English

Operating Manual for HEKA-Incubators „Pro-Touch“



HEKA F.-Olymp 128 PT
HEKA F.-Olymp 192 PT
HEKA F.-Olymp 256 PT
HEKA F.-Olymp 330 PT
HEKA F.-Olymp 440 PT
HEKA F.-Olymp 550 PT
HEKA F.-Olymp 660 PT
HEKA F.-Olymp 880 PT
HEKA F.-Olymp 1100 PT
HEKA F.-Olymp 1320 PT
HEKA F.-Olymp 1500 PT
HEKA F.-Olymp 2200 PT
HEKA “In-Ovo” PT
HEKA F.-Olymp 450-Lab PT
HEKA F.-Olymp 750-Lab PT

HEKA F.-Olymp 90/S PT
HEKA F.-Olymp 135/S PT
HEKA F.-Olymp 180/S PT
HEKA F.-Olymp 270/S PT
HEKA F.-Olymp 360/S PT
HEKA F.-Olymp 540/S PT
HEKA F.-Olymp 1500/S PT
HEKA F.-Olymp 2200/S PT

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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	**Danger!**	Imminent danger to persons	Very severe to fatal injury
	Warning!	Potentially very dangerous situation for persons	Very severe to fatal injury
 Dangerous electric voltage	**Caution!**	Potentially dangerous situation for persons	Minor injury
	**Attention!**	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!

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.



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

- 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-FAVORIT-OLYMP incubators are made of plastic and consist of a two-compartment housing:
The upper part contains the technic (distribution, control, fan, heater, and water supply), and the lower part the incubation or hatching chamber with trays.

The HEKA-FAVORIT-OLYMP models in the “PRO-TOUCH” version are equipped with a microprocessor control and a touch display. The 7” touch display shows all current target and actual values as well as the progress of the incubation program on the home screen. The touch display has a standby function. When it is in idle mode, it can be reactivated by pressing the display.

Standard features of the “PRO-TOUCH” version include: Fully automatic turning mechanism (except: hatching sections, tray incubators) – Fully automatic humidification – Additional fan for dehumidification, cooling support, and overheating protection – Interior lighting – Insulated glazing.



1	Microprocessor-Control
2	Incubation Chamber
3	Turning-Trays

1.1 Technical Data

Model HEKA-FAVORIT-OLYMP PRO-TOUCH	128	192	256	330	440	550	660	450 Lab	750 Lab
Height in cm	77,5	88,5	99,5	91	102	113	124	93	113
Width in cm	50	50	50	65	65	65	65	90	90
Depth in cm	53	53	53	58	58	58	58	58	58
Approximate weight in kg	33	36	39	42	47	52	57	48	58
Power supply	230 V / 50 Hz								
Approximate power consumption in Watts (W)	336	386	436	453	603	605	605	605	605

Model HEKA-FAVORIT-OLYMP PRO-TOUCH	In-Ovo	880	1100	1320	1500	1500 /S	2200	2200 /S
Height in cm	113	102	113	124	148	169	178	197
Width in cm	79	137	137	137	137	137	137	137
Depth in cm	55	58	58	58	58	58	58	58
Approximate weight in kg	55	94	104	114	124	124	154	154
Power supply	230 V / 50 Hz							
Approximate power consumption in Watts (W)	453	757	760	760	1220	1210	1220	1210

Model HEKA-FAVORIT-OLYMP PRO-TOUCH	90/S	135/S	180/S	270/S	360/S	540/S
Height in cm	55	65	75	65	75	85
Width in cm	50	50	50	65	65	65
Depth in cm	53	53	53	58	58	58
Approximate weight in kg	24	26	28	38	44	50
Power supply	230 V / 50 Hz					
Approximate power consumption in Watts (W)	338	366	416	451	451	603

2 Setup and Connection

The incubator is ready to be connected.

The incubator must be set up as follows:

- Horizontal position
- Must not shake
- Door(s) must open easily
- Must not be set up outdoors and must be at least 50 cm above the ground
- Must be protected from direct sunlight
- There must be at least 5 cm of free space above the device in order to allow air circulation.
- The environment of the incubator should be well ventilated.
- The ventilation slots must not be covered.

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.

Serially, the incubator is equpped with water-canister and the matching brass-float-valve for low-pressure. The water canister must be filled with distillated water and placed in a position above the incubator (directly onto the top of the incubator or – better – hanging above the incubator).



To enable the water to flow freely, make sure there are no air bubbles in the connection hose.



If the incubator should be plugged directly to the (high-pressure-) water-mains, it must be directly ordered for this purpose or the brass-float-valve must be changed afterwards.

The ideal ambient temperate is 10°C - 20°C. However, smooth function is also guaranteed at an ambient temperature of 5°C - 30°C.

The humidity must be suitable for the intended purpose. Attention must be paid to the indoor humidity in particular if it is necessary to achieve a low humidity value in the device; the device can humidify but not reduce the humidity. If you choose the correct installation site, humidity values between 40% and 90% can be reached.

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.

2.1 Starting the Incubator

Read the operating instructions!
Be sure to familiarize yourself with the incubator using this manual before attempting to adjust anything without the necessary knowledge.



fig. 2.1



fig. 2.2

Connect and fill the water canister	The incubator is (optionally) equipped with a Gardena Aqua-Stop connection. However, it does not fully close under low pressure. Some residual water will also leak from the connection (hose nozzle; fig. 3) on the device after it is disconnected. **Caution!** To prevent any possible damage caused by residual water, never place a power strip or any technical equipment behind or beneath the incubator.
Plug in the power cord	The incubator is switched on. Wait until it has fully started up.
Factory setting	Incubation program „manual incubating“ with 37,8°C, 53%, 12 turnings per day, no cooling down

2.2 Home Screen

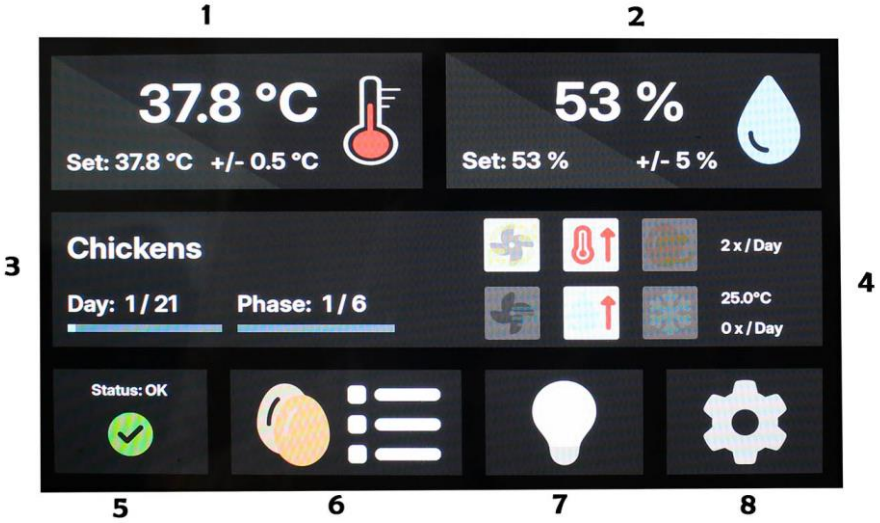


fig. 4

1. „Temperature“
   - Actual temperature
   - Target temperature
   - Set deviation for alarm notification
2. „Humidity“
   - Actual humidity
   - Target humidity
   - Set deviation for alarm notification
3. „Program name and progress“
   - Name of the current incubation program
   - Current day / last hatch day (with progress bar)
   - Current phase / last hatch phase (with progress bar)
4. „Activity indicators“
   - Fan (yellow): lights up when the main fan is operating
   - Fan (blue): lights up when the additional fan is operating (during cooling phase, to reduce humidity, or to prevent overheating)
   - Temperature: lights up when the heater is operating
   - Humidity: lights up when humidification is operating
   - Egg: lights up when turning is in operation (to the right: displays the turning setting for the current phase)
   - Snowflake: lights up during the cooling down phase (to the right: displays the cooling down setting for the current phase)
5. „Status“
   - Flashing warning symbol: indicates a new alarm message

- Warning symbol: indicates that triggered alarm message(s) have not yet been acknowledged

6. „Incubation Program Selection“
   - Select the incubation program and modify values
7. „Lighting“
   - Activates the interior lighting for the programmed duration
8. „Settings“
   - Advanced settings (language, display, alarms, etc.)

2.3 Setting the Eggs

Once the incubator has been preheated, set the eggs (lying flat or slightly tilted with the air cell facing up) in the corresponding trays in the incubator.

Carefully set or remove the eggs. Eggs that have already started incubating are particularly fragile.

Please ensure that the eggs are not too old (max. 10–14 days). If stored for more than 4–5 days: turn them daily, do not store too dry, optimal temperature: 12–15 °C, optimal humidity: ~75 %.

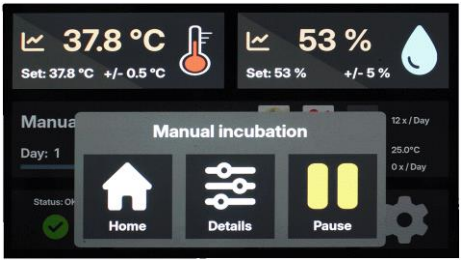


fig. 5

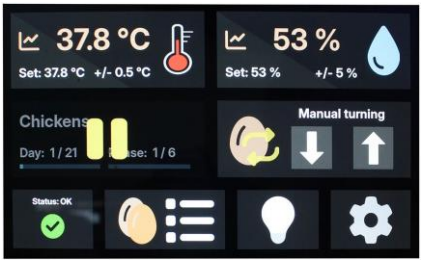


fig. 6

1. Press the middle menu field (program name).
   ➔ The menu opens (fig. 5) with the options “Home” (return to the home screen), “Details” (displays all details of the current program), and “Pause” (pause the incubation program).
2. Press „Pause“.
   ➔ The menu opens (fig. 6) for manually moving the turning mechanism.
3. Press the “Up Arrow” or “Down Arrow” button to move the turning rack into the horizontal position.
4. Press the same button again to stop the manual turning movement once the trays are level.

5. Set the eggs as follows:



Open the door.
Remove the turning tray, load it, and carefully place it back into the aluminum frame.
Place the eggs horizontally — or vertically with the pointed end facing downward (air cell on top).
Close the door.

6. Press the “Paused” symbol in front of the grayed-out incubation program (fig. 7).
   ➔ The menu from step 1 opens again – instead of “Pause”, it now shows “Resume” (fig. 8).
7. Press “Resume”.
   ➔ The incubator continues the incubation program.

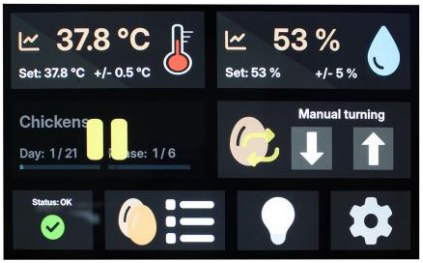


fig. 7

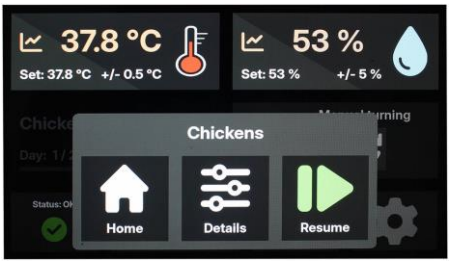


fig. 8

When the incubation program is paused or the incubator is turned off by unplugging, the program does not continue, as a longer pause will also shift the expected hatch date. The same applies in the event of a power outage. After a power outage, operation will automatically resume.

2.4 Turning Off the Incubator

You turn off the incubator by unplugging it.
All set values are retained.

Caution!
If you take the incubator out of operation for more than a few days, be sure to follow the instructions in the chapters 9: “Shutting Down After Incubation” and 10: “Maintenance and Care.”

3 Manual Incubation Without an Incubation Program

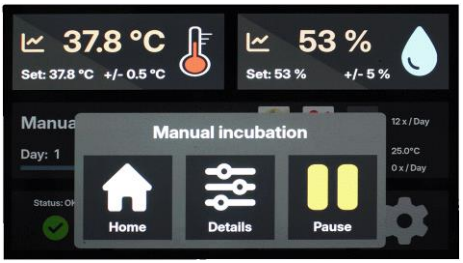


fig. 9

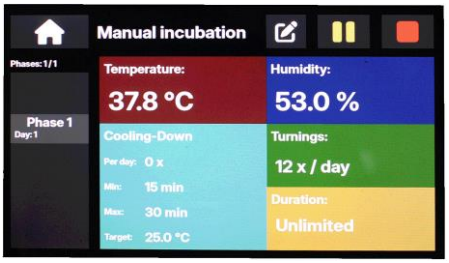


fig. 10

Before starting a new incubation program, set the correct date and time (Chapter 6 → 6.4). These values cannot be changed once the incubation program is running.

Your new incubator starts without an incubation program (“Manual Incubation”). The same applies if you reset it to factory settings. If you previously started/finished another incubation program and now want to incubate manually, select “Manual Incubation” from the program list (see Chapter 4: “Incubation with an Incubation Program”).
You can set the desired target values as follows:

1. Press the middle menu field (program name).
2. Press “Details” (fig. 9).
➔ The target value settings menu opens (fig. 10).
3. Press the pencil icon to edit the values.
4. Press “Save” to store the new values.

Quick notes on the settings (detailed in Chapter 8: “Tips for Successful Incubation”):

- Temperature: Never exceed 37,8 °C in a motorized incubator, as the air temperature is measured and displayed.
- Humidity: Usually ~50–55 % during incubation – even waterfowl eggs should not be incubated TOO wet during this phase (generally ~55–60 %).
- Turning: 12 times per day from day 1 is recommended. It is not necessary to turn less frequently during the first 3 days. For the hatching phase (last 3 days), turning must be disabled.
- Cooling down: Once daily from days 8–10 until the start of the hatching phase. Program the desired target temperature for cooling. When this temperature is reached **and** the minimum programmed time has elapsed, cooling ends. If the target temperature is not reached, cooling stops after the max. programmed time.

4 Incubation With an Incubation Program



fig. 11

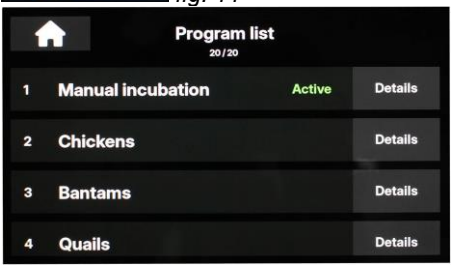


fig. 12

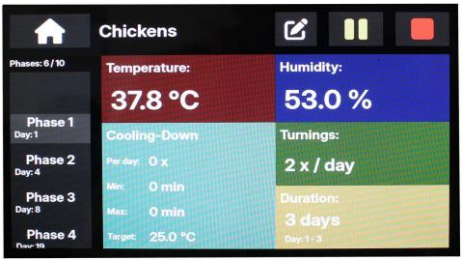


fig. 13

You must first end the currently running incubation program before starting a new one. This also applies to the factory setting “Manual Incubation.”

1. Press the “Incubation Program” icon (fig. 11).
2. Press “Details” of the currently active incubation program (“Active” is shown in green text to the left of “Details”; fig. 12).
3. Press the red “End” icon and confirm the termination on the following screen (fig. 13).

Note!
Before starting a new incubation program, make sure the date and time are set correctly (Chapter 6 → 6.4). These values cannot be changed while an incubation program is running.

4. Press the desired incubation program.
   By scrolling down, you can access additional programs and even create your own custom incubation programs.
5. By pressing “Phase 1,” “Phase 2,” etc., you can view the programming details of that incubation program.

Note!
The values provided are general recommendations without any guarantee. Special cases of species/breeds from very dry or very humid habitats (e.g., Rollulus rouloul) are not included and must be created manually or individually. Check whether the values correspond to your desired incubation process and modify them using the “Pencil” icon if desired – or create a new incubation program. Any changes or newly created programs are stored permanently and will only be reset if you restore the incubation programs to factory settings (see Chapter 6: “Settings”).

6. Press the green “Start” icon.
7. Select the “Start Day” (not pre-incubated = 1).
8. Press “Start”.

Note!
The incubation program now runs automatically according to its settings.

a) For example, if a cooling down phase once per day is programmed in “Phase 1,” it will begin 24 hours after the start of the incubation program. If two egg turnings per day are programmed, the first turning will occur after 12 hours and the second after 24 hours.

b) If the temperature or humidity deviates by at least the programmed tolerance (see chapter “Settings”), alarm messages will be displayed, including possible causes of the error (see Chapter 6.3: “Alarm”). The alarm will only be activated after the set values have been reached for the first time (after start-up, after a phase change, or after cooling down).

4.1 Incubation Program: „Store Hatching Eggs“

This incubation program is pre-set with the optimal values for storing hatching eggs. However, please note that the incubator cannot reach a temperature below room temperature. If the room temperature is higher than the set temperature, the incubator will not increase humidity, as this would cause the temperature to rise. To increase humidity, it is recommended to place 1–2 large water trays (SKU 951680) on the bottom of the incubator for manual humidification.

4.2 Incubation Program: „Dry Incubating“

This incubation program is designed for operation without water – when lowest possible humidity is desired. It is suitable for species/breeds from very arid (dry) habitats – or for use after the incubation cycle and cleaning to remove any remaining moisture from the incubator (see Chapter 9: Shutting-Down after Incubation).
In this program, humidity is set to 0. As a result, the humidification function is disabled, and the dehumidification function runs continuously. However, this also leads to increased power consumption.

5 Putting the Eggs into the Hatching Trays

The factory-set incubation programs turn off egg turning and gradually increase humidity at hatching phase. You only need to remove the eggs from the incubation trays, place them in the hatching trays, and insert the hatching trays into the incubator (as described in Chapter 2.3 “Placing the Hatching Eggs,” steps 1–7).

Three days before the expected hatching date, the eggs should be transferred to the (pedigree) hatching hatching tray or hatching chamber/hatcher; the eggs must no longer be turned. Turn off egg turning (setting: Turnings: 0×/day).

During the hatching phase, each egg requires a higher humidity than during the pre-incubation phase.

The humidity should be increased by 20–25% (for example, from 53% to 73–78%). If possible, this increase should be done gradually: about 10% on the day of transfer, another 10% the following day, and increase by a few more percent when the eggs are pipped.

Note!
When using simple hatching trays (open at the top), be aware that very active chicks may jump over the edge of the tray.
If you want to prevent this, use our pedigree hatching trays (with lid and dividers).

Note!
To reach higher humidity and/or reaching high humidity faster, you can remove the (in some models mounted) cover from the stainless-steel water container with the heating element.



Caution! Dangerous Voltage!
Unplug the unit before unscrewing the cover to ensure the device is voltage-free.



Caution! Risk of burns from hot surfaces!
Wait approximately 10 minutes for the heating elements to cool before opening the lid.

Note!
Do not program relative humidity above 90%, as this may prevent the chicks from drying properly and can cause a pool of water to form on the bottom of the incubator. If the insulated glass panel starts to fog, reduce the humidity slightly. Only for waterfowl or other eggs that require very high humidity during incubation may it be necessary or useful to maintain such high humidity (~80–90%) during hatching, causing the insulated glass to fog.

Note!
Do not cool down during the hatching phase. During this time, the cooling down function should be set to 0× per day.

6 Settings



fig. 14

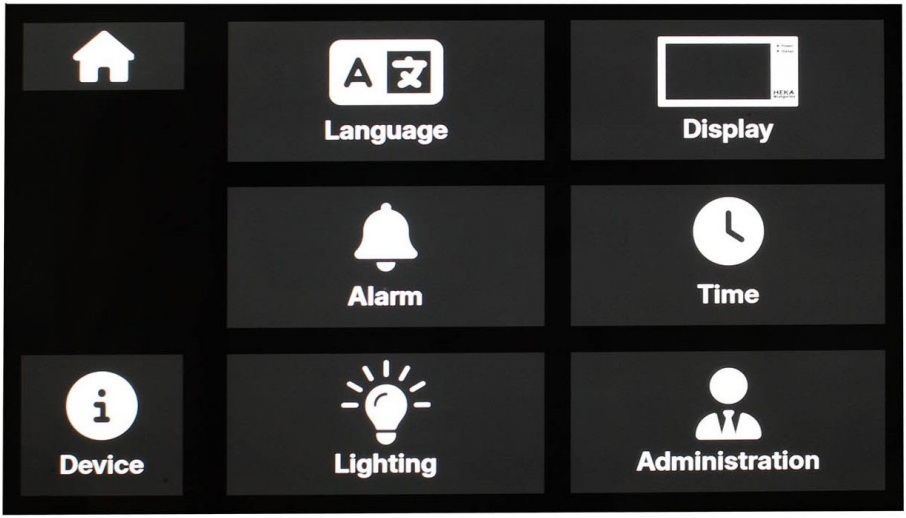


fig. 15

Press the “Settings” icon (fig. 14). The menu for all basic device settings will open (fig. 15; incubation parameters are not included here – for those, see Chapter 3 “Manual Incubation without Program” and Chapter 4 “Incubation with an Incubation Program.”)

6.1 Language

Press “Language”. Then press the desired language (national flag). The language will change immediately.

6.2 Display – Standby Mode

Use the slider control under “Brightness” to set the desired display brightness.

Under Standby (Off–On), select whether the display should remain permanently on (= select “Off”) or switch to standby mode after a certain period of inactivity.

If you select Standby “On”, you can then set the number of minutes without touching the display after which the standby mode will be activated.

Note!
When the display is in standby mode (= off), simply touch the screen briefly anywhere to exit standby mode (the display will light up again).

Note!
The factory default standby mode reduces energy consumption and extends the display’s service life. Standby mode should only be deactivated if there is a specific reason (e.g., when the incubator is used for demonstration or display purposes at a poultry show, zoo or museum).

6.3 Alarm

Use the slider controls for “Temperature” and “Humidity” to set the deviation at which the alarm will be activated. You can also choose to completely deactivate the temperature and/or humidity alarms.

When the programmed deviation occurs, an acoustic alarm will sound for as long as the deviation persists.

As long as the deviation exists, a large alarm message will also appear on the display. This message shows the reason for the alarm and possible causes of the issue. Press “OK” to silence the alarm.

Once the deviation is corrected, the acoustic alarm and the large alarm message on the display will automatically disappear — even if you have not manually confirmed it.

Instead, a yellow warning triangle will flash in the bottom left corner of the display (where “Status: OK” with a green check mark normally appears) (fig. 16).

Tap this icon to open the alarm menu. The menu lists the most recent alarm messages (fig. 17).

New alarm messages that have not yet been viewed or acknowledged are marked with a yellow triangle, while previously acknowledged alarms are shown with a green check mark.

In both cases, you can reopen an alarm message by pressing the yellow triangle or the green check mark.

The full alarm message, including possible causes, will then be displayed (again).

When all alarm messages have been read or acknowledged, the incubator's home screen will once again show "Status: OK."

The alarm log displays the time, type, extent, and duration of each deviation. The last 20 alarm messages are stored. After switching off the incubator (disconnecting the power plug or during a power failure), the alarm history is cleared.

To exit the Alarm Menu, press the "Home" icon.



fig. 16

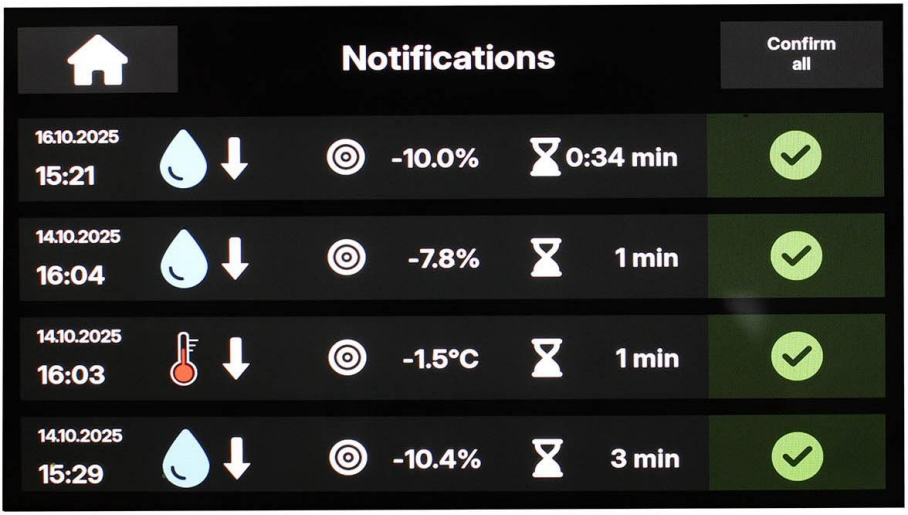


fig. 17

Note!
The alarm is only activated after the set values have been reached for the first time (after start-up, after a phase change, or after cooling down). You can recognize that the alarm for temperature and/or humidity is NOT yet active by the fact that the temperature and/or humidity values are displayed in yellow.

6.4 Time

Enter the current date and time.

Note!
This setting is only possible when no incubation program is running. If the date and/or time are incorrect, you must therefore adjust this setting before starting incubation. To do this, end the current incubation program as described in Chapter 4 “Incubation with an Incubation Program,” steps 1–3. An incorrect date and/or time setting will not cause any problems during incubation – only the alarm messages will display an incorrect time.

6.5 Lighting

Under “Turn off automatically” (Off–On), select whether the lighting should remain permanently on (= select “Off”) or turn off automatically after a certain period.

If you select “Turn off automatically: On”, you can then set the number of minutes after which the lighting will turn off automatically once it has been switched on.

Note!
To turn on the lighting for the programmed time, press the light bulb icon on the home screen (fig. 18).


fig. 18

Note!
Continuous lighting acts as a passive, uncontrolled heat source. Due to the extremely good insulation of the incubator, this can lead to overheating or frequent operation of the cooling system under unfavorable ambient conditions. Continuous lighting should only be switched on when there is a specific reason (e.g., if the incubator is used for demonstration or display purposes at a poultry show, zoo or museum).

6.6 Administration

Accessible only to the manufacturer.

6.7 Device

6.7.1 Information about the Incubator

Here you can find information about your device: device type – software version – serial number (of the control unit) – battery status (of the display).

6.7.2 Factory Reset

You can also reset the incubator to its factory settings here.

Settings: All settings in the Settings Menu (Chapter 6) will be reset to factory defaults.

Programs: All incubation programs will be reset to factory defaults. Any manually created incubation programs will be deleted.

7 Air Vents

The air vents must never be completely closed. This is the only place where the incubator exchanges air, allowing fresh oxygen to enter. The incubator functions properly when the air vents are fully open.

Partially closing the air vents can, however, reduce energy and water consumption. In most cases, the position “half open – half closed” is the optimal setting.

1. If you notice that the additional fan for dehumidification is activated frequently, it is more energy-efficient to open the air vents slightly more.
2. If you find that you need to refill the water container more than once per week (during the incubation phase), it is more energy-efficient to close the air vents slightly more.



Note!
The cooling effect increases as the air vents are opened wider. During incubation phases in which waterfowl or game bird eggs are cooled, the air vents should therefore be fully open.

8 Tips for Successful Incubation

8.1 Incubation Temperature

In general, we consider an incubation temperature of 37.7–37.8°C to be appropriate. For bantam chickens, quail, and pheasants, a temperature of 37.5–37.6°C has proven effective; for birds of prey, parrots, and parakeets, a temperature of 37.0–37.2°C is recommended.

When different types of poultry eggs are incubated together, the temperature should always be set to 37.6–37.8°C. The exception is ostriches and other ratites, which require significantly lower temperatures for incubation.

8.2 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.

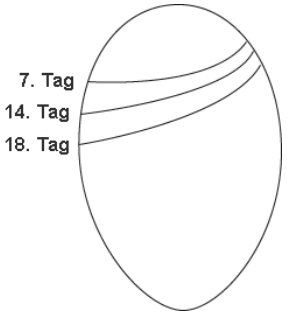


fig 19.: Optimum size of the air cell in a chicken-egg (incubation-length: 21 days)

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.

If the parent animals were fed a very protein-rich diet, incubation should be carried out about 3–5% drier than usual. Care should be taken to ensure that the animals are not fed too much protein before collecting the hatching eggs.

In practice incubating with different values of humidity mostly is not possible. Thus, we recommend well-proven mean values, which experiantal lead to very good hatching-results:

Chicken and bantam eggs	50 – 53 %
Goose eggs	56 – 58 %
Duck eggs	60 – 63 %
Pheasant eggs	48 – 53 %
Quail eggs	50 – 53 %
Ostrich eggs	19 – 25 %
Emu eggs	40 – 45 %
Rhea eggs	53 – 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.



In case of failing water-supply to the incubator (because of missing water in the tank or stuck valve) you must set the humidity to „0“, because otherwise the alarm will be activated.

8.3 Turning the Eggs

There are quite different opinions among experts regarding the optimal turning rhythm.

The purpose of turning is to prevent the embryo from sticking to the shell membrane, which would cause it to die. This goal can already be achieved by turning the eggs three times within 24 hours. In practice, however, it has been shown that continuous turning every 2 hours has a very positive effect on hatching results (setting: Turnings: 12x per day).

Chicken eggs should be turned starting on the 3rd day after setting. Duck and goose eggs should be turned starting on the 4th day after setting.

No turning should occur during the hatching phase (setting: Turnings: 0x per day).



The eggs do not have to be turned from the first day, but they can be turned without any harm. The factory default incubation programs include 2 turns per day during the first 3 days, which represents our recommendation.

8.4 Cooling Down the Eggs

Opinions among experts differ on this topic.

However, it is undisputed that cooling down the eggs is essential for the incubation of wild and waterfowl eggs. Cooling strengthens the embryo inside the egg. The duration of cooling depends largely on the ambient temperature.

Wild and waterfowl eggs must generally be cooled once daily, at least until the egg no longer feels warm and the temperature display drops below 30°C.

Cooling is especially important for goose eggs, as it has a decisive impact on hatching results. We recommend cooling goose eggs daily from the 10th to the 25th day of incubation (for a 28-day incubation period). The cooling duration should be at least 60 minutes, but longer cooling periods are not harmful.

For chicken eggs, cooling in HEKA incubators is not strictly necessary, but it is recommended. The embryo-strengthening effect, which can lead to a shorter hatching phase, is similar to that seen in wild and waterfowl eggs.



Cooling times for chicken eggs are shorter.
We recommend 15–30 minutes.

In general, cooling once daily is sufficient.

Ventilation in HEKA incubators is not necessary; the eggs receive adequate oxygen. For optimal hatching results, it is advisable to keep the incubator closed as much as possible and only open it when necessary for actions such as candling, weighing, or adding eggs.



During cooling, the additional fan is activated, causing the temperature in the incubator to drop significantly faster. The more the air vents are opened, the faster and stronger the cooling effect. During the incubation phase for waterfowl or wild birds, the air vents should therefore be fully open.

9 Shutting-Down after Incubation

If you have hatched eggs in the incubator and plan to use it again shortly, perform at least a basic cleaning according to the instructions below (Maintenance and Care).

Empty the water container (or disconnect the incubator from the water supply) as well as the stainless-steel water tanks (float and water heater) in the technical compartment.

Set the humidity to 0 to ensure the incubator no longer activates the water heater.

Let the incubator run without water until the humidity inside has dropped to at least the level required for your next incubation.



Use the incubation program “Dry Incubation”, in which the humidity is already set to 0.

If you do not plan to use the incubator again in the next few days, carry out maintenance and care according to the instructions below.

After cleaning: Switch the incubator on again.

Let it run without water and with the programmed humidity set to 0 (see above) until the humidity inside the incubator stops decreasing. Depending on the room, weather, and season, this typically corresponds to 30–50% humidity.

This procedure prevents high humidity (caused by the last hatching and/or cleaning) from accumulating inside the incubator during storage, which could otherwise not escape effectively before the next incubation.

Finally, switch off the incubator: unplug it from the mains.

10 Maintenance and Care

10.1 Incubation or Hatching Chamber of the Device



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



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.

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

- Open the hatching device/incubator
- Remove the hatching/incubating trays
- Clean and disinfect the hatching/incubating chamber and the hatching/incubating trays (with “Rhodasept”)
- Reinstall the hatching/incubating trays

Attention!
The humidity sensor (red marking in the image below; mounted on the fan) must not get wet.



10.2 Technical Compartment (Incubation or Hatching Device)

Caution! Dangerous Voltage!
Before cleaning, disconnect the power plug to make sure no voltage is present.

Caution! Danger of injury from hot surface!
Before opening the lid, wait for approximately 10 minutes until the heating elements have cooled off.

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.
- Empty the stainless-stell water-basins
- Remove incubation dust, incubation dirt, and residue
- Disinfect the hatching device/incubator (with “Rhodasept”)
- Close the lid.
- Re-tighten the screws.

10.3 Float Valve

Due to vibrations during transport, adjustments to the valve during cleaning, or contamination, the water supply may not function properly. Open the lid of the incubator according to the instructions and warnings in Chapter 10.2, and proceed as follows:

1. **Check the water levels:**
   Verify that both stainless steel water containers are filled to about 0.5–1 cm below the rim.
   - If only the stainless steel container with the water heater is not sufficiently filled, the hose connection between the two containers is clogged and must be cleaned.
   - If **both** stainless steel containers are not sufficiently filled, continue with the following steps.
2. **Check the float valve:**
   Ensure that the float valve sits straight and moves freely in its guide rail (on the stainless steel container).
   - If it has come out of the guide rail or is tilted/stuck, simply correct its position.
   - When the water tank is filled and in place, water should start (slowly) refilling automatically.
   - Wait until the water level stops rising.
   - If the stainless steel containers begin to overflow, lower the plastic float body (using the wing nut on the float arm; see the right marking in the image below).
   - If this does not solve the problem, continue with the next steps.
3. **Preparation:**
   Close the lid and set the humidity level to “0.” Let the device run warm for at least 60 minutes before making the following adjustments.
4. **Remove the lid** of the incubator again.
5. **Adjust the filling level** of the stainless steel container into which the water flows using the brass float valve.



6. **Loosen** the wing nut of the brass float valve
   (right marking in the image above).
7. **Raise** the float arm with the plastic float slightly higher.
8. **Tighten** the wing nut again.
9. **Adjust the fill level** of the stainless steel container using the union nut at the rear part of the float valve (left marking in the image above).
   - The screw must **not** be fully tightened.
   - By loosening the screw further, the water level in the container will rise.

10. **Allow water to flow** until both containers are properly filled, and adjust the wing nut and/or screw so that this water level is maintained.
11. **Never leave the incubator unattended** during this process, as overflowing water may damage the device.
12. **Remove water** from the container with the water heater and check whether the correct water level is restored automatically. If not, repeat steps 7–10.
13. **Reattach and secure** the lid, and reprogram the humidity setting to the desired value.

If the problem persists:
The seal inside the float valve may be dirty or worn, or the connection fitting for the water canister in the incubator wall may be dirty.

- Remove the water tank.
- Unscrew the threaded section at the rear of the float valve inside the incubator (see step 9).
- Clean the hole in the connection fitting for the water canister (which remains screwed into the back of the incubator).
    - If this hole is clogged with debris, water will not flow into the incubator.
- Also clean the black seal in the part of the float valve you removed.
    - If this seal is swollen or worn (lifespan approx. 10 years), it must be replaced — a swollen seal prevents the valve from opening wide enough.

10.4 Replacing the Power Cable



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

11 FAQs – Frequently Asked Questions

- “Why do I have to place the incubator 50 cm above the floor?”
  → To protect it from flooding.
- “The display is not working.”
  → The display has gone into standby mode. Touch any part of the display to turn it back on.

- “The incubator is not turning the eggs.”
  → The incubator does not turn continuously but according to the programmed schedule. For example, with 12 turnings per day, it turns every 2 hours for 3 minutes. Check after two hours to confirm whether it has not turned. Alternatively, you can manually activate turning as described in Chapter 2.4. If manual activation works and turns are programmed for the current incubation phase, the incubator will also turn automatically.
- “How do I turn off the incubator?”
  → Unplug it from the mains to switch it off.
- “Some water has collected behind the incubator.”
  → This is condensation that has formed at the cover of the turning motor (see Chapter 1.2) or occurred when disconnecting the Gardena water connection (see Chapter 2.1).
- “Why is the temperature and/or humidity suddenly displayed in yellow?”
  → This means the alarm is not yet active. The alarm only becomes active once the set values are reached (after start, phase change, or cooling phase).
- “Why is no alarm sounding even though the temperature and/or humidity is off?”
  → The alarm only becomes active once the set values are reached (after start, phase change, or cooling phase).

12 Disposal



WEEE-Reg.-Nr.:
DE 96968236

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.

HEKA-Brutgeraete
GmbH & Co. KG
Langer Schemm 290A
D-33397 Rietberg

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Fax: +49 52 44 / 1 01 59

13 CE Declaration of Conformity

Manufacturer	HEKA-Brutgeraete GmbH & Co. KG
Address	Langer Schemm 290A D-33397 Rietberg

hereby declares that the

Product	HEKA-Favorit-Olymp Incubator
Models	Incubators: Favorit-Olymp 128, 192, 256, 330, 440, 550, 660, 880, 1100, 1320, 1500, 2200, 450-Lab, 470-Lab, In-Ovo Hatchers: Schlupfbrüter: Favorit-Olymp 90/S, 135/S, 180/S, 270/S, 360/S, 540/S, 1500/S, 2200/S

is in conformity with the following directives:

- 98/37/EG Machinery Directive
- 2006/95/EG Low Voltage Directive
- 2004/18/EG 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

CE

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

Rietberg, 15.10.2025 Christa Hemel

14 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

15 Appendix: Incubation Periods

Domesticated Birds:

Bantam:	19-21 Days	Muscovy Ducks:	35 Days
Chicken:	21 Days	Peacocks (all species):	28 Days
Ducks:	28 Days	Pigeons:	16-18 Days
Geese:	28-35 Days	Turkeys:	28 Days
Guineafowl:	27 Days		

Wild Birds

Mallards:	25-26 Days	Quails:	23 Days
Partridges:	23 Days	Vulturine Guineafowl:	23-24 Days
Pheasants:	24 Days		

Flightless Birds

Emu:	57-62 Days	Ostrich:	35-42 Days
Rhea:	35-40 Days		

Pheasants

Alectoris:	23-26 Days	Great Argus:	25 Days
Amherst's Pheasant:	23 Days	Himalayan Snowcock:	27-28 Days
Arborophila:	20-24 Days	Hume's Pheasant:	27 Days
Barbary Partridge:	25 Days	Junglefowl:	19-21 Days
Black Francolin:	18-19 Days	Koklass Pheasant:	21-23 Days
Blood Pheasant:	28 Days	Lewis's Silver Pheasant:	23 Days
Blue Eared Pheasant:	26-28 Days	Mikado Pheasant:	26-28 Days
Brown Eared Pheasant:	26-27 Days	Monals:	27 Days
Bulwer's Pheasant:	25 Days	Peacock-Pheasants:	21-22 Days
Copper Pheasant:	24-25 Days	Red-legged Partridge:	23-24 Days
Crested Argus:	25 Days	Reeves's Pheasant:	24-25 Days
Crested Fireback:	24-25 Days	Salvadori's Pheasant:	22-25 Days
Crestless Fireback:	24-25 Days	Sand Partridge:	27 Days
Cheer Pheasant:	26 Days	Silver Pheasant:	25 Days
Edward's Pheasant:	21-23 Days	Sri Lankan Junglefowl:	18 Days
Elliot's Pheasant:	25 Days	Swinhoe's Pheasant:	25 Days
Gallopheasants:	23-25 Days	Tragopans:	28 Days
Golden Pheasant:	23 Days	White Eared Phesant:	24 Days

Quails

Banded Quail:	21-23 Days	Montezuma Quail:	25-26 Days
Beared Tree Quail:	28 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		

Grouse

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		

Swans

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

Geese

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

Anserinae

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

Anatidae

Cape Barren Goose:	30 Days	Ruddy Shelduck:	30 Days
Radjah Shelduck:	30 Days	Shelduck:	30 Days

Perching Ducks

Australian Wood Duck:	30 Days	Mandarin Duck:	32 Days
Knob-billed Duck:	30 Days	Wood Duck:	32 Days

Eider Ducks

Common Eider:	24 Days	Spectacled Eider:	24 Days
King Eider:	22 Days	Steller's Eider:	24 Days

Teals

Baikal Teal:	24-28 Days	Grey Teal:	25 Days
Blue-winged Teal:	24 Days	Hottentot Teal:	24 Days
Brazilian Teal:	25 Days	Marbled Duck:	25 Days
Bronze-winged Duck:	30-31 Days	Puna Teal:	26 Days
Brown Teal:	28 Days	Red-billed Teal:	25-28 Days
Cape Teal:	25 Days	Ringed Teal:	24-28 Days
Chestnut Teal:	26 Days	Sharp-winged Teal:	24 Days
Cinnamon Teal:	24 Days	Silver Teal:	25 Days
Garganey:	24 Days	Yellow-billed Teal:	24 Days
Green-winged Teal:	24 Days		

Shovelers

Australian Shoveler:	24 Days	Nordic Shoveler:	25 Days
Cape Shoveler:	26 Days	Red Shoveler:	25 Days
New Zealand Shoveler:	26 Days	Shoveler:	26 Days

Wigeons

American Wigeon:	24 Days	Falcated Duck:	25 Days
Chiloé Wigeon:	26 Days	Gadwall:	26 Days
Eurasian Wigeon:	25 Days		

Oxyurinae

Masked Duck:	24 Days	White-backed Duck:	26 Days
Ruddy Duck:	24 Days		

Mergansers

Goosander:	30 Days	Red-breasted Merganser:	30 Days
Hooded Merganser:	28 Days	Smew:	28 Days

Goldeneyes

American Goldeneye:	28 Days	Eurasian Goldeneye:	28 Days
Bufflehead:	22 Days	Barrow's Goldeneye:	30 Days

Pintails

Chilean Pintail:	25 Days	White-cheeked Pintail:	25 Days
Northern Pintail:	22-23 Days	Yellow-billed Pintail:	25-26 Days

Mallards

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		

Pochards

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

Scoters

Common Scoter:	28 Days	Long-tailed Duck:	23 Days
Harlequin Duck:	30 Days	Velvet Scoter:	28 Days

Doves

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	Namaqua Dove:	14-15 Days
Domestic Pigeon:	17 Days	Rock Dove:	17 Days
Eurasian Collared Dove:	16 Days	Western Crowned Pigeon:	28 Days
European Turtle Dove:	14 Days		

Parrots / Parakeets / Oscine Birds

Amazonas Parrots:	24-29 Days	Major Mitchell's Cockatoo:	27 Days
Black-Capped Lory:	23-26 Days	Medium Parrots:	18-20 Days
Blue-and-yellow Macaw:	28 Days	Red-tailed Black Cockat.:	28 Days
Blue Eyed Cockatoo:	28 Days	Red-vented Cockatoo:	28 Days
Blue-winged Macaw:	24-26 Days	Salmon-crested Cockatoo:	30 Days
Budgerigar:	18 Days	Scarlet-chested Parrot:	18 Days
Citron-crested Cockatoo:	24 Days	Solomon Island Parrot:	28-30 Days
Domestic Canary:	13 Days	Sulphur-crested Cockatoo:	30 Days
Galah:	23 Days	Sun parakeet:	26 Days
Gang-gang Cockatoo:	25-27 Days	Tanimbar Corella:	28 Days
Grey Parrot:	26-30 Days	Western Corella:	23-24 Days
Hyacinth Macaw:	24-29 Days	White Cockatoo:	28-30 Days
Large Parrots:	23-25 Days	Yellow-crested Cockatoo:	24 Days
Little Corella:	29 Days	Yellow-naped Amazon:	25-27 Days
Long-billed Corella:	29 Days	Yellow-tailed Black Cock.:	29 Days
Macaws:	26-28 Days		

Birds of Prey / Owls

Amur Falcon:	28-30 Days	Gyrfalcon:	30-32 Days
Barn Owl:	32 Days	Northern Goshawk:	35-37 Days
Black Kite:	32 Days	Peregrine Falcon:	34 Days
Common Kestrel:	30 Days	Red Kite:	35 Days
Eurasian Eagle-owl:	33 Days	Tawny Owl:	32 Days
Eurasian Pygmy Owl:	28-30 Days		

No responsibility is taken for the correctness of this information!

You are welcome to tell us corrections and additions!


37.8 °C
53.0 %
HEKA