-style-type: none"> Check pipes and remove blockages Drain water from deodorizer

Contact Us

If you have any questions, please contact your nearest Oklin International representative or Oklin appointed distributor.

The Americas

Rachel Wong

info@oklin.ca

Asia

Rebecca Wong

rebecca@oklin.com.hk

Oceania

Rebecca Wong

Rebecca@oklin.com.hk

Europe

Michael Jiran

Michael@oklin.com.hk

Middle East

Michael Jiran

michael@oklin.com.hk

All Other Regions

info@oklin.com.hk

