



English

# Operating Manual for HEKA Incubators



**HEKA-Turbo 84**  
**HEKA-Turbo 126**  
**HEKA-Turbo 168**  
**HEKA-Turbo 216**  
**HEKA-Turbo 288**  
**HEKA-Turbo 432**

**HEKA-Turbo 84+S**  
**HEKA-Turbo 126+S**  
**HEKA-Turbo 168+S**

**HEKA-Turbo 90/S**  
**HEKA-Turbo 135/S**  
**HEKA-Turbo 180/S**  
**HEKA-Turbo 270/S**  
**HEKA-Turbo 360/S**  
**HEKA-Queeny**

HEKA-Brutgeräte

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# Preface

The purpose of this manual is to familiarise the reader with the incubator and provide instructions on use.

The operating manual contains important information for the safe, economic, and correct operation of the incubator. Compliance with this manual helps to avoid dangers, minimise repair costs and downtime, and increase the reliability and service life of the machine.

The operating manual is suitable for adding environmental protection regulations to the instructions on the basis of existing national accident prevention regulations.

The operating manual must always be kept at the place of deployment of the incubator. All individuals who are authorised to work with the incubator must read and observe the operating manual. This includes instructions in the following areas:

- Operation
- Troubleshooting
- Care and maintenance
- Transport

The operator must ensure that only authorised persons work with the incubator. The operator must check the incubator for externally visible damage and defects on a daily basis. Moreover, the operator must promptly report any changes that impair the safety. This also includes changes in the operating behaviour. The incubator may only be operated if its condition is flawless.

As a matter of principle, safety equipment must not be removed or disabled.

Should it be necessary to remove safety equipment during preparation, repair, or maintenance, the safety equipment must be reinstalled immediately upon completion of the maintenance or repair work.

The manufacturer does not assume any liability for damages resulting from unauthorised modification of the incubator.

All safety information and warnings on the incubator must be observed.

In addition to the information in the operating manual, the generally applicable safety and accident prevention regulations must also be complied with.

# Structure of the safety instructions

All safety instructions have a uniform structure:



Pictogram (indicates the type of danger)  
**Caution!** (indicates the severity of the danger)  
 Information (describes the danger and how it can be avoided)

Pictogram	Signal word		
		Meaning	Consequences of non-observance
 General danger	<b>Danger!</b>	Imminent danger to persons	Very severe to fatal injury
	<b>Warning!</b>	Potentially very dangerous situation for persons	Very severe to fatal injury
	<b>Caution!</b>	Potentially dangerous situation for persons	Minor injury
 Dangerous electric voltage			
	<b>Attention!</b>	Potential damage to property	Damage to the device
		Useful information or tip	

## Other notes in the operating manual

### Caution! Risk of injury due to hot surface!



Warning pointing to a risk of injury to the operator from hot surfaces.



Please read and observe the operating manual.



Disconnect the power plug before opening the device.

# General safety instructions!

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## Caution!



Non-observance of the following safety precautions can result in bodily injury or damage to the incubator.

Apart from the notes listed below, please also observe the general safety and accident prevention regulations.

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## Read the operating manual!

Do not start using the incubator until you have read the associated operating manual.

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- Do not operate the incubator on the ground. Keep a minimum distance of 50 cm from the ground!
- Do not use the incubator outdoors.
- Do not place the incubator in direct sunlight (counts also for storage and transport).
- Before connecting the incubator, compare the voltage of the power supply with the voltage on the type plate.
- In accordance with the intended use, the incubator may only be used to incubate eggs.
- Never operate the incubator if any part(s) are damaged, if it does not function properly, or if you suspect damage.
- Defective power cables may only be replaced by the manufacturer, its customer service, or a similarly qualified person.
- Maintenance work may only be performed by appropriately trained personnel.
- Repair work and special maintenance work may only be performed by authorised personnel (manufacturer's personnel) or appropriately trained personnel.
- Work on the electrical equipment may only be performed by qualified electricians and persons instructed in electrical engineering (see DIN VDE 0105).
- Working on live parts and equipment is not permitted.
- Conversion or modification of the incubator is not permitted.

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# 1 Description

HEKA incubators consist of a housing that is divided internally into two compartments:

The upper part houses the "technology" (distribution, controls, ventilator and heater) and the lower part houses the incubation or hatching space with the incubation and/or hatching trays.

## Incubator



- B/S Incubation or hatching chamber
- T "Technology compartment"
- 0 Controls
- 8 Air vent
- 10 Hygrometer
- 11 Incubation tray
- 12 Hatching tray
- 13 Holder
- 14 Turning mechanism
- Water tray (not shown)

## Controls (0)



- 1 "Temperature" display
- 2 Display "Device in operation"
- 3 Display "Heating in operation"
- 4 Button "Reduce temperature value"
- 5 Button "Increase temperature value"
- 6 SET button: "Save new values and query stored values"
- 7 Indicator "Turning"
- A On/off switch "Incubator"
- B On/off switch "Interior lighting"
- C On/off switch "Turning"

HEKA hatching devices are built like our incubators. They do not feature fully-automatic turning.



Top: Hatching device

Bottom: Incubator

The motor for fully-automatic turning is located at the rear of the device.



13 Control cable

14 Housing for turning motor

## 2 Setup and connection

Set up the incubator at least 50 cm above the ground; do not set it up outdoors, in direct sunlight or next to a heating. A power supply (230 V / 50 Hz) must be available at the installation site. The incubator must not be connected to an offgrid-inverter, which are used in autonomous power-supply like solar-electricity-power-supply.

The ideal ambient temperature is 10°C - 20°C. However, smooth function is also guaranteed at an ambient temperature of 0°C - 25°C (with air-cooling up to 29°C, with water-cooling up to 40°C).

After setting up the device, check the incubation chamber and remove any items such as the thermometer and other accessories that were ordered and stored in the incubation chamber during transport. After removing all foreign items from the incubation chamber, you can connect the device to the mains.

## 3 Switching on the incubator

Use switch (A) to switch the device on.

- The temperature appears in the display (1).
- The indicators (2) and (3) are lit – the device and heater are operational
- The ventilator starts up

After approx. 30 – 60 minutes (depending on the ambient temperature) the incubating temperature is reached and the indicator (3) starts to flash.



### Attention

Until the incubator has reached and holds the correct, set temperature precisely, do not put eggs into the incubator !

### Checking the temperature

Temperature has been checked and calibrated in our factory. Nevertheless, for total safety checking the temperature might be reasonable. The best way to check the temperature is to take an incubating-thermometer. For measuring the temperature precisely on 0,1°C it is necessary to run the incubator long enough (at least 2h; until not only the air, but also the cabin has warmed up) and the lead of your check-up-thermometer must be in the air (at least 2cm away from any object like the bars of the trays).



## **Checking the humidity**

Also the hygrometer (10) has been checked in our factory. To check, that there had not been a damage on transport, run the incubator without water. If the hygrometer is working properly, you must note, that the humidity falls with raising temperature up to a value of 30-50% (depending on the room, where it is placed, weather conditions and time of the year).

But be aware, that there is no gauged value for humidity – hygrometers of one type can have variations of 3-5% - hygrometers of different types even much more.

All our information about the humidity required for the incubation (presented in the section "Humidity") base on the hygrometers, which we have installed and checked.

## 4 Settings on the incubator

### 4.1 Querying the "nominal" temperature value

To query the preset nominal temperature, press and hold down the "SET" button (6) for about 5 seconds. The display shows the "Nominal" value which flashes 2x and is then shown permanently. When you release the "SET" button (6), the display returns to the "Actual" value.

### 4.2 Setting the "nominal" temperature value

To change the nominal temperature, press and hold down the "SET" button (6) for about 5 seconds, until the display flashes 2x and stops flashing. Keep holding the "SET"-button (6) and additionally briefly press the "+ button" (5) or the "- button" (4) in upward or downward direction to change the setting in steps of 0.1°C. The adjustment range is 15°C to 40°C. Once you release the "SET" button (6), the new nominal value is stored, and the "Actual" value is again shown in the display.



After querying or setting, check if display (2) (operation/Betrieb) is lit. If the red control lamp is not flashing, you accidentally deactivated the temperature control (chapter 4.4). To activate the temperature control again, just press the "SET"-button ~1 second – one second later the red control lamp (2) flashes again - the temperature control is activated.

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### 4.3 Incubation temperature

Generally, we recommend a temperature of 37,8°C. For incubating bantam, quails or pheasants (partly also ducks and geese) we recommend 37,5-37,6°C - for raptors, parrots and parakeet a temperature of 37,0-37,2°C. If different (poultry-)eggs are incubated together, you should set a temperature of 37,7-37,8°C. Ostriches, rheas and nandus are an exception with much less temperature.

### 4.4 Switching the temperature control on/off ("Storing-function")

To switch on the temperature control, press the "SET" button (6) for approx. 1 second. The "Operation" indicator (LED) (2) lights up and heating output is released. If the "Actual" temperature value is below the "Nominal" value, the heater is switched on. An indicator (3) LED lights up to show that the heater is running. To switch off temperature control, press the "SET" button (6) again for one second. The "Operation" indicator (LED) (2), the "Heater" indicator (LED) (2) and the heater output are switched off. The on or off state of the control is stored.

With deactivated temperature control you have the possibility to collect/store eggs. All functions can be used: turning, ventilation, water-

basins for humidification. But before putting in eggs for storage, check if the conditions are suitable/optimum for storage. With higher ambient temperatures just the operation of the ventilator can raise the the temperature too much.

## 5 Adjusting the humidity

The required humidity can be reached by filling one part of the supplied three-parted water basin and placing it in the incubation chamber. After several hours, the hygrometer (8) will show the humidity level reached. If the humidity is too high, open the air vent(s) (6) to reduce it. Remember that it will take several hours until the reaction is visible on the hygrometer.

If the humidity is too low, it can be increased by closing the air vent(s) a bit more (but: never close it completely !).

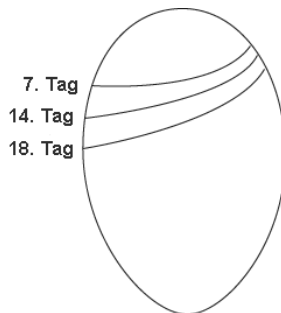
In extremely dry (and/or cold) incubation rooms, it may be necessary to fill more parts of the supplied water basin in order to increase the humidity.

During the hatching stage (last 3 days of incubating), the humidity should be about 20% higher. First two – and then all parts of the supplied three-part water basin should be filled. If the pane of the double-glass should begin to steam up, open the air-vents a bit more.

### 5.1 Incubation Humidity

Apart from the temperature, the incubation humidity plays a significant role for the incubation results. During incubation, every egg must lose weight. The weight loss must amount to at least 15% of the fresh egg. A weight loss of 17% is ideal. You can check this with a special accuracy weighing machine – breeders of very valuable (and thus mostly sensitive, difficult to incubate) animals weigh every single egg every day and adjust the humidity according to the weight-loss to come to 100% hatching success (the higher humidity, the less weight-loss; and vice versa).

With the weight-loss comes along a steadily growing air cell. This can be checked with a candling-lamp to adjust the humidity (if necessary; the less humidity, the bigger the air cell). The air cell must be steadily growing over the complete time of incubating – until shortly before hatching it takes about one-third of the egg.



*Fig.: Optimum size of the air cell in a chicken-egg (incubation-length: 21 days)*

Due to the different characteristics of the eggshell, a different humidity is necessary for various kinds of fowl to come to the right weight-loss and size of the air cell. For example, a chicken egg (at the same humidity) loses weight much more slowly than a waterfowl egg.

The weight-loss even varies for chicken of different types, which means that the eggs normally should be incubated at different humidity levels. The weight loss is also determined by the size of the egg. In practice incubating with different values of humidity mostly is not possible. Thus, we recommend well-proven mean values, which experiential lead to very good hatching-results:

Chicken and bantam eggs	50 – 55 %
Goose eggs	55 – 60 %
Duck eggs	58 – 65 %
Pheasant eggs	45 – 53 %
Quail eggs	48 – 52 %
Ostrich eggs	19 – 23 %
Emu eggs	40 – 45 %
Rhea eggs	52 – 58 %

But please note, that there are also considerably outliers because of the characteristics of the eggshell (e.g. Marans: 40-45%) and/or the climate of their natural habitat (e.g. Crested-partridge 65-70%; Muscovy ducks 50-55%).

For parakeet and parrot eggs general recommendations are not possible, because the required humidity varies extremely. The required humidity depends on the location of their natural breeding areas (humid tropics or dry savanna). For incubating species from very arid/dry habitats normally you need a humidity as low as possible (viz.: no water in the incubator/water basin; air-vent(s) fully open). Only in the hatching stage the humidity is raised as normal.



When you take eggs out of the incubator for weighing or candling and thus you switched on the light – don't forget to switch it off again.

Light should not be switched on (when door closed) longer than 5 minutes.

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## 6 Inserting the hatching eggs

After setting the correct humidity and temperature values, place the eggs (horizontal or slightly vertical with air cell on top) on the incubation trays in the incubator.

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### Attention!



Handle the hatching eggs with care. Hatching eggs are very sensitive, especially after the incubation process has started.

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Please make sure that the eggs are not too old (maximum 10-14 days). If you store the eggs more than 4-5 days: daily turn the eggs, don't store too dry, optimum temperature: 12-15°C.

## 7 Turning the eggs

In incubators with automatic turning, the eggs are turned automatically. The eggs are turned for 2 hours in one direction and then for 2 hours in the other direction. This process continues permanently, though the movement is not evident.

The motor for the turning mechanism is located in the housing attached to the back of the device. For activating the fully-automatic turning, press the button "C"; the indicator (7) "Turning/Wendung" lights up – turning is in progress. We recommend activating the automatic mechanism on the day on which the eggs are inserted.

For checking the turning, use a soft pen to mark the eggs with an "X" on one side and a "0" on the other. In this way, you can monitor the turning process. Check the position of the eggs every 2-3 days (at not identical times). If the position of the eggs is exactly the same like when you checked last time, check again 2 hours later. If the position again has not changed, the turning does not work. Take away the wing-nut and the white connector and turn manually 2-3x per day by pushing/pulling the tray(s) forward/backward. For solving the problem of the fully-automatic turning, contact us.

If the fully-automatic turning is activated, the turning works continuously very slowly: 12 times a day - one turning within 2 hours.



Though this is not necessary, the hatching eggs can be turned from the first day without any impairment.

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## 8 Cooling the Eggs

The eggs can be cooled in two different ways. If you do not want to cool all eggs, you only need to take the incubation trays with the eggs to be cooled out of the device. Then close the door of the incubator immediately. If the door will/must be open longer than some seconds, switch off the incubator, while the door is open. An easier method would be to switch the incubator off for some time and open the door. In this case, all eggs are cooled. Generally, chicken eggs do not need to be cooled. Wildfowl and waterfowl eggs, however, must be cooled once a day.

Especially when incubating goose eggs, cooling is an important factor that has a decisive effect on the hatching result. The embryo is strengthened by the cooling. We recommend cooling goose eggs once a day from the 11<sup>th</sup> to the 27<sup>th</sup> incubation day (for species with incubation period of 30 days). The cooling time should be at least 30 minutes, though longer cooling phases (up to about 1 hour) are not detrimental.

## 9 Putting the Eggs into the Hatching Trays

3 days before the date of hatching the eggs should be put into the hatching trays or into the hatcher; the eggs must not be turned anymore. Switch off the turning. In the hatching stage all eggs need a higher humidity than in the incubation stage. Humidity should be 20-25% higher than before in the incubation stage (e.g. from 53% to 73-78%). Raising of the humidity should be made in steps. First day 10% more, next day again 10% more – and when the chicks begin to come out of the eggs again some percentage more.



Don't raise the humidity to more than 90% - otherwise there's risk of chicks not drying and having water (condensed) on the bottom of the incubator. When the pane of a double-glass door begins to steam up, reduce the humidity a bit. Only for waterfowl and other eggs, which already needed very high humidity in the stage of incubating, it can be necessary or helpful to have such a high humidity (of 80-90%), that the double-glass pane begins to steam up.

If you use simple hatching trays (without cover), place them central, so that to the door and to the back you just have little space left. Nevertheless, with very agile chicks it can happen, that some hop over the edge of the hatching tray. To avoid risk of drowning in the water basin, cover the water basin with mesh-wire or net – or alternatively use our pedigree-hatching-trays with cover and partitions.

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## 10 Shutting-down after incubation

When you have had hatching in the incubator and plan to put in eggs shortly, make at least a light maintenance and care according to chapter 11. Take out the water basin(s) and run the incubator without water until the humidity has fallen to that value, which you need for the next incubation stage.

If you don't plan to put in eggs shortly, make maintenance and care like described in chapter 11. Switch-on again the incubator after maintenance and care (without water in the water basins !) and run it until the humidity doesn't fall anymore. Depending on the room, weather conditions and season this will be 30-50%. Thus you avoid, that high humidity (from last hatching or from cleaning) remain in the incubator without possibility to really get it out while storage / until next incubation.

Afterwards switch off and unplug the incubator.

## 11 Maintenance and care

### 11.1 Incubation or hatching chamber of the device

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We recommend cleaning the hatching device or incubator thoroughly and disinfecting it after every major hatch.

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#### Attention!



After disinfection, the incubator must be ventilated according to the manufacturer's instructions. We recommend waiting a few days before using the hatching device/incubator again.

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The incubation chamber and the incubation trays must be cleaned and disinfected regularly. To do this:

- Open the hatching device/incubator
- Take out the water tray and remove incubation dust, incubation dirt, and other residue from the water tray.
- Remove the hatching/incubating trays
- Clean and disinfect the hatching/incubating chamber and the hatching/incubating trays (with "Amo-Des" or "Euphagol")
- Reinstall the hatching/incubating trays
- Put in again the water basin

## 11.2 Technical Compartment (incubation or hatching device)

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**Disconnect the power plug before opening the cover.**

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### **Caution! Dangerous voltage!**



Before cleaning, disconnect the power plug to make sure no voltage is present.

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### **Caution! Danger of injury from hot surface!**



Before opening the lid, wait for approximately 10 minutes until the heating elements have cooled off.

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Regularly clean and disinfect the "technology compartment" under the lid:

- Unscrew the screws at each corner of the incubator cover (total of four).
- Lift the lid, exerting slight pressure.
- Remove incubation dust, incubation dirt, and residue
- Disinfect the hatching device/incubator (with "Amo-Des" or "Euphagol")
- Close the lid.
- Re-tighten the screws.

## 11.3 Replacing the power cable

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### **Attention!**



Defective power cables may only be replaced by the manufacturer, its customer service, or a similarly qualified person.

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## 12 FAQ – frequent questions

- "Why do I need to install the device 50cm above floor level?"  
→ To protect it against flooding.
- "The device is not heating."  
→ You probably deactivated the temperature control (Chap. 4.4); this is the case if the LED indicator for "Operation/Betrieb" is not lit. Press the "Set" button for approx. 1 second (Chap. 4.2, p.9). The LED indicator "Operation" will now light up and the device will work as usual.

## 13 Disposal



The sticker with the crossed out wheeled bin on this product indicates that this product must not be disposed of as domestic waste. To avoid a potential impairment of the environment or human health, this product must not be treated as domestic waste but must be recycled in an eco-friendly manner.

For information concerning disposal, please contact the manufacturer of the product. We will have your product collected by a forwarding agent.

**WEEE reg. no.:**  
**DE 96968236**

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## 14 CE Declaration of Conformity

**Manufacturer** HEKA-Brutgeräte  
address Langer Schemm 290 D-33397 Rietberg,  
Germany

**hereby declares that the**

Product HEKA-Turbo plastic incubator

Models

Incubators: HEKA-Turbo 84, 126, 168, 216, 288, 432,  
HEKA-Turbo 84+S, 126+S, 168+S

Hatching devices: HEKA-Turbo 90/S, 135/S, 180/S, 270/S, 360/S

**is in conformity with the following directives:**

- 98/37/EC Machinery Directive
- 73/23/EEC Low Voltage Directive
- 2004/108/EC EMC Directive

The following standards were used to assess the conformity:

- DIN EN ISO 12 000-1
- DIN EN ISO 12 000-2
- DIN EN 60 204-1
- DIN EN 60 335-1
- DIN EN 60 335-2-71



The conformity of the products with the above-mentioned standards and directives is confirmed with the CE mark.

A handwritten signature in black ink, appearing to read 'Christa Hemel', written in a cursive style.

Rietberg, 20 August  
2006

Christa Hemel

## 15 **Appendix: Analysis of mistakes at incubation / bad hatching**

Normally, 5-10% of the eggs are unfertilized. If less than 70-80% of the remaining chicks hatch, you should analyse the reason(s) to have better success at next hatching. Analysing the symptoms first of all allow the following conclusions (further reading in specialized books), whereof “too high humidity in incubating stage” is the absolutely most frequent mistake.

### **Mostly died in first week:**

Wrong storage of eggs, parental predisposition, virus infection, incubation-temperature much too high/low, no turning, (too long) cooling of eggs

### **Mostly died in second week (without huge loss in first week):**

Huge parental vitamin deficiency, infection in incubator, overheating or undercooling at candling, too high (seldom: too low) humidity at incubation, oxygen deficiency

### **Mostly died in third week before beginning of respiration by lung (without huge loss before):**

All a.m. factors, especially too high or too low humidity in incubation stage

### **Died at hatching, eggshell circular scored:**

Too low humidity at hatching stage

### **Died at hatching, eggshell pierced (central or astride; liquid leaves at pierced point):**

Too high humidity at hatching stage

### **Hatched chicks stick at eggshell:**

Too low humidity (especially at hatching stage)

### **Hatched chicks are clammy:**

Too high humidity at incubation stage

### **Hatched chicks uncleanly cut the cord:**

Too high temperature or oscillations in temperature

### **Hatched chicks with stressed respiration:**

Too high humidity in incubation stage, too less humidity at hatching stage, temperature too high at hatching stage

### **Hatched chicks malformed:**

Temperature too high/low or oscillating, heredity

# 16 Appendix: Incubation Periods

## Domesticated Birds:

Bantam:	19-21 Days
Chicken:	21 Days
Ducks:	28 Days
Geese:	28-35 Days
Guineafowl:	27 Days

Muscovy Ducks:	35 Days
Peacocks (all species):	28 Days
Pigeons:	16-18 Days
Turkeys:	28 Days

## Wild Birds

Mallards:	25-26 Days
Partridges:	23 Days
Pheasants:	24 Days

Quails:	23 Days
Vulturine Guineafowl:	23-24 Days

## Flightless Birds

Emu:	57-62 Days
Rhea:	35-40 Days

Ostrich:	35-42 Days
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## Pheasants

Alectoris:	23-26 Days
Amherst's Pheasant:	23 Days
Arborophila:	20-24 Days
Barbary Partridge:	25 Days
Black Francolin:	18-19 Days
Blood Pheasant:	28 Days
Blue Eared Pheasant:	26-28 Days
Brown Eared Pheasant:	26-27 Days
Bulwer's Pheasant:	25 Days
Copper Pheasant:	24-25 Days
Crested Argus:	25 Days
Crested Fireback:	24-25 Days
Crestless Fireback:	24-25 Days
Cheer Pheasant:	26 Days
Edward's Pheasant:	21-23 Days
Elliot's Pheasant:	25 Days
Gallopheasants:	23-25 Days
Golden Pheasant:	23 Days

Great Argus:	25 Days
Himalayan Snowcock:	27-28 Days
Hume's Pheasant:	27 Days
Junglefowl:	19-21 Days
Koklass Pheasant:	21-23 Days
Lewis's Silver Pheasant:	23 Days
Mikado Pheasant:	26-28 Days
Monals:	27 Days
Peacock-Pheasants:	21-22 Days
Red-legged Partridge:	23-24 Days
Reeves's Pheasant:	24-25 Days
Salvadori's Pheasant:	22-25 Days
Sand Partridge:	27 Days
Silver Pheasant:	25 Days
Sri Lankan Junglefowl:	18 Days
Swinhoe's Pheasant:	25 Days
Tragopans:	28 Days
White Eared Pheasant:	24 Days

## Quails

Banded Quail:	21-23 Days
Bearded Tree Quail:	28 Days

Montezuma Quail:	25-26 Days
Mountain Quail:	24-25 Days

Brown Quail:	20-22 Days	New Zealand Quail:	21 Days
California Quail:	22-23 Days	Northern Bobwhite:	21 Days
Crested Bobwhite:	22-23 Days	Painted Bush Quail:	16-18 Days
Crested Partridge:	18-20 Days	Rain Quail:	18-19 Days
Harlequin Quail:	14-16 Days	Scaled Quail:	23 Days
Japanese Quail:	18 Days	Spot-Winged Wood-Q.:	18-19 Days
King Quail:	18 Days	Yucatan Bobwhite:	23-24 Days
Long Tailed Quail:	28 Days		
<b>Grouse</b>			
Black Grouse:	26 Days	Ruffed Grouse:	24 Days
Dusky Grouse:	25 Days	Sharp-tailed Grouse:	24-25 Days
Greater Prairie Chicken:	24-25 Days	Spruce Grouse:	21-22 Days
Hazel Grouse:	25 Days	Western Capercaillie:	26-28 Days
Red Grouse:	22 Days	Willow Ptarmigan:	23 Days
Rock Ptarmigan:	20-21 Days		
<b>Swans</b>			
Bewick's Swan:	30 Days	Mute Swan:	37 Days
Black-necked Swan:	36 Days	Trumpeter Swan:	33 Days
Black Swan:	36 Days	Tundra Swan:	36 Days
Coscoroba Swan:	35 Days	Whooper Swan:	36 Days
<b>Geese</b>			
Bar-headed Goose:	28 Days	Hawaiian Goose:	29 Days
Barnacle Goose:	28 Days	Lesser White-fronted G.:	25 Days
Brant:	22 Days	Pink-footed Goose:	28 Days
Canada Goose:	28 Days	Red-breasted Goose:	25 Days
Emperor Goose:	24 Days	Ross's Goose:	23 Days
Fighting Geese:	28-31 Days	Snow Goose:	25 Days
Greater White-fronted Goose:	26 Days	Taiga Bean Goose:	25-29 Days
Greylag Goose:	28 Days	Toulouse Goose:	30 Days
<b>Anserinae</b>			
Andean Goose:	30 Days	Kelp Goose:	32 Days
Ashy-headed Goose:	30 Days	Orinoco Goose:	30 Days
Blue-Winged Goose:	31 Days	Ruddy-headed Goose:	30 Days
Egyptian Goose:	30 Days	Upland Goose:	30 Days
Freckled Duck:	26-28 Days		

**Whistling Ducks**

Black-bellied Whistl. Duck: 28 Days  
 Fulvous Whistling Duck: 28 Days  
 Lesser Whistling Duck: 28 Days  
 Plumed Whistling Duck: 30 Days

Spotted Whistling Duck: 31 Days  
 Wandering Whistl. Duck: 30 Days  
 West Indian Whistl. Duck: 30 Days  
 White-faced Whistl. Duck: 28 Days

**Anatidae**

Cape Barren Goose: 30 Days  
 Radjah Shelduck: 30 Days

Ruddy Shelduck: 30 Days  
 Shelduck: 30 Days

**Perching Ducks**

Australian Wood Duck: 30 Days  
 Knob-billed Duck: 30 Days

Mandarin Duck: 32 Days  
 Wood Duck: 32 Days

**Eider Ducks**

Common Eider: 24 Days  
 King Eider: 22 Days

Spectacled Eider: 24 Days  
 Steller's Eider: 24 Days

**Teals**

Baikal Teal: 24-28 Days  
 Blue-winged Teal: 24 Days  
 Brazilian Teal: 25 Days  
 Bronze-winged Duck: 30-31 Days  
 Brown Teal: 28 Days  
 Cape Teal: 25 Days  
 Chestnut Teal: 26 Days  
 Cinnamon Teal: 24 Days  
 Garganey: 24 Days  
 Green-winged Teal: 24 Days

Grey Teal: 25 Days  
 Hottentot Teal: 24 Days  
 Marbled Duck: 25 Days  
 Puna Teal: 26 Days  
 Red-billed Teal: 25-28 Days  
 Ringed Teal: 24-28 Days  
 Sharp-winged Teal: 24 Days  
 Silver Teal: 25 Days  
 Yellow-billed Teal: 24 Days

**Shovelers**

Australian Shoveler: 24 Days  
 Cape Shoveler: 26 Days  
 New Zealand Shoveler: 26 Days

Nordic Shoveler: 25 Days  
 Red Shoveler: 25 Days  
 Shoveler: 26 Days

**Wigeons**

American Wigeon: 24 Days  
 Chiloé Wigeon: 26 Days  
 Eurasian Wigeon: 25 Days

Falcated Duck: 25 Days  
 Gadwall: 26 Days

<b>Oxyurinae</b>			
Masked Duck:	24 Days	White-backed Duck:	26 Days
Ruddy Duck:	24 Days		
<b>Mergansers</b>			
Goosander:	30 Days	Red-breasted Merganser:	30 Days
Hooded Merganser:	28 Days	Smew:	28 Days
<b>Goldeneyes</b>			
American Goldeneye:	28 Days	Eurasian Goldeneye:	28 Days
Bufflehead:	22 Days	Barrow's Goldeneye:	30 Days
<b>Pintails</b>			
Chilean Pintail:	25 Days	White-cheeked Pintail:	25 Days
Northern Pintail:	22-23 Days	Yellow-billed Pintail:	25-26 Days
<b>Mallards</b>			
African Black Duck:	28-30 Days	Mottled Duck:	26 Days
American Black Duck:	26 Days	Pacific Black Duck:	26 Days
Hawaiian Duck:	26 Days	Philippine Duck:	26 Days
Indian Spot-billed Duck:	26 Days	White Pekin:	28 Days
Laysan Duck:	26 Days	Yellow-billed Duck:	27 Days
Mallard:	26 Days		
<b>Pochards</b>			
Baer's Pochard:	27 Days	Red-crested Pochard:	27 Days
Canvasback:	26 Days	Redhead:	28 Days
Common Pochard:	27 Days	Ring-necked Duck:	23-26 Days
Ferruginous Duck:	26 Days	Rosy-billed Pochard:	28 Days
Greater Scaup:	24-28 Days	Southern Pochard:	26 Days
New-Zealand Scaup:	26 Days	Tufted Duck:	25 Days
<b>Scoters</b>			
Common Scoter:	28 Days	Long-tailed Duck:	23 Days
Harlequin Duck:	30 Days	Velvet Scoter:	28 Days
<b>Doves</b>			
Collared Dove:	14 Days	Galápagos Dove:	16 Days
Common Ground Dove:	12-14 Days	Gallicolumba:	15 Days
Common Wood Pigeon:	15 Days	Laughing Dove:	13 Days
Crested Pigeons:	17-19 Days	Mourning Dove:	15 Days

Diamond Dove:	13 Days
Domestic Pigeon:	17 Days
Eurasian Collared Dove:	16 Days
European Turtle Dove:	14 Days

Namaqua Dove:	14-15 Days
Rock Dove:	17 Days
Western Crowned Pigeon:	28 Days

### **Parrots / Parakeets / Oscine Birds**

Amazonas Parrots:	24-29 Days
Black-Capped Lory:	23-26 Days
Blue-and-yellow Macaw:	28 Days
Blue Eyed Cockatoo:	28 Days
Blue-winged Macaw:	24-26 Days
Budgerigar:	18 Days
Citron-crested Cockatoo:	24 Days
Domestic Canary:	13 Days
Galah:	23 Days
Gang-gang Cockatoo:	25-27 Days
Grey Parrot:	26-30 Days
Hyacinth Macaw:	24-29 Days
Large Parrots:	23-25 Days
Little Corella:	29 Days
Long-billed Corella:	29 Days
Macaws:	26-28 Days

Major Mitchell's Cockatoo:	27 Days
Medium Parrots:	18-20 Days
Red-tailed Black Cockat.:	28 Days
Red-vented Cockatoo:	28 Days
Salmon-crested Cockatoo:	30 Days
Scarlet-chested Parrot:	18 Days
Solomon Island Parrot:	28-30 Days
Sulphur-crested Cockatoo:	30 Days
Sun parakeet:	26 Days
Tanimbar Corella:	28 Days
Western Corella:	23-24 Days
White Cockatoo:	28-30 Days
Yellow-crested Cockatoo:	24 Days
Yellow-naped Amazon:	25-27 Days
Yellow-tailed Black Cock.:	29 Days

### **Birds of Prey / Owls**

Amur Falcon:	28-30 Days
Barn Owl:	32 Days
Black Kite:	32 Days
Common Kestrel:	30 Days
Eurasian Eagle-owl:	33 Days
Eurasian Pygmy Owl:	28-30 Days

Gyrfalcon:	30-32 Days
Northern Goshawk:	35-37 Days
Peregrine Falcon:	34 Days
Red Kite:	35 Days
Tawny Owl:	32 Days

**No responsibility is taken for the correctness of this information!**

**You are welcome to tell us corrections and additions!**









