

Oklin Food Waste Composting Machine

User Manual

GG100s



www.oklininternational.com

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Introduction

What is Oklin's Food Waste Composting Machine?

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

Features of the Oklin Food Waste Composting Machine

Acidulo™ Microorganisms

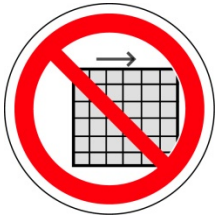
Oklin uses long-life Acidulo™ microorganisms. Unlike other microorganisms, it can withstand and multiply under extreme conditions like high temperature, high salinity and high acidity. This ensures the long durability and easy maintenance of the machines.

Nano Deodorization System

Oklin developed the Nano Deodorization System to complement the Oklin Food Waste Composting Machine. The Nano Deodorization System absorbs and reduces 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.



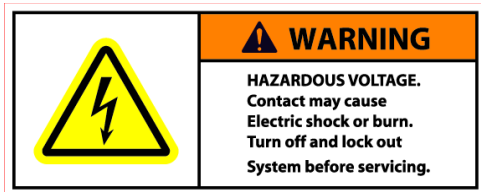
Danger: Keep off

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.



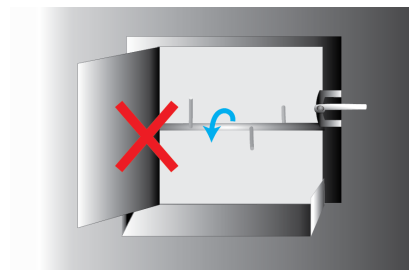
2. Oklin Food Waste Composting Machine must be installed on a level or hard floor that can support the machine's weight to prevent damages to the machine.



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



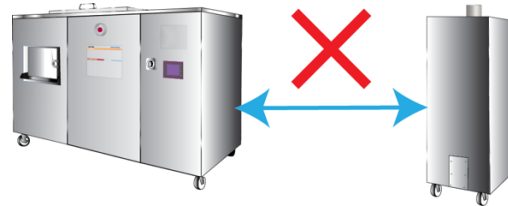
4. Do not open the unloading lid if machine is operating.
The axis rotation will stop and compost will spill out.



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

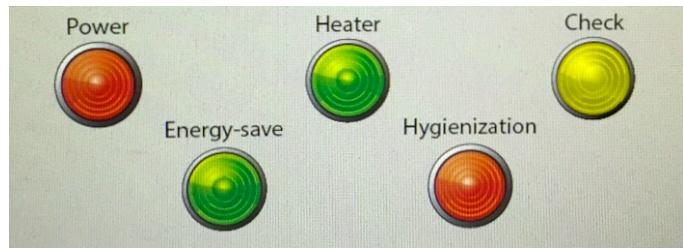


- 6. Avoid a large space between composting machine and the deodorizer for maximum effectiveness of the deodorizer.



LED Lights

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



	Display	Definition
	Power Light - On	Operating Normally
	Power Light - Blinking	Lid/door is not closed
	Power Light and Energy Saving Light - On	Energy Saving Mode - On
	Power Light and Heater Light - On	Operating normally and heating up
	Power light and check light on	Check machine for fault

Compostable Goods

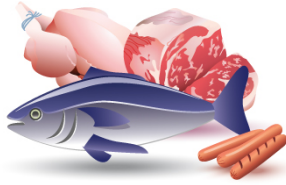
To prevent damaging the machine or compost contamination, ensure that all waste input is compostable goods only.

WHAT CAN BE COMPOSTED

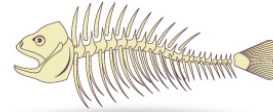
Oklin Food Waste Composting Machine can handle all sorts of food products, raw or cooked.



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



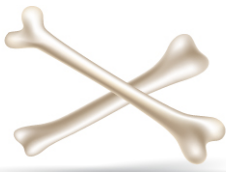
Bagasse/Compostable
Products

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.



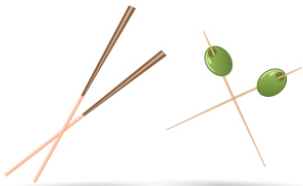
Large Bones i.e. Steak Bones, Swine Bones



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 provided by distributor for more details.

1. Empty microbe sawdust into composting machine prior to operation
2. Add water to moisten sawdust and to activate the humidity sensor
3. Change oil temperature to 100°C
4. Close the loading lid
5. Press the "start" button to begin machine start up process
6. During the start up process, ensure tank temperature reaches 51°C or higher
7. Ensure energy save mode is activated when composting process is complete and humidity is at 20%

Machine Operation – Food Waste Input

1. Open the loading lid
2. Empty food waste into composting machine
 - GG100s maximum daily capacity is approximately 200-250kg.
3. Close the loading lid
4. Press "start"

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 75°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 lengthen the hygienization process
2. Press "start" button to begin process
3. During hygienization mode, the light will blink continuously. At the completion of a hygienization process, the light will remain steady.

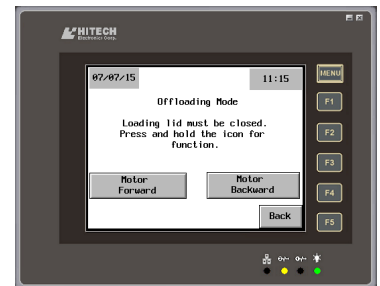


** Increasing tank temperature reduces the amount of time needed, and thus electricity consumption, for machine to reach optimal tank temperature for composting process

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. Compost can be offloaded after hygienization process is complete, and energy save mode is on. Ensure compost is offloaded to axis level.

1. From touch screen home page, select next page then “offloading mode” for compost offloading
2. Place tote or bucket below offload door
3. Open offload door
4. Press and hold motor forward or motor backward to offload compost
5. Remove compost from machine with a shovel
 - **For safety reasons, never put body parts into the machine**
6. Once compost is offloaded to axis level, close offload door
7. Return to home page, press “start” for normal operations



Machine Operation – Temperature Readings

For optimum performance, the oil temperature and tank temperature needs to reach a certain degree. Once the compost process is complete, machine will automatically reach “energy-save mode”.

1. For initial sawdust input, it takes approximately two hours to reach desired temperatures. In colder climates, it may take approximately three-four hours
 - Oil Temperature: 100°C
 - Tank Temperature: 51-52°C
2. Once the above temperature is met, input food waste. Due to food waste input, the oil and tank temperature will decrease.
 - Oil will then be heated up to 100°C
 - If oil temperature drops to below 97°C, heater will be triggered to increase oil temperature to settings
3. When the composting process is complete and humidity level is at 20%, machine will enter “energy save mode”
 - Tank temperature will decrease to 30°C (factory settings)
 - In cold environments where outside temperature is 5°C or lower, it is recommended to increase tank temperature in energy save mode to 45-50°C**

** Increasing tank temperature reduces the amount of time needed, and thus electricity consumption, for machine to reach optimal tank temperature for 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 Operation – Touch Screen

Turning On Oklin Food Waste Composting Machine

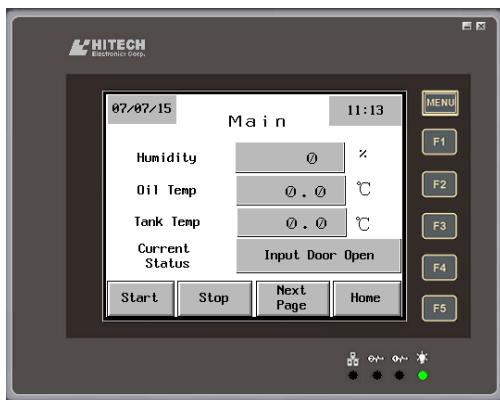


Once the composting machine is turned on, the touch screen will display the following:

Select preferred language – Chinese or English
Select “Oklin International Limited”

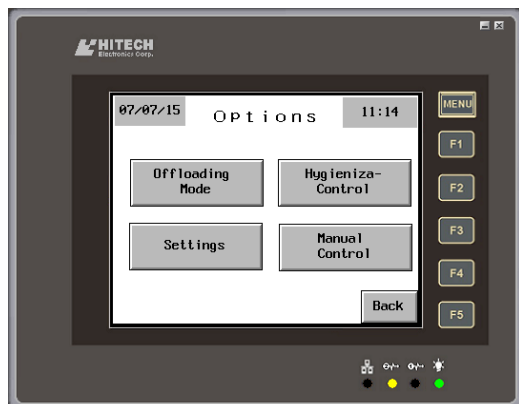
Operation Status Display

Machine – Automatic Mode



1. Select “Start” – the composting machine will operate in automatic mode
2. Select “Stop” – the composting machine operation will stop
3. Select “Next Page” for more settings
4. Select “Home” to return to previous screen

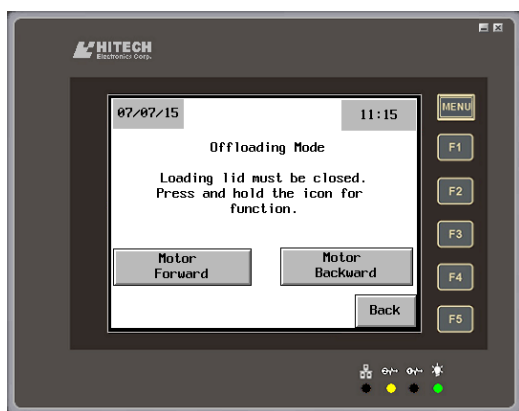
Machine Operation



Machine Operation

1. Select “Offloading Mode” to manually control motor direction
2. Select “Hygienization Control” for hygienization operations
3. Select “Settings” for access to more settings
4. Select “Manual Control” to access manual mode machine settings page

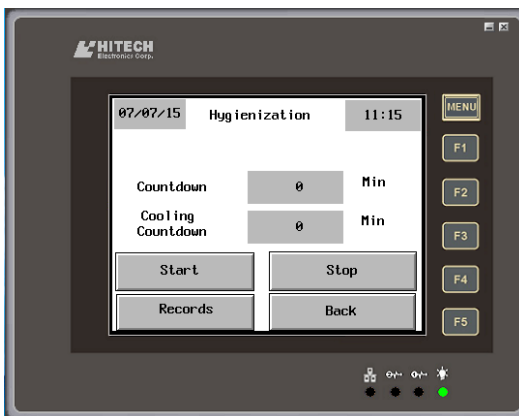
Machine Operation - Offload



Offload Mode

1. Select motor forward or motor backward for compost offloading
2. Select “Back” to return to previous screen

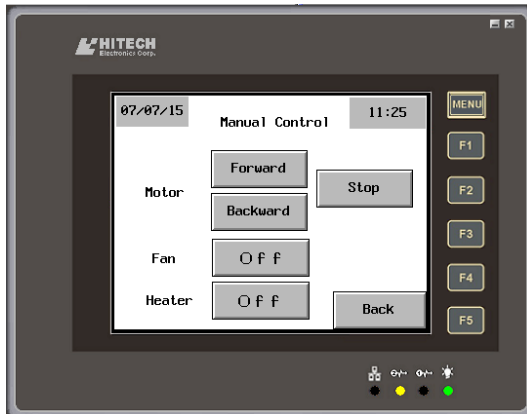
Machine Operation – Hygienization



Hygienization Operations

1. Select Start to begin hygienization process
2. Select Stop to end hygienization process
3. Select Records to view previous hygienization events

Machine Operation – Manual Control



Manual Control Operations

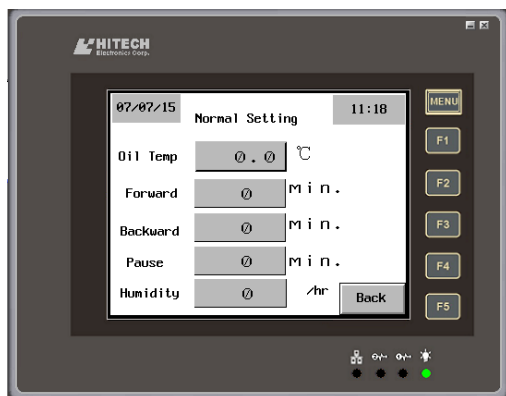
1. Manual Control – Enter password 7777 7777
2. Select motor direction
3. Select fan and heater on/off

Machine Settings



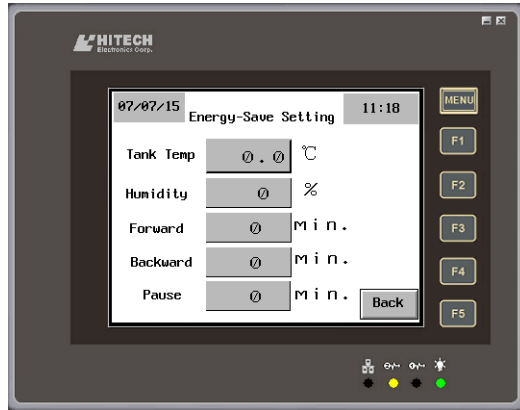
Machine Settings

1. Operation Settings – Enter password 7777 7777
2. ESM – Energy Save Mode Settings
3. Hygienization – Settings
4. Fan – Speed Settings
5. Advanced Settings



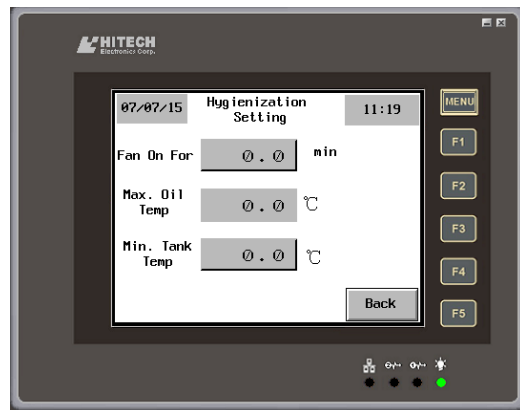
Operation Settings – Factory

1. Motor Forward – 7 minutes
2. Motor Backward – 7 minutes
3. Motor Paused – 2 minutes
4. Humidity Check – 4 minutes



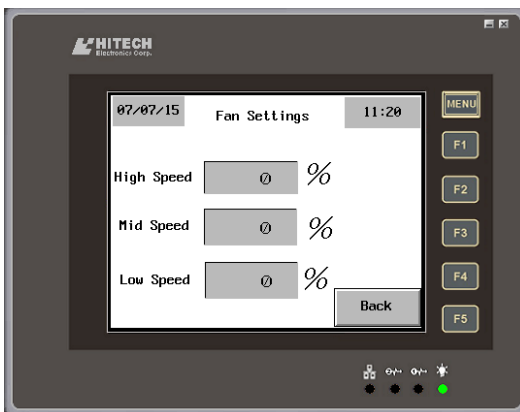
Energy Save Settings – Factory

1. Humidity – $\leq 20\%$
2. Motor Forward – 5 minutes
3. Motor Backward – 5 minutes
4. Motor Paused – 10 minutes



Hygienization Settings – Factory

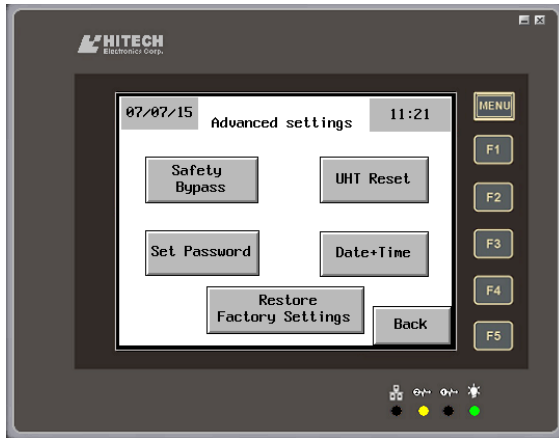
1. Fan for Cool Down – 10 minutes
2. Max Oil Temp – 140°C
3. Min Oil Temp – 72°C
4. Select “Records” to view hygienization records



Fan Settings – Factory

1. High Speed – $\geq 60-100\%$ Humidity
2. Mid Speed – $\geq 20-59\%$ Humidity
3. Low Speed – $\geq 0-19\%$ Humidity

Machine Advanced Settings



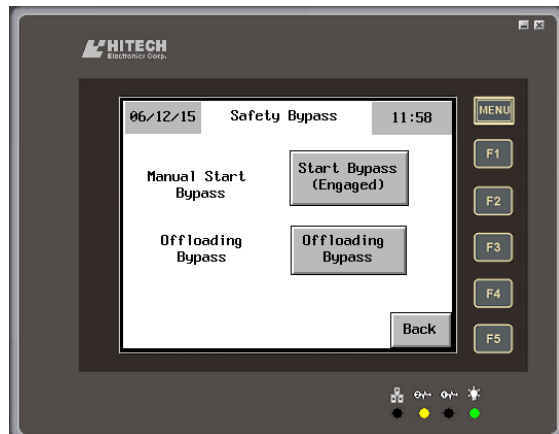
Advanced Settings

1. Safety Bypass – Safety features disabled
2. UHT Reset – Reset ultra high temperature alert triggered when oil temp $\geq 150^{\circ}\text{C}$
3. Set Password – Customize password settings
4. Date/Time – Adjust date and time
5. Restore Factory Settings



Safety Bypass

1. Safety Bypass – Enter password 1111 1111
2. Read warning, and select “acknowledge and continue” to next page or “disagree and return” to previous page



Start Bypass

1. “Start Bypass” allows the machine to start automatically when machine is powered on



Offloading – Compost Offload

1. Select motor direction
2. Motors will rotate without having to press and hold icon for offloading

UHT Reset

1. UHT Reset – enter password 1111 1111
2. Read the warning message and check machine for potential problems prior to resetting Ultra High Temperature Alarm

Restore Factory Settings

1. Press “restore factory settings” icon to restore all parameters to factory settings
2. Enter 1111 1111 then press ENT to restore all settings

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
Check light is on	<ul style="list-style-type: none"> Machine Overload 	<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"> Machine "start" not engaged 	<ul style="list-style-type: none"> Press "start" from machine status page
	<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 \geq 24 hours	<ul style="list-style-type: none"> Water content too high 	<ul style="list-style-type: none"> Add sawdust or paper
	<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.

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The logo for Oklin, featuring the word "Oklin" in a bold, blue, italicized sans-serif font.