

Contact incubation Technology



Conventional artificial incubation is very artificial. It surrounds the eggs with warm air, rotating them regularly but not changing their environment greatly. This has proved successful for the mass breeding of poultry,

particularly as, over many generations, the breeding programmes have self-selected for birds which flourish in the artificial environment. But for other species, artificial incubation is less satisfactory.

Compare this artificial environment with natural incubation in the nest. The bird sits on the eggs with a brood patch, often plucked to bare skin, passing body warmth from the bird to the egg through a small contact area. At irregular intervals the bird gets up and rearranges the eggs. This exposes them to cool air. When she settles down, a different part of the egg is in contact with the brood patch. Some species even leave the eggs exposed, letting them cool while they forage for food or defend their territory.



Academic research on egg incubation has shown that for some species in the nest there can be a temperature difference across the egg of over 10 degrees. The top of the egg, in contact with the brood patch, can be as high

as 40 degrees centigrade while the bottom of the egg can be as low as 29 degrees while brooding (and during bird absences, the whole egg can fall to as low as 20 degrees). How heat flow, the developing embryo and the brood patch interact to produce strong chicks, has proved to be far more complex than previously suspected. It is now established that the heat flow through the egg, passed downward from the contact area, is important in determining embryo growth and successful incubation.



Building on this research, Brinsea have created Contact Incubation Technology (CIT). This reproduces the brood area by inflating a plastic skin with warm air. As it inflates, the skin presses gently but firmly on the eggs sitting on rollers on a moveable base. Air can flow through this base, creating an environment which mimics the nest. Deflating the skin simulates the bird standing while moving the base reproduces the natural egg movements.

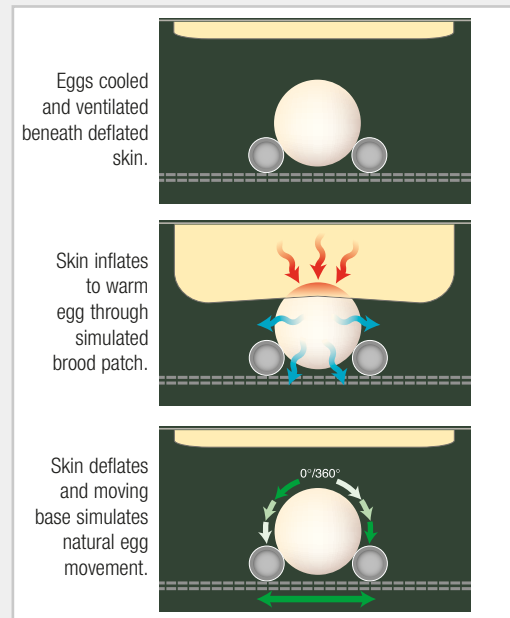


Since initial field trials in 2000 Brinsea's patented **Contact Incubation Technology** has established itself as a real step forward in incubation.

Eggs are warmed by contact with an artificial skin, rather than being surrounded by warm air, and the result is much stronger and faster development of the embryo in early stages of incubation. Many breeders of exotic, rare and valuable species across the world have switched to CIT.

The K7 also allows the breeder to use conventional moving air mode for later stages of incubation and hatching where the benefits of contact incubation are less important and the greater control of humidity can outweigh the advantages of incubation by contact.

A purpose designed hatching tray completes the K7 specification, giving the best possible hatching results for any species.



Brinsea
Incubation Specialists

Specifications:

External dimensions: 33cm x 66cm x 59cm (13" x 26" x 23 1/4") – H x W x D

Weight: Z7 – 39Kg, K7 – 42Kg

Input voltage: 115v AC or 230v AC as specified

Examples of typical maximum egg capacities:

K7 Quail 110, Partridge 81, Pheasant 64, Hen/Falcon/Saker 49, Duck/Turkey 20, Emu/Rhea 8, Ostrich 4

Z7 Quail 88, Partridge 63, Pheasant 48, Hen/Falcon/Saker 42, Duck/Turkey 20, Emu/Rhea 8, Ostrich 4

Guarantee

The Z7 and K7 are fully guaranteed and will be repaired or replaced if a fault should arise within the 3 year guarantee period (see terms of guarantee). Brinsea Products Ltd and their agents will not be responsible for loss or damages in the event of a failure, however caused, and the user is advised to arrange their own insurance cover where loss of power, mechanical or electrical failure might result in unacceptable losses.

In order that we can continue our policy of innovation and improvement we reserve the right to alter specifications without notice.

Manufactured to ISO9001 2008 Quality Assurance Std. International patents apply.

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No compromise

laboratory grade egg incubators
for the most demanding applications.

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Z7 RAPTOR contact incubator



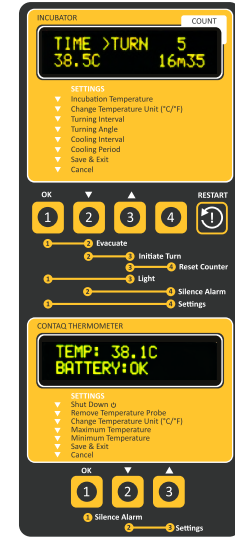
Contaq Z7 RAPTOR

3rd Generation no compromise contact incubator for unbeatable hatch rates with wild species, developed in conjunction with world-leading bird of prey breeders.

- Patented Contact Incubation Technology for improved embryonic development and greater numbers of healthy chicks.
- Improved temperature control and stability with predictive temperature stability system incorporating active temperature overshoot elimination.
- Contact Thermometer to independently show actual egg surface temperature, incorporates high and low temperature alarms as well as a power failure alarm with battery backup and status display.
- Robust programmable rack and pinion turning with optical turn counter and independent alarm for complete confidence that eggs have turned overnight.
- Complete with a comprehensive set of rollers to suit all egg types.
- Power failure, incubation and room temperature alarms.
- Fully stainless-steel construction for longevity and ease of cleaning.
- Supplied with a high accuracy Calibration Thermometer to verify control system accuracy.
- Stackable, front-loading space efficient design.
- Matching K7 moving air incubator/hatcher.

Control System Z7 RAPTOR

The Z7 Raptor recreates the brood patch of the parent bird with a warm air-filled plastic diaphragm (skin) which can be inflated and deflated. A moving floor turning system rotates the eggs, either directly using the profile dividers or using rollers (all supplied as standard). The floor integral egg turn counter detects and displays the number of floor movements so you always know your eggs have been turned, even when you are not present. Through a simple 4 button menu-driven interface and high visibility OLED display the user can control:



Incubator Temperature (T1) – of the air temperature above the contact skin

Cooling – duration and interval that the skin is retracted from the eggs, simulating the bird leaving the nest.

Turning – the interval and duration of egg turning.

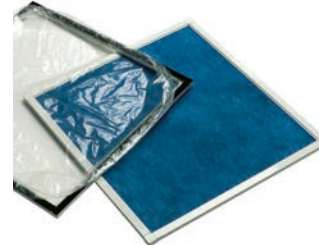
Temperature Alarm – warns the user if the incubator or room temperature falls outside user-settable limits.

Contaq Temperature (T2) – The unique contact thermometer provides a second, continuous and independent measurement of the contact skin temperature (T2) which corresponds to the egg shell temperature – eliminating the need for infra-red ear thermometers (or similar). T2 will normally be slightly lower than T1 depending on room conditions, and it is T2 that the user should set the incubator to optimise. Comprehensive instructions are supplied to get the best out of this advanced system.

Leading raptor breeders have used Brinsea's contact incubators like the X8 and Z6 for the initial 10 days of incubation with excellent results before moving eggs to conventional forced air incubators. The new Z7 Raptor and K7 combination provide optimum conditions for the full incubation period with improved control and reliability.



Contact Thermometer to independently show actual egg surface temperature.



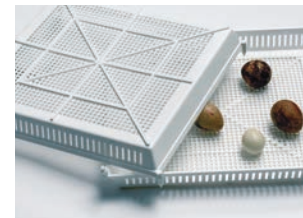
Contact 'Skin' and Air Filter.



Advanced Roller System.



Humidity Pump accessible for easy maintenance.



Hatching Tray with cover.



"Brinsea's Contact Incubators have been my choice for breeding falcons for many years and the Z7 represents a significant step forward in this technology". *Martyn Paterson*

K7 moving air incubator and hatcher



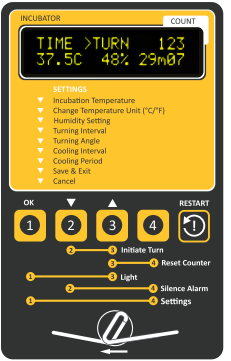
K7

Brinsea's no compromise moving air incubator/hatcher. For use in conjunction with the Contaq Z7 contact incubator or for any demanding incubation application.

- Precise control of temperature and humidity with the latest version of Brinsea's digital incubation control software featuring predictive temperature stability system incorporating active temperature overshoot elimination.
- Robust programmable rack and pinion turning with optical turn counter (and independent alarm) for complete confidence that eggs have turned overnight.
- Complete with a comprehensive set of rollers to suit all egg types.
- Supplied with a high accuracy calibrating thermometer to verify control system accuracy.
- Fully stainless-steel construction for longevity and ease of cleaning.
- Stackable, front-loading space efficient design.

Control System K7

The K7 provides extremely tight control of temperature and humidity of the moving-air egg chamber using the latest version of Brinsea's proven incubation software. The floor is driven by a precision rack and pinion with integral turn counter which detects and displays the number of floor movements so you always know your eggs have been turned, even when you are not present. The 4 button menu driven interface and high visibility OLED display allows control of:



Temperature – displayed in °C or °F.

Humidity – displayed in %RH and with automatic control.

Cooling – optional timed egg cooling to mimic the bird temporarily leaving the nest, which has been shown to improve hatch rates.

Turning – the interval and duration of egg turning.

Temperature Alarm – warns the user if the incubator or room temperature falls outside user-settable limits.



No compromise