



YUMA-OVO

EGG INCUBATOR







User Manual








Contents

1: Contents of Incubator Kit	2
2: Installation	4
3: Selecting Eggs	6
4: Marking Eggs	7
5: Assembling & Using the Brooder	8
6: Temperature & Humidity Sensors	10
7: Maintenance	11
8: Egg Candling	12
9: Chicken Food	14
10: Vaccines	16
11: Pay-As-You-Go	17
12: Business Tips.....	18
13: Troubleshooting.....	19

1: Contents of Incubator Kit

	Item	Picture	Purpose
1	Brooder/Box		Protects the incubator during shipping, then becomes a brooder to keep young chicks warm and protected
2	Solar panel 2 x 40W		Provides 80W of power for your incubator
3	Incubator		Helps eggs develop and hatch
4	Control unit		<ul style="list-style-type: none"> • Checks the temperature and humidity of incubator • Checks eggs to see how the chicks are growing • Accepts payment codes to use the incubator
5	Drinker		Holds clean water for the chicks
6	Feeder		Holds food for chicks and reduces wasting the feed

7	Calendar Tool		Calculates the date when the eggs will hatch
8	Pencil		Marks the hatch date on the eggs
9	Brooder window		Allows light to enter your brooder
10	4 spacer disks		Allows air to leave the incubator if the humidity is too high
11	Splitter cable		Connects two solar panels to the control unit

2: Installation

1. Find a place for your solar panel that is safe and receives as much sun as possible.

- Face the sun during the morning and the afternoon.
- No shade from surrounding trees

NOTE: Eggs may not hatch if solar panel does not have enough sunlight



2. Attach the solar panel to the roof so that it cannot fall.



3. Connect the cables from the solar panel and incubator to the control unit.

NOTE: Always keep your solar panel cable plugged into the control unit.



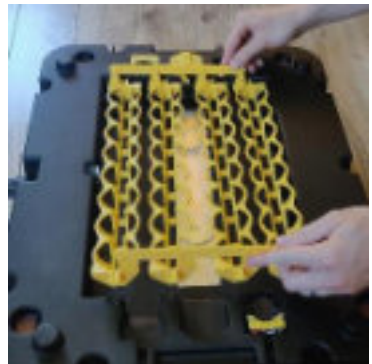
4. Press the power button to turn on the incubator.

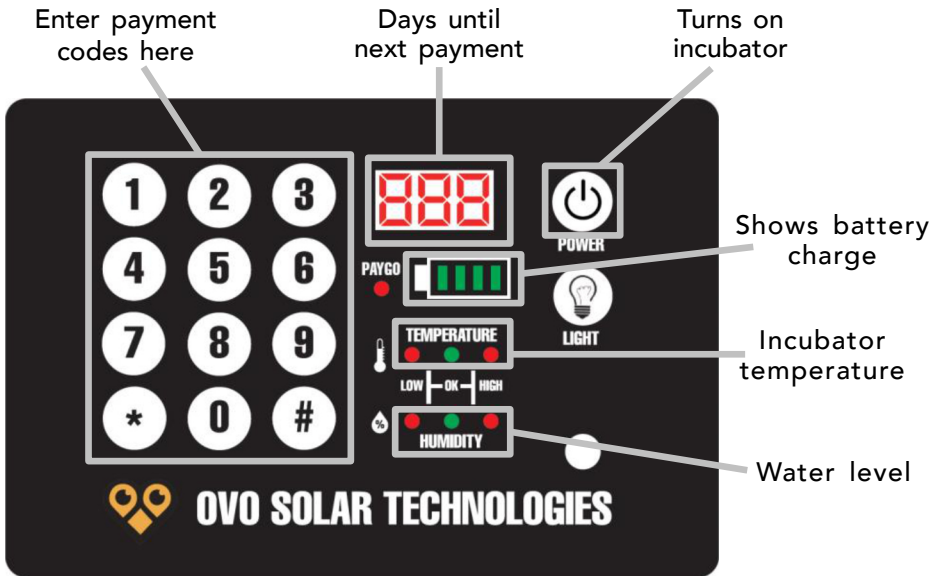


5. Add water to the incubator.

Eggs cannot hatch without clean water in the incubator.

- Carefully remove the egg roller
- Remove the lid on the bottom of the incubator.
- Fill the area under the lid with water
- Put the lid back in its place to cover the water
- Put the egg roller back in its place





3: Selecting Eggs

Adding Eggs

- Only put clean eggs in your incubator
- Never wipe, scrape, or wash eggs; toss out or eat eggs that are dirty.
- The small part of the egg needs to point down.



4: Marking Eggs

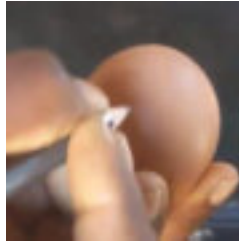
1. Slide the calendar tool until the top box shows **Today's Date**



The bottom box will show the **Hatch Date**

2. Gently write the **hatch date** on the egg using a pencil

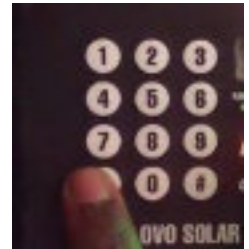
- Never use a pen to write on eggs
- Check the incubator often on the date that the egg will hatch
- Put incubator on Hatch Mode 3 days before hatch date



Hatch Mode *800#

Increase humidity for the last 3 days before eggs hatch. Press *800# to begin hatch mode.

During hatch mode, the chicks need more humidity and less movement. When you press *800#, the egg rollers will stop moving, and the minimum humidity threshold increases. After hatching, press *800# to switch back to incubation mode.



When eggs begin hatching, close the circles on the water lid. When you find an egg that has hatched, quickly remove the chick and all eggshell pieces. Then close the incubator immediately. As chicks hatch, you can leave them in the incubator until they are mostly dry, and then transfer them to the brooder.

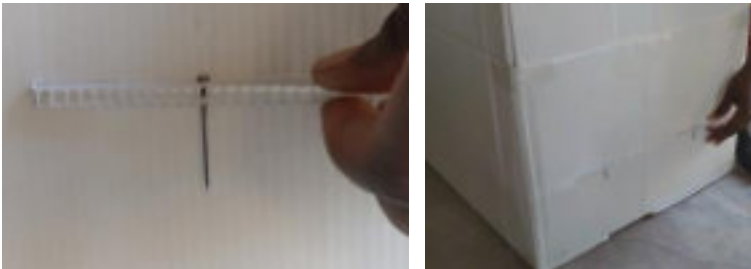
5: Assembling and Using the Brooder

The box that the incubator was transported in is designed to be a brooder that protects baby chicks.

1. Unfold and secure the inner box using the two nails provided with your brooder.



2. Use the two nails included in the incubator kit to secure the flap.



3. Use a knife to cut along the dotted line for the brooder door. This door allows chicks to walk in and out of the brooder.



4. Place the feeder inside the brooder, and the drinker outside of the brooder.

- Do not put the drinker inside the brooder. The chicks will become wet



At night, put your chicks in the brooder and close the door. Keep the top of the brooder box closed so that the warmth from the chicks stays inside.

- Provide clean water and food at all times for baby chicks.

What if I have few chicks on a cold night?

Chicks keep each other warm. If you have less than 10 chicks on a night that will be very cold you can:

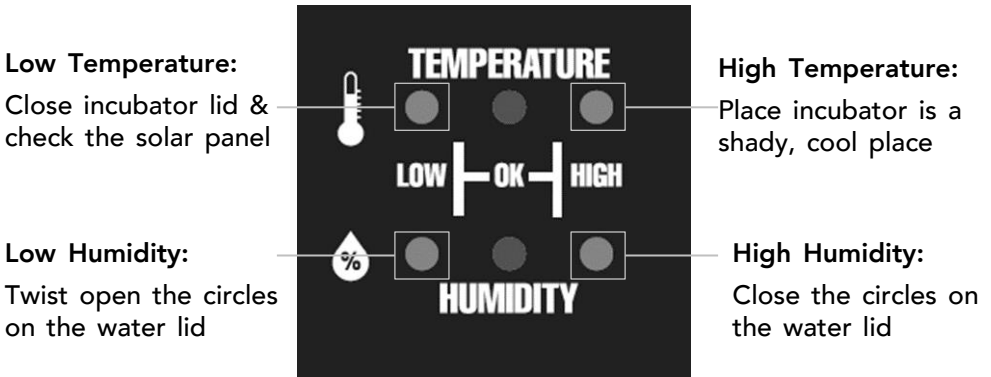
- Build a fire in a cookstove and place the cookstove approximately 1 meter away from your brooder. You can leave the brooder door open so that the baby chicks can move closer to the cookstove if they are cold.

OR

- Bring the brooder inside the house and place it in a secure, dry and warm area in the house

6: Temperature and Humidity Sensors

Check the *Humidity Sensor* and the *Temperature Sensor* on the incubator every day. If the lights are green, your incubator does not have problems.

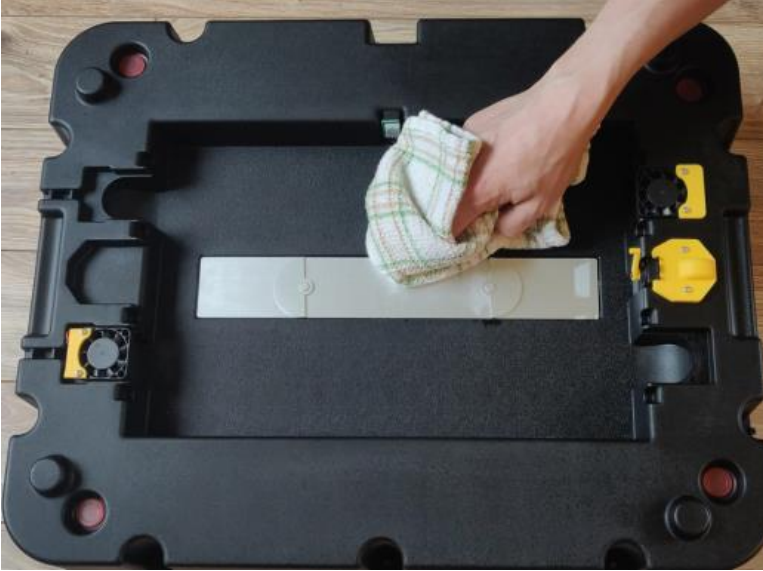


NOTE: If humidity stays high after the water circles are closed. Place the 4 spacer disks under the incubator lid to allow air to leave the incubator. Remove the disks when the humidity light turns green.



7: Maintenance

Use a wet cloth to gently clean the incubator once per month. Eggs and chicks will be healthy if the incubator is always clean.

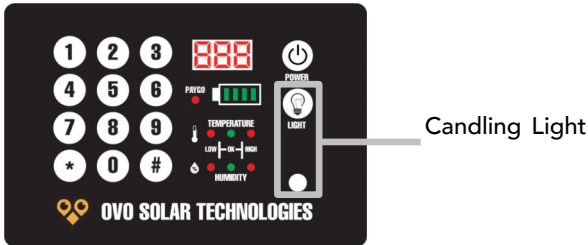


Use a wet cloth to gently clean the solar panel once per month. The incubator will stay warm if the solar panel is always clean.



8: Egg Candling

1. In a dark room, gently hold an egg on the light on the control box to see if the chick is growing inside of the eggshell.



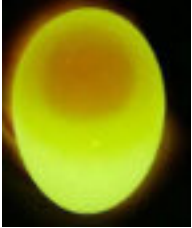

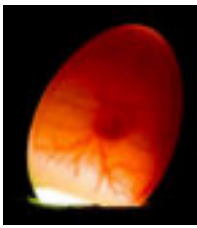
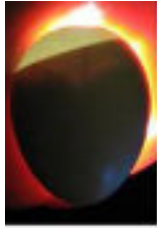
NOTE: Do not use a light that is hot. The LED light on the control box is perfect. If you use a candle, the heat from the flame will damage or kill the growing chick.

2. Check every egg in the incubator once per week using candling.

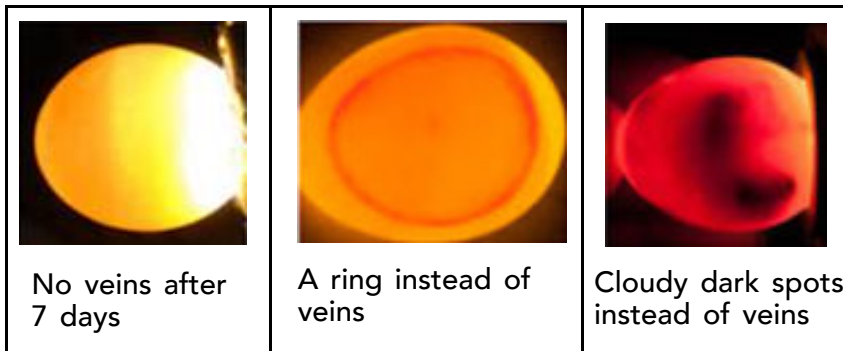
NOTE: Do not let eggs become cold. Open and close the incubator quickly. Each egg should only be outside of the incubator for 3 seconds for candling.

3. Immediately remove eggs that are not growing.

Healthy Eggs

			
Day 1: No signs of growth yet	Day 7: Some veins and a small heart	Day 14: Many veins and a large body	Day 20: Chick is almost ready to hatch

Dead Eggs



Common reasons that eggs are not growing:

1. The eggs might not be fertilized by a male rooster. Remove the dead egg from the incubator if you cannot see veins after seven days.
2. The eggs might have diseases. If an egg was scratched or dirty before it was placed in the incubator, it will die.
 - If the egg dies in the first few days after it was laid, you will see a large circle instead of red lines.
 - If the egg grew for several days before dying, the egg will be dark and cloudy instead of showing the lines of veins.

9: Chicken Food

When should you give food to your chickens?

Village chickens can find most of their food by scavenging for insects, seeds, and plants. However, there are three situations that need more food:

- Baby chicks should receive food for at least their first three weeks. They grow fast at first, and they need good nutrition. If the young chicks cannot find enough food, they will be stunted.
- Laying hens produce more eggs if they have enough food. They need extra minerals to make eggs. Hens lay many eggs when they find seeds and insects and also receive a small amount of chicken food.
- All chickens need food during the dry season or when they cannot find not enough insects. As your flock grows, your chickens will not be able to find enough food on your land. When you notice that chickens are too hungry, you can provide a small amount of milled corn or chicken food.

What food should you give to your chickens?

As your flock grows, food can become the biggest expense for your business. You should find low-cost food that helps your chicken grow quickly.

For baby chicks, you should buy chick starter from an agro-dealer. Chick starter has extra nutrients for young birds.

For growing chickens and laying hens, you should provide food that has energy, protein, and minerals. These three ingredients in chicken food help your chickens grow and produce eggs quickly.

- **Energy:** Milled corn, sorghum, millet, cassava, and sweet potatoes are foods with high energy.
- **Protein:** Sunflower meal, soya meal, beans, and small fish are examples of low-cost protein foods for chickens. You should ask your local agro-dealer what kind of protein is available and low-cost in your area.
- **Minerals:** Your chickens will grow faster if you provide a small amount of minerals with your energy and protein. Many agro-dealers sell minerals for chickens. Ask your agro-dealer for mixing recommendations for the type of minerals that she or he sells.

Consult your agro-dealer for the best food mixes using ingredients readily accessible in your area.

10: Vaccines

Ask your veterinarian about what vaccines are important in your area. Keep asking again every year to find out if a new vaccine is a good investment for you.

Social distancing for chickens:

Limit contact between your birds and birds from markets, neighbors, etc. A sick bird can spread diseases to your flock when one of your chickens eats from the same places, drinks the same water, or breathes the same air as the sick chicken. Markets spread diseases between chickens very quickly. When possible, avoid bringing a chicken to your home that was sold in a market.

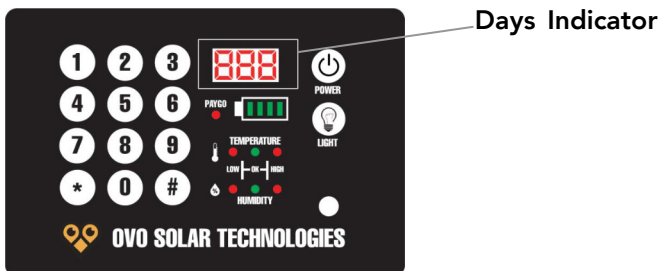
Keep the chicken area clean:

Diseases easily spread when the chickens and the area they live is not clean. Regularly remove manure from your chicken house or coup. If a chicken, chick, or egg dies, remove it quickly and clean where it died.

11: Pay-as-You-Go Payments

How can I know when I need to make payments?

- Your Control Unit shows the number of days that you have paid for.
- If the red days indicator shows “---” this means that you have used all the days that you have paid for. Your incubator will stop warming the eggs until you make a new payment.

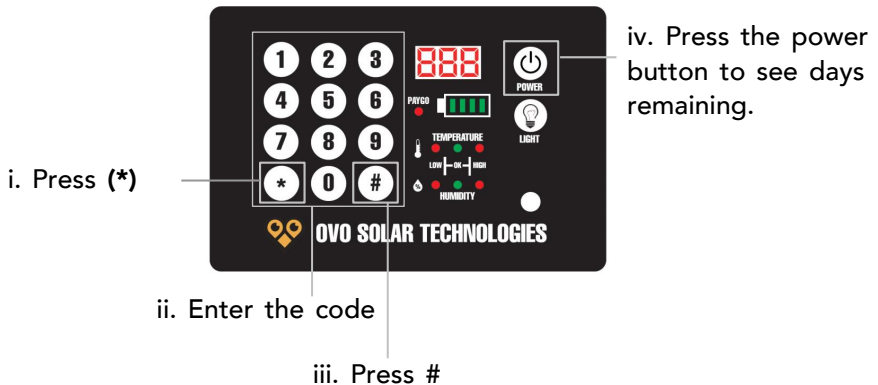


How can I make payments?

1. Send mobile money payments to YUMA.
You will then receive an SMS with a payment code.



2. Enter the code in the keypad on the control unit.



12: Business Tips

Money tips:

1. **Buy any supplies that you need as soon as you sell chickens.** If you buy supplies when you sell chickens, you will never run out of money. Each time that you sell chickens, immediately buy chicken food, chicken wire, vaccines, chicken crates, or anything else that your business needs.

2. **Make PAYGO payments early.** If you have a family emergency that uses your cash, you might fail to make a PAYGO payment. If your incubator stops working, you could lose valuable chicks and eggs. Make PAYGO payments as soon as you have cash from chicken sales.

3. Keep careful records of every sale and expense. Business farmers use records of costs and sales to make important business decisions. Your growing poultry business will create difficult questions that you will answer easily with good records. Here are some examples of that are easy to answers with records:

- How can you reduce the cost of chicken food?
- Should you invest in more chicken wire?
- How much are you spending on transport?
- Should you sell roosters when they are 8 months old or wait until they are 12 months old?

4. Keep investing in your business. As you earn more money from chicken sales, you can buy additional incubators, more chicken wire, more drinkers or feeders.

5. Look for the best markets to sell and buy. Some markets have too many chicken sellers, and others have very few. The prices are sometimes different. Find the best market to sell your chickens. Also find the best agro-dealer to buy supplies that have good quality at low prices.

Poultry Tips:

6. Select the best hens for laying eggs. Keep the hens that lay many eggs. Sell or butcher the hens that produce few eggs.

7. Protect your flock from predators and diseases. Invest in chicken wire and vaccines.

8. Check your incubator every day. Do not let a disease kill all of the eggs in your incubator.

9. Take care of your incubator.

- Clean the inside of your incubator every month. Remove all of the eggs, and use clean water and a soft cloth to gently clean the bottom, sides, and lid of the incubator. Carefully dry the incubator before adding the eggs again. Clean incubators rarely have diseases.
- Clean the solar panel every month. Use water and a soft cloth to gently remove dust from the solar panel. Clean solar panels provide more energy to the incubator. If your panel becomes too dirty, the incubator might not have enough power to keep your eggs warm.

13: Troubleshooting

Problem: The incubator is not warm enough or the battery is not charging

- Step 1: Make sure that the incubator is turned on. If the lights on the control unit are off, press the power button. The power button is in the top-right corner of the control unit.
- Step 2: Check the cables to make sure that the solar panel, control unit, and incubator are plugged in and not damaged.
- Step 3: Check the PAYGO payments. If the number of days shows “---” this means that you need to make a PAYGO payment before you continue using the incubator.
- Step 4: Try changing the position of the solar panel to receive more sunlight. Remember that any shade on the solar panel reduces the energy that the incubator receives.
- Step 5: Check the battery. While OVO uses long-life batteries, eventually all batteries become old and weak. Talk with your sales agent if you want to buy a new battery.

Problem: The control unit does not show the number of days remaining.

- Step 1: Press the power button on the control unit to refresh the control unit display.
- Step 2: If the control unit still does not show the number of days, contact your sales agent or call center. You might need a YUMA technician to repair your control unit.

Problem: The humidity sensor is not working

- Step 1: Check the lights on the control unit. If the humidity light is green, you have the right amount of water in the incubator.
 - If the Low Humidity light is red, you should add water to the receptacle under the egg tray.
 - If the High Humidity light is red, you should use the spacer disks as discussed in #6.
- Step 2: if the low humidity light is red after you have added water to the incubator, open the circles on the water lid in small increments to allow for more humidity
- Step 3: If the Low Humidity light is still stays red, do not add more water. If you can see drops of water on the sides of the incubator, you have added too much water. Talk with your sales agent to ask for a Yuma technician to repair to the humidity sensor.

Problem: The rotator arms has stopped moving except during Hatch Mode

- Note: The rotator arms help your eggs develop by turning the eggs. Every morning, the rotator arms move the eggs to one side of the incubator. By noon, the eggs will be moved to the opposite side. In the evening, the arms will move back to the original position.
- Step 1: Check the bottom and the sides of the incubator to see if anything could be blocking the movement of the rotator arms. Gently remove any eggshell pieces or other rubbish that is stopping the rotator arms.
- Step 2: Wait 6 hours then check if the rotator arms have started moving.
- Step 3: If the rotator arms have not moved after 6 hours, contact your sales agent. You may need an OVO technician to repair your incubator.

Warning: If the rotator arms are not moving, your eggs still need to be rotated. Three times per day, open your incubator, quickly turn all the eggs, then set them back in the incubator with the pointed side facing down. The growing chick inside the egg will not develop correctly if it is not moved repeatedly.

Problem: An egg explodes in the incubator.

- Step 1: Remove all the eggs from your incubator. Leave them on a cloth so that they do not become very cold.
- Step 2: Clean the incubator. Remove all liquids and pieces of the broken shell. Use water and a cloth to gently clean the bottom, sides, lid, and rotator arms.
- Step 3: Use a clean dry cloth to dry every surface inside the incubator.
- Step 4: Candle the remaining eggs. Put the eggs that are still growing back inside the incubator.

NOTE: When eggs start growing but then become sick and die, the disease can continue to grow in the dead egg. Eventually the disease builds pressure, and the egg can explode. Exploded eggs spread diseases very quickly with other eggs.

Remember: Use candling to check every egg every week. You should be able to avoid exploded eggs by removing dead eggs before they explode.



29/F World Plaza, 5th Avenue
Bonifacio Global City, Taguig 1630
admin@yuma-ph.com | (63) 966 564 6442