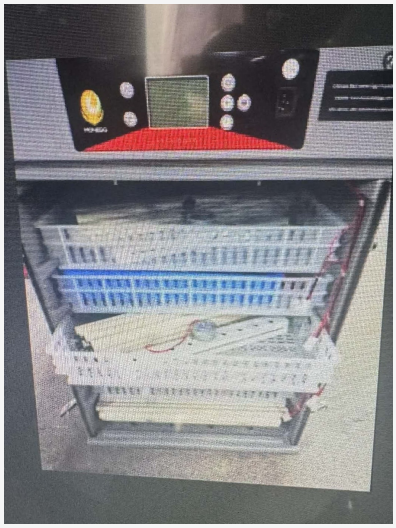
Egg Incubator Quick Start Guide

Practical setup, temperature, humidity, turning, lockdown, and troubleshooting guidance for the incubator shown.



Reference images: exterior product view and interior tray/control view of the incubation machine.

Quick Start - 8 Steps

Step	Task	What to do
1	Place & preheat	Stable room, away from drafts and sun; preheat 12-24 hours.
2	Temperature	Forced-air 99.5°F (37.5°C); still-air 101-102°F (38.3-38.9°C) measured at egg-top height.
3	Humidity	Track egg weight-loss (about 11-13% by lockdown; about 13-15% total).
4	Load eggs	Warm eggs to room temperature; pointy end down; mark shells X/O.
5	Turn	Turn 3-5 times daily; automatic turner preferred.
6	Candle	Chicken timeline: Day 7, Day 14, and Day 18.
7	Lockdown	From Day 18: stop turning, raise RH to about 65-75%, and avoid opening the lid.
8	Hatch & clean	Move chicks to brooder at 90-95°F for Week 1; clean, disinfect, and dry the incubator.

1) Placement, Preheat & Calibration

Placement: Put the incubator on a solid, level surface away from windows, vents, and high-traffic doors.

Preheat: Run the incubator empty for 12-24 hours so conditions stabilize before adding eggs.

Calibration: Cross-check with two thermometers and a hygrometer at egg height. Decide which reading you will trust for the hatch.

Helpful gear: A 0.1 g scale for weight-loss tracking, a bright candler, and a notebook or spreadsheet.

2) Temperature Instructions: Forced-Air vs. Still-Air

Why it matters: Still-air cabinets stratify heat, so the air is warmer higher up. That is why still-air units are measured at the top of the eggs and usually run hotter.

Forced-air incubator: Set to 99.5°F (37.5°C). Measure anywhere reasonable near egg height.

Still-air incubator: Set to 101-102°F (38.3-38.9°C). Measure at egg-top height.

Adjustment cadence: Make only small changes, then wait 1-2 hours before deciding whether the change helped.

Which is better? Forced-air is usually easier for beginners because the fan keeps conditions more even. Still-air can hatch well too, but requires more careful probe placement and patient adjustments.

Still air incubator model 2100 rule: Treat it as a natural-convection unit. Measure at egg-top height, aim for 101-102°F, and adjust in tiny steps.

3) Humidity Instructions: Use the Egg Weight-Loss Method

Instead of chasing one fixed RH number, track how much moisture the eggs actually lose. Climate, shell porosity, and room conditions all affect the right humidity.

Targets: By lockdown, total loss should be about 11-13%. By full term, about 13-15%.

Checkpoints: Re-weigh on Day 7, Day 14, and Day 18 for chicken eggs.

If weight loss is low: Reduce RH, increase ventilation, or reduce water surface area.

If weight loss is high: Increase RH, reduce ventilation, or add sponge/surface area.

No scale yet? Use 35-45% RH as a starting point for Days 1-18, then 65-75% RH for hatch, but switch to weight-loss tracking as soon as possible.

4) Turning & Candling

Turning: Turn 3-5 times per day, or use an automatic turner. Aim for a total swing of about 90-180°. Mark shells X/O so you can confirm each pass.

Candling for chicken eggs: Day 7 remove clears or blood rings. Day 14 verify air-cell growth. Day 18 perform the final check and begin lockdown.

5) Lockdown & Hatch Day

Timing: For chicken eggs, start lockdown on Day 18. Other species are usually the last 3 days before hatch.

Settings: Stop turning, raise humidity to about 65-75%, and minimize lid openings.

Progress: Internal pip -> external pip -> zip -> hatch. This can take 12-24+ hours. Patience is safer than rushing to assist.

Brooder: Move dry chicks to a brooder at 90-95°F for Week 1, then reduce temperature by about 5°F each week.

6) Ventilation & Open-Lid Discipline

As embryos grow, their oxygen demand rises, so open vents gradually.

Eggshell pores let oxygen move in, carbon dioxide move out, and water vapor slowly escape. That is why the air cell grows over time.

Vent settings and humidity work together, so adjust them while watching air-cell growth or egg weight-loss.

If you need to add water, use a syringe or tube through a vent whenever possible to avoid dumping heat and humidity. Keep lid openings short and purposeful.

7) Cleaning & Biosecurity

After hatch and cool-down, remove trays and water pans. Wash with mild detergent, disinfect, and air-dry.

Before the next batch, run the incubator empty for 1-2 hours to make sure no odors or residues remain.

8) Troubleshooting Quick Map

Early hatch or navel issues: Usually too hot. Confirm probe position at egg-top in still-air units and reduce the setpoint slightly.

Late hatch or weak chicks: Usually too cool. Increase by 0.2-0.3°F and re-check after 1-2 hours.

Shrink-wrap at hatch: Humidity too low, often during lockdown. Raise RH, reduce ventilation, and add sponge/surface area.

Over-large air cells or undersized chicks: Too much evaporation earlier. Raise RH sooner next time.

Batch inconsistency: Egg shells vary. Use weight-loss data for that batch instead of one fixed RH target.

Sample Weight-Loss Tracking Table

Egg ID	Start (g)	Target by Day 18 (11-13%)	Full-term (13-15%)	Day 7	Day 14	Day 18	Action
A-01	58.0	6.4-7.5	7.5-8.7	-3.1	-6.0	-7.2	Day 7 low -> reduce RH

9) Timelines & Targets (Chicken Example)

Phase	Forced-Air Temp	Still-Air Temp*	Humidity Strategy	Turning	Candling
Days 1-18	99.5°F (37.5°C)	101-102°F (38.3-38.9°C)	Track weight-loss (aim about 11-13% by Day 18)	3-5x/day	Day 7 & 14
Lockdown (from Day 18)	Same	Same	About 65-75% RH	Stop	Final check at Day 18

*Measure still-air temperature at egg-top height.

Print-Friendly Checklist

- Preheat 12-24 hours and double-check sensors at egg height.
- Forced-air: 99.5°F. Still-air: 101-102°F measured at egg-top.
- Track weight-loss and aim for about 11-13% by Day 18 for chicken eggs.
- Turn 3-5 times daily. Mark X/O. Automatic turner is fine.
- Candle on Day 7, Day 14, and Day 18. Remove clears and quitters.
- Lockdown on Day 18. Raise RH to about 65-75%. Avoid opening the lid.
- Move dry chicks to a brooder at 90-95°F, then clean and disinfect the incubator.

FAQ: Operating Your Egg Incubator

How do I calibrate an incubator thermometer and hygrometer accurately?

- Place a reliable digital thermometer at egg height inside the incubator.
- Run the incubator empty for 1-2 hours so readings stabilize.
- Compare the incubator display to the trusted thermometer.
- If the incubator says 100.5°F but your trusted thermometer says 99.5°F, remember there is a 1°F offset and adjust your interpretation or setpoint accordingly.
- For humidity, place one or preferably two hygrometers near egg height and compare them after 1-2 hours.
- If one unit consistently disagrees, trust the one that best matches egg weight-loss or air-cell growth.

How does an automatic egg turner work, and is it necessary?

- An automatic egg turner slowly tilts or rolls the eggs every few hours using a small motor.
- This helps keep the yolk centered, prevents the embryo from sticking, and supports even blood-vessel development.
- It is not absolutely required if you can hand-turn 3-5 times every day very consistently.
- It is strongly recommended for beginners, busy owners, or classrooms because it reduces missed turns and rough handling.
- Make sure the turner is level, moves smoothly, and stops at lockdown.

What is the ideal temperature and humidity for different eggs?

- Chicken eggs in forced-air: about 99.5°F at egg height.
- Chicken eggs in still-air: about 101-102°F at egg-top height.
- A practical starting humidity range is about 35-45% RH for Days 1-18, then 65-75% RH at lockdown and hatch.
- Duck, goose, quail, and other species often use similar temperatures, but the humidity targets and incubation timelines can differ, so species-specific schedules still matter.

Why is proper ventilation important in an incubator?

- Embryos need fresh oxygen and must release carbon dioxide and moisture.
- Good ventilation helps avoid weak chicks, sticky hatches, and uneven temperatures.
- Keep vents at least partly open throughout incubation and open them more as embryos grow, especially near hatch.

Why do eggs need to be turned regularly?

- Turning copies what a broody hen does naturally.
- It helps stop the embryo from sticking to the shell membranes, keeps the yolk centered, and supports normal development.
- If eggs are not turned enough, embryos can stick, deform, or die before hatch.