

Operation Manual

Egg Incubator

52170



Similar to image, may vary depending on model

Read and follow the operating instructions and safety information before use.

Technical changes reserved!

Due to further developments, illustrations, functioning steps, and technical data can differ slightly.

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If you should find a mistake or wish to make a suggestion for improvement, we look forward to hearing from you.

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Introduction

Thank you very much for buying this quality product. To reduce the risk of injury, we ask you to always regard a few basic safety requirements, when using this product. Please thoroughly read the operating manual and make sure that you have understood it.

Keep the operating manual for future reference.

Safety notes



This device is not meant to be used by people (including children) with limited physical, sensory, or mental abilities and/or lack of knowledge, unless they are supervised by a person responsible for their health and safety or have been instructed by this person on how to use the device. Children need to be supervised to ensure that they do not play with the device.



- Visually examine the device before every use. Do not use the device if the safety measures are damaged or worn. Never override safety measures.
- Only use the device according to the purposes in this manual.
- You are responsible for the safety in the working area. Always keep the working area clean and tidy, to reduce the risk of accidents.
- If the electricity cable or the electricity plug are damaged due to external influences, the cable must not be repaired, but needs to be exchanged. This work must only be carried out by a qualified technician.
- The rated voltage on the type label of 230 V AC needs to correspond to the existing mains voltage.
- The device must never be lifted, transported, or attached from its electricity cable.
- Ensure, that the electrical plug connection is in an area protected from flooding and humidity.
- Always pull the electricity plug before carrying out any work on the device.
- Avoid exposing the device to a direct stream of water or rain.
- The operator is responsible for the compliance with local safety and installation requirements. If necessary, ask a qualified technician if unsure.
- In case of a failure of the device, maintenance work may only be carried out by a qualified technician.
- Read all safety notes and instructions. Non-compliance with the safety notes and instructions can lead to electric shock, fire and/ or serious injury.
- Keep all safety notes and instructions in a safe place, which is always accessible.

**Carefully read the instructions
to obtain the best
breeding results.**

General notes

Surrounding conditions

Power supply	230 V/50 Hz
Relative air humidity (%)	Between 55 and 75
Surrounding temperature (°C)	Between 17 and 25



The right location

For a good result, place the incubator into a heated room. There should not be any major fluctuations of room temperature inside it. Ideally, the room temperature should be comprised between 17 °C and 25 °C.

Additionally, there should be a good ventilation in this area, especially if there are several incubators in this room. There must be an efficient ventilation, as a natural air supply ensures that the developing embryos always have fresh oxygen.

Make sure that the incubator is placed on a flat, even surface and not in direct sunlight, on a solid surface approx. 80 cm above the floor.

It is recommended to place the incubator far away from heating sources, drafts, and windows to avoid harmful changes of temperatures. Additionally, the incubator should be kept with the included polystyrene packaging, which provides protection.

1. How have the eggs to be stored before placing them into the incubator?

Hatching eggs should not be kept longer than 10–12 days. After that the success rate of hatching is very low. Store the eggs at a cool temperature (8–15 °C) and at a relative air humidity of 75 %. In case the hatching eggs were sent via post, they should rest for at least 24 hours before being placed in the incubator.

Important: The eggs should be stored lying and need to be rotated halfway around their longitudinal axis at least once a day.

2. When is the incubator ready?

The incubator should run for **at least 24 hours before placing any eggs into it**. If possible, let the incubator run for a week without eggs. Thus, it will be easy to see if all parameters can be adjusted and work as required. Additionally, you will learn during this time how the functions and the adjustments of the incubator work. There is nothing more harmful to the eggs than the wrong adjustments of the incubator. If everything has worked properly in the testing period, the incubator can be **cleaned thoroughly** with a suitable disinfectant.

For the intended humid and warm climate in the incubator is a good breeding ground for bacteria and fungi. Not disinfecting the incubator invites the growth of these and poses a threat to the entire brood. Thus: **Before the first breeding and after every new breeding, thoroughly disinfect the incubator.**

You need to make sure that the disinfectant is suitable for the material of the incubator. Otherwise, the material can be attacked and the hatching process endangered.

Important notice on the parameters: Understand well the term “internal temperature” (“internal”). Do not confuse the term “internal temperature (in the egg)” with “internal temperature (in the incubator).” The internal temperature within the incubator constantly changes up and down. The internal temperature of the egg thus is the average temperature of the temperature fluctuations in the incubator.

3. Which temperature should my incubator have?

The required temperature depends on the individual type of animal. Every type of animal has its own requirements and even amongst poultry there are difference, regarding the required temperature during the breeding process. Also, the required temperature depends on the type of incubator.



An example based on a chicken egg:

With surface incubators (breeding on an even surface), the breeding temperature is measured on the height of the upper edge of the egg and should be between 38.0 °C and 38.3 °C. If a motorised incubator is used (breeding process on several levels one above the another), the measured temperature should be at around 37.5 °C at any point of the egg.

An overview of various **poultry** types and the required breeding temperatures:

Type of poultry	Breeding temperature (°C)
Chicken	37.4–37.6
Duck	37.4–37.6
Pigeon	38.5
Goose	37.6
Quail	37.6–37.8

Note: A short drop in temperature whilst checking the eggs, is usually not a problem for the embryos. It is different with temperatures exceeding the recommended one. These are harmful and even deadly and should be avoided at all costs.

4. Does my thermometer show an exact value?

Thermometers are not exact. Keeping the temperature constant can be difficult, even with good thermometers. If you run a big incubator over a longer period of time, you can optimise the temperature, regardless of what the thermometer states.

After the first breeding process, the temperature can be varied (set higher or lower). With poultry: If the hatching takes places in an early stage, the temperature should be lowered. If the hatching is delayed, it needs to be increased.

How to check the thermometer: Keep notes regarding the time of the brood, as these are a reliant aid. You will soon have the required routine to select the right adjustments and settings for a successful hatch. Alternatively, an additional thermometer can be placed in the incubator to be able to perceive the various temperature differences and readjusting the temperatures of the incubator accordingly.

5. What must be the air humidity rate?

The required air humidity varies again depending on the brooded type of animal and needs to be changed during the breeding process. Inform yourself beforehand on the requirements to be met in the incubator. Here are two examples:

Chicken eggs:

Day 1–18: 50–55 % air humidity
 From day 19: 70–75 % air humidity

Quail eggs:

Day 1–14: 55 % air humidity
 From day 15: 75 % air humidity

The air humidity is increased towards the end of the breeding with poultry eggs, it softens the hard egg membrane. Without the increased humidity, the chicks can neither break through the egg membrane nor through the eggshell. Yet, the humidity should not be increased too much, as the chicks might drown.



Note: The humidity is observed with a so-called hygrometer. It is near enough impossible to keep the humidity as exact as the temperature, especially in small incubators. Just try to keep it as exact as possible. The temperature is the significant criteria. Even a small deviation (e.g., a couple of degrees) can ruin the breeding process or lead to a bad result.

Important: The air humidity changes with the season. If the breeding is carried out in January and February, it is very difficult to keep the humidity at the desired level, as the external humidity is rather low (depending on the location).

In June and July, the external humidity usually is higher, leading the humidity in the incubator to be higher than desired. To avoid these problems, change the water surface in the incubator: To increase the humidity and thus to enlarge the water surface place an additional container with water in the incubator/ a few small moist sponges. Alternatively, the eggs can be sprayed with fine water mist. To reduce the humidity, decrease the water surface and use smaller containers.

Important: Choose the shape and execution of the water containers keeping in mind, that they should not become a fatal danger for the hatched chicks and reptiles.

6. How long is the breeding time?

Poultry type	Breeding time (days) [normal deviation: 1–2]
Chicken	20–21
Duck	28
Pigeon	18
Goose	30
Quail	16–18

7. When start to turn and at what frequency? When are they not allowed to be turned any longer?

Your incubator is equipped with a fully automatic turning system. The automatic turning system of the device turns the eggs slowly and consistently. Therefore, the eggs can be turned from day one. The system is so slow that the embryos are not exposed to shocks. This is because they are very sensitive and sudden movements should be avoided, especially in the first few days. If possible, the incubator should remain closed for the first three days to create an ideal climate.

Important: In the last two to three days of the breeding process the eggs must **not** be turned any longer. As the chicks are finding a hatching position, thus the position must not be changed any more.

8. What is to regard with the last days of the breeding process?

In the last two to three days before hatching, the poultry eggs must not only not be turned anymore, but also the entire incubator needs to stay closed. The humid, warm atmosphere needs to stay consistent during the last days of the breeding, to soften the egg membrane and enables the hatching process.

Note: Most chicks do not cope with a complete collapse of the climate.

9. What will happen after hatching?

Congratulations, your chicks have hatched! Have a little patience, as the freshly hatched chicks should stay in the incubator for approx. 24 hours longer, to be able to recover and dry off.

Important: Remove the water container. Otherwise, the humidity is too high for the chicks and there is the danger of the chicks drowning. Although, the breeding chicks still need the humidity to hatch. This means having a feeling to choose the best option for both statuses.

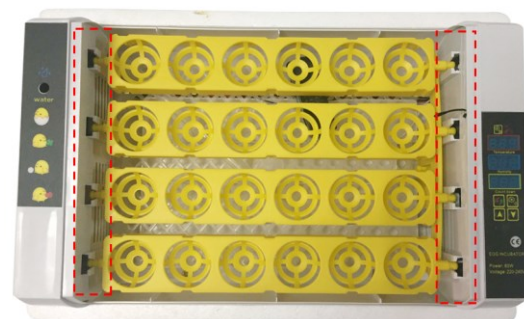
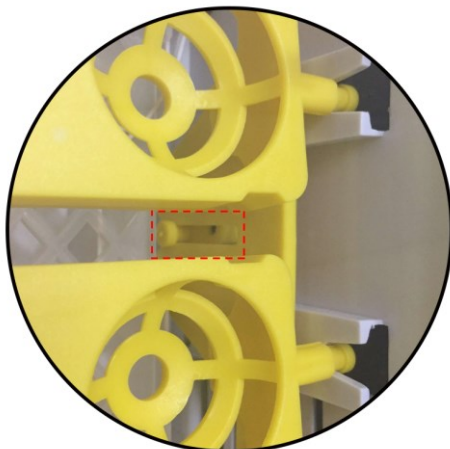
If chicks still in the hatching process start pecking the egg from the inside, but have difficulties getting through the eggshell, you can provide a starting aid by carefully opening the eggshell a little bit. It is important to be cautious, not to provide this aid too soon. A lot of the times, a wrong humidity can be reason as the egg membrane can dry and get stuck to the chick, before it is able to get out of the egg. Thus, the chick cannot turn any longer and hatch out of the egg.

Note: There must be a sufficient fresh air flow, as the young animals can otherwise suffocate in the closed container. If an integrated air hole is available, it will ensure for fresh air.

Operation



1. The package contains an incubator for 24 eggs, an operating manual, polystyrene cover, a power supply unit and a water container.
2. Power supply connection.



3. Make sure that the egg insert slot of the motor shaft fits on both sides.
4. Ensure that the insert fits the outer casing.



5. Ensure that the ventilation, temperature display, operating buttons, and heater work properly.
6. Fill water into the incubator for preheating and start the test run.

Attention: Place the incubator into the polystyrene cover to keep the temperature constant if it drops below 20 °C.

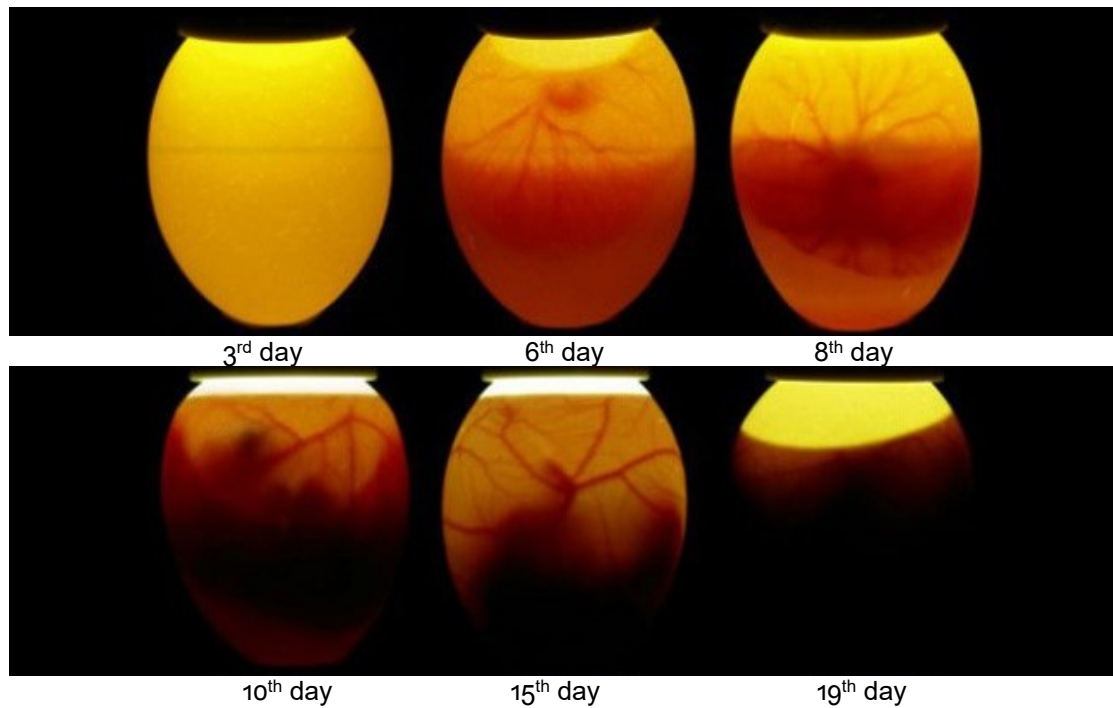
Breeding notes

The first step to successful hatching is the selection of the best fertilised eggs. But how are these selected?

1. The fertilised eggs need to be fresh and within the period of 4–7 days after being laid. The best temperature to store the fertilised eggs is 8–15 °C. The fertilised egg is covered with a powder like substance, which must not be wiped off or stored in the fridge.
2. The surface of the eggshell needs to be free of any deformation, tears, or marks.
3. There is no necessity to disinfect the fertilised eggs, as an improper disinfection can negatively impact the hatching rate. Just ensure that the eggshell is clean and without marks.
4. When placing the egg into the incubator, ensure that the tip of the egg points downward.
5. A proper operation and supervision are required during the breeding process. Amongst other things, this means adding water regularly, every 1–2 days (dependent of the surrounding, the water level and the air humidity in the incubator).
6. The fertilised eggs cannot be tested within the first four days of the breeding, as a decrease of temperature in the incubator has a negative impact on the early development stages of the egg.
7. First testing of the eggs (after 5–6 days): mainly for checking the fertilisation of the eggs. Remove the unfertilised, yellow, and dead eggs.

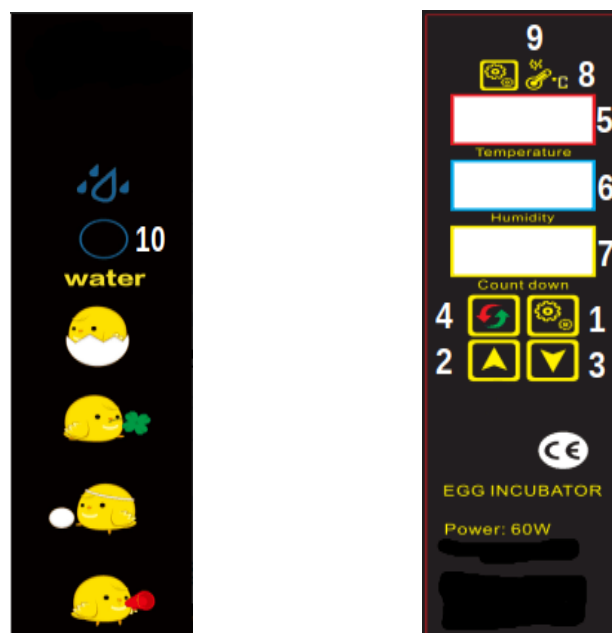
Second testing of the eggs (after 11–12 days): mainly for checking the development of the embryo. A well-developed embryo has grown and formed internal blood vessels. The air cell should be big and sectioned off noticeably.

Third test of the eggs (after 16–17 days): Illuminate the egg from the side. A well-developed embryo has grown further and should fill the egg nearly entirely, letting hardly any light through. If the embryo is dead, the blood vessels in the egg are blurred, parts near the air cell are yellowish, and the line between the egg and air cell is not clearly defined.



8. Increase the air humidity during the hatching time and decrease the temperature. This disables the water in the eggs from evaporating too fast. The most important factor is the air humidity though, avoiding dehydration and the temperature decrease to avoid too high temperatures and too high a humidity, especially if the hatching time is spreading out over a longer time. The temperature should not be more than 37.5 °C in 19–21 days.

Operating surface



1. Setting switch
2. Up button/function selection button
3. Down button /function selection button



4. Reset
5. Temperature display
6. Air humidity display
7. Countdown/breeding days display
8. Heat control lamp
9. Setting lamp
10. Water refill opening

Setting the control

When testing the incubator for the first time:

1. Connect the plug of the incubator with the control plug.
2. Connect the electricity supply cable included in the delivery to the electricity source.
3. Switch the electricity source on.
4. Switch the incubator on.
5. An alarm will sound due to low temperature/humidity. This is a normal behaviour.
6. Press a random button to turn the alarm off.
7. Let the incubator run and fill the water channels. You will notice that the humidity will increase.
8. Push the reset button, to check the automatic turning mechanism. This will begin every two hours and takes 10 s.

Adjusting the temperature

1. Push the settings button.
2. Push the “+” or “-” button, to adjust the desired temperature.
3. Push the settings button again to end the adjustments.

The incubator is pre-set to 38 °C. If the chicks already hatch on day 19 or 20, this means the temperature is set too high. Use the process as described above. A temperature adjustment of 37.6 °C is recommended.

Adjusting the temperature parameters for the temperature alarm (AL and AH)

The temperature alarm is pre-set to sound, as soon as a temperature of 1 °C or less is reached.

Setting the low temperature alarm (AL)

1. Push and hold the settings button for 3 s.
2. Push the “+” or “-” button until “AL” is shown on the temperature display.
3. Push the settings button.
4. Push “+” or “-” to set the alarm as required.

Setting the high temperature alarm (AH)

1. Push and hold the settings button for 3 s.
2. Push the “+” or “-” button until “AH” is shown on the temperature display.
3. Push the settings button.
4. Push “+” or “-” to set the alarm as required.

Adjusting the parameters for the air humidity alarm (AS)

The temperature alarm is pre-set to sound, as soon as a temperature of 45 % is reached. This is sufficient and does not need to be altered.

Setting the low humidity alarm (AS)

1. Push and hold the settings button for 3 s.
2. Push the “+” or “-” button until “AS” is shown on the temperature display.
3. Push the settings button.
4. Push “+” or “-” to set the alarm as required.



By filling water into both water channels, the air humidity should rise by 60 %, depending on the local humidity and season of year. It is recommended to fill the water channels up every 4–5 days. On day 18, when the egg inserts are removed, they should be overfilled, to raise the humidity to approx. 65 %. Make sure that neither the eggs, nor the equipment are allowed to get wet.

Calibration of the temperature measurement (CS)

The correct measured value of the thermometer is set to 0 °C. The displayed value of the thermometer can be adjusted if you realise that the temperature value is wrong with a calibrated thermometer.

Calibration of the temperature sensor measurement

1. Push and hold the settings button for 3 s.
2. Push the “+” or “–” buttons, until “AH” is displayed on the temperature display.
3. Push the settings button.
4. Push “+” or “–” to set the alarm as required.

Make sure that the adjustments are the deviation between the thermometer values and should be adjusted with the “–” if the temperature of the incubator is too high and the normal value (display + value) is too low.

Adjusting the upper and lower temperature limits (HS and LS)

HS (high setting) and **LS** (low setting) adjust the limits of the adjustment range of the desired temperature (incubation temperature regulation). If HS is set to 38.2 °C and LS to 37.4 °C, the desired temperature (adjustment of the incubation temperature) can only be altered from 38.2 °C to 37.4 °C, thus the minimum temperature is limited to 37.4 °C, even if the “–” button is pushed down and held. The same applies to the high setting. This disables an accidental change of temperature outside of the required range.

Display symbols

Number	Symbol	Meaning	Factory settings
1.1	AL	Adjustment of the parameter for the low temperature alarm	1 °C
2.1	AH	Adjustment of the parameter for the high temperature alarm	1 °C
3.1	AS	Adjustment for the low air humidity alarm parameters	45 %
4.1	CS	Calibration of the temperature sensor’s measured value	0 °C
5.1	HS	Adjustment temperature upper limit	39.5 °C
6.1	LS	Adjustment temperature lower limit	30 °C

Notes on the first breeding with the incubator

1. Test the incubator for its functionality.
2. Connect the plug of the incubator with the control plug of the egg insert.
3. Fill water into one or both water channels, depending on the local air humidity.
4. Lay the eggs with the tips of the egg pointing downward.
5. Close the lid and switch the incubator on.
6. Push the reset button (left green button), to reset the day count to 0 and to start it (this will also reset the egg turning countdown to 1:59 h).



7. Pay attention to the humidity measurements and refill water when required (usually every 4 days).
8. On day 18 the egg insert should be removed and the eggs should be placed onto the wire.
9. At the same time, it is important to fill the water channels up, to increase the humidity. (This is very important, to ensure the eggshells are soft enough for the chicks to break through).
10. Do not open the lid regularly when the chicks begin to hatch. If this is done, the humidity is lost and the eggshells of the chicks still needing to hatch will dry out. The chicks cannot break through the eggshell.

Troubleshooting (problems with the chicks)

#	Problem	Possible Reasons	Measures
1	Too much egg white or too many unfertilised eggs	(a) Wrong ratio of male and female animals	(a) Check mating conditions according to breeder's recommendations.
		(b) Male animal is malnourished	(b) Feed roosters separately, so that chickens do not take most of food.
		(c) Interruption of male animals during mating	(c) Do not use too many male animals; keep breeding roosters together; build a non-permanent solid separation wall between individual breeding coop or separate them within bigger breeding coops.
		(d) Damaged combs and gills on the roosters	(d) Ensure that their coop is comfortable and there is enough suitable drinking water.
		(e) Rooster is too old	(e) A young rooster is required.
		(f) Rooster sterile	(f) An unsterile rooster is required.
		(g) The egg has been stored for too long or under the wrong circumstances beforehand	(g) Do not keep eggs for more than 10–12 days; store them at a cool temperature (8–15 °C) with a relative humidity of 75–80 %. Turn eggs at least once a day around their longitudinal axis.
2	Blood dots, which point to an early death of the embryo	(a) Temperature of the incubator is too high or too low	(a) Check thermometers, thermostat, and electricity, follow manufacturer's instructions.
		(b) See 1 (g)	(b) See 1 (g).
3	Broken eggshells	(a) See 2 (a)	(a) See 2 (a).
		(b) Eggs were not turned properly	(b) Turn eggs frequently, at least 4–5 times a day; always turn them into opposite direction.
		(c) Inefficient feeding if the death rate is high on days 10 and 14	(c) Check feeding.
		(d) Ventilation of the incubator faulty	(d) Increase air flow by normal means.
		(e) Infectious diseases	(e) Only use eggs from healthy stock; check hygiene measures.
4	Eggs, which will not hatch	(a) Inefficient humidity in the incubator	(a) Increase evaporation surface with water or sprays.
		(b) Too high humidity at a too early stage	(b) Check humidity temperature



			measurements.
		(c) Problems with the food	(c) Check the food.
5	(a) Hatching too early	(a) Temperature too high in the incubator	(a) (b) (c) Adjust temperature regulation accordingly/adjust it properly.
	(b) Hatching too late	(b) Temperature too low in the incubator	
	(c) Sticky chicks	(c) Temperature in the incubator most likely too high	
6	Deformed chicks	(a) Temperature is too high in the incubator	(a) See 2 (a).
		(b) Temperature in the incubator is too low	(b) See 2 (a).
		(c) Eggs incorrectly turned	(c) See 3 (b); ensure to insert eggs with wider part first.
7	Chicks with straddled legs	Breeding insert too slippery/smooth	Use wire inlay or cover slippery/smooth ground with e.g., sackcloth.
8	Weak chicks	(a) Incubator or hatchery overheated	(a) See 5.
		(b) Use of small eggs	(b) Only use eggs of average size.
	Small chicks	(c) Too low humidity in the incubator	(c) See 4.
	Heavily breathing chicks	(d) Too high humidity in the incubator	(d) See 4.
		(e) Possibly infectious disease	(e) Bring chicks to a veterinary surgeon for diagnosis.
		(f) Lower the temperature during the time in the incubator	(f) See 2 (a).
	Weak chicks	(g) Ventilation of the incubators is too low	(g) See 3 (d).
		(h) Omphalitis (navel infection)	(h) Clean and disinfect incubator as well as entire equipment.
9	Do not hatch evenly	Eggs are too different in size and age	Set eggs at least once a week and never keep them for longer than 10–12 days before breeding them, only brood average sized eggs.

Disposal regulations

EU guidelines regarding the disposal of scrap electric appliances (WEEE, 2012/19/EU) were implemented in the law related to electrical and electronic equipment and appliances.

All WiTec electric devices that fall under the WEEE regulations are labelled with the crossed-out wheeled waste bin logo. This logo indicates that this electric equipment must not be disposed with domestic waste.

The company WiTec Technik GmbH has been registered in the German registry EAR under the WEEE-registration number DE45283704.

Disposal of used electrical and electronic appliances (intended for use in the countries of the European Union and other European countries with a separate collection system for these appliances).

The logo on the item or on its packaging points out that this item must not be treated as normal household waste but must be disposed of at a recycling collection point for electronic and electrical waste equipment. By contributing to the correct disposal of this item you help protect the environment and the health of fellow human beings. The environment and the health of living beings are threatened by inappropriate disposal.



Recycling materials helps reduce the consumption of raw materials.

Additional information on recycling this item can be provided by your local community, municipal waste disposal facilities or the shop where this item was purchased.

Address:
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D-52249 Eschweiler

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