

# Valuable tools for the incubator user

*Monitoring the conditions within the incubator and the changes in the eggs as incubation progresses is necessary if the breeder is to be consistently successful. Brinsea have developed a comprehensive range of practical, useful and affordable accessories to aid the incubator user.*

## Observing Development - Candling Lamps

Candling is a traditional technique for monitoring the development of the embryo within the egg. It allows infertile eggs to be removed before they become infected and contaminate the others, the rate of enlargement of the airspace within the egg to be monitored as a gauge of incubation humidity and for more detailed analysis of development such as vein growth.

A candling lamp is held against the egg and illuminates the contents without 'spilling' light around the shell. The embryo is visible as a dark shadow and the airspace as a paler section. Detailed user instructions are supplied.

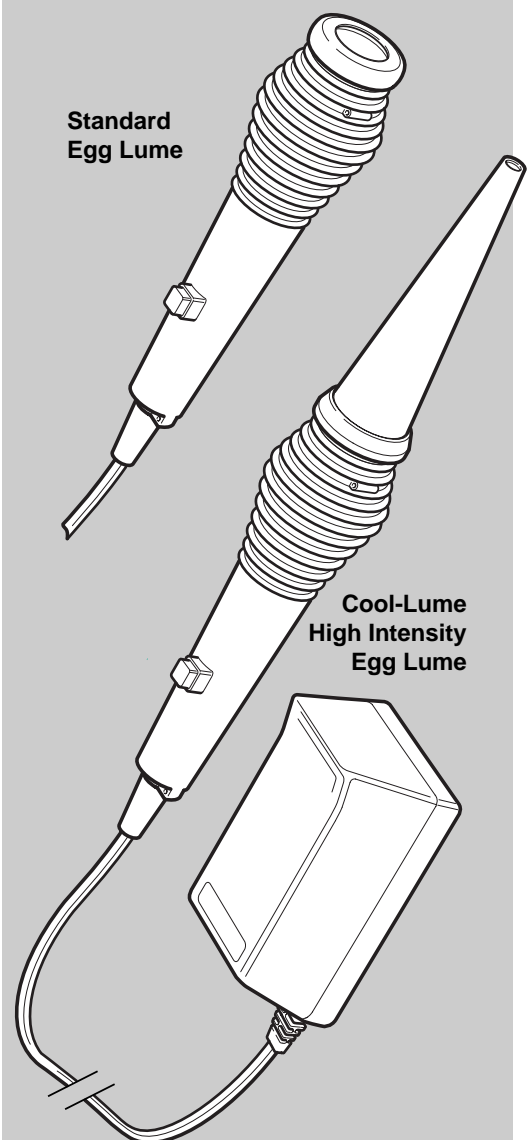
### Three models are available:

**Standard:** An effective, low cost, general purpose lamp ideal for identifying infertile eggs with pale, plain shells (most species of duck, chicken, goose etc.)

**High Intensity:** A powerful halogen light source provides a much more powerful beam than the standard version and is also more rugged and longer-lasting. Ideal for monitoring development in dark and mottled or very large eggs (for example most species of game birds: quail, pheasant etc. as well as ratites)

**'Cool-Lume' High Intensity:** A refined version of the High Intensity with all the advantages of the power and durability plus a solid acrylic 'cool-cone' (patent applied for) which intensifies the light beam and virtually eliminates heat transfer to the shell. This means that eggs can be examined for extended periods without risk of overheating the embryo - a real risk with conventional candling lamps. Ideal for all high value eggs, (for example, parrots and parrot-like species, birds of prey etc.) particularly where detailed analysis of development is required.

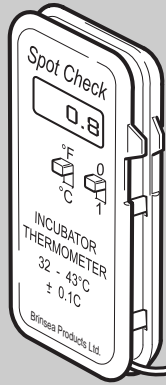
- **Candling Lamps**
- **Thermometers**
- **Wet Bulb Thermometers**
- **Balances**



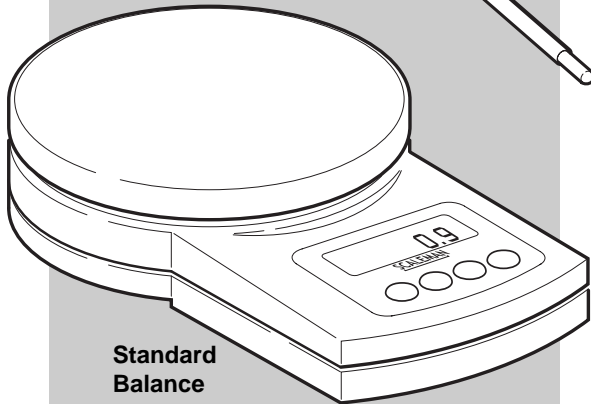
# Brinsea

# INCUBATION

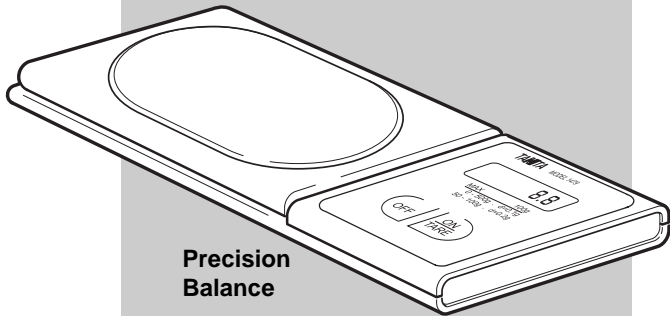
## MONITORING EQUIPMENT



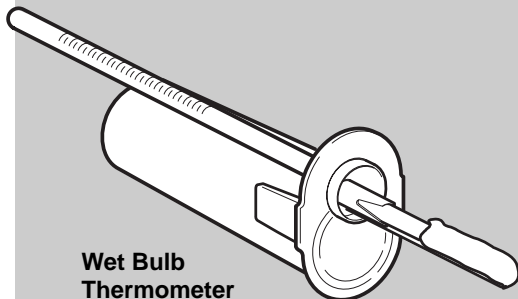
Digital 'Spotcheck' Thermometer



Standard Balance



Precision Balance



Wet Bulb Thermometer

### Checking Temperature - Thermometers

Accurate temperature is essential for successful incubation and a reliable, accurate thermometer is a must.

**Liquid-in-glass:** Traditional, accurate and reliable glass thermometers built to Brinsea's specification covering the range of 77° - 104°F

**Digital 'Spotcheck':** Compact, easy to read and extremely accurate digital incubation thermometer. Discriminates to 100th of a °F and accurate to  $\pm 0.1^\circ\text{F}$  at 100°F - compare that to most types available! Covers the range 90° - 104°F and includes a remote sensor allowing the display to be outside the incubator. Operates from watch-type battery (included) which lasts about 8 months continuous use. Reads in F or C.

### Checking humidity levels by monitoring egg weight loss - Egg Balances

Brinsea have advocated the technique of monitoring egg weight loss during incubation as a good method of establishing correct humidity levels for a species for many years. We have been asked for suitable balances and can now offer the models below which we have used in our own research. For more information about the technique please contact Brinsea Products and request the 'Humidity in Incubation' information sheet. Suitable for checking that humidity levels are correct in still air incubators where other measurements, including wet bulb thermometers, are less appropriate.

**Standard:** Range up to 2Kg, accuracy of  $\pm 1\text{g}$ . Ideal for weighing batches of eggs together

**Precision:** Range up to 100g, accuracy  $\pm 0.1\text{g}$  up to 50g,  $\pm 0.2\text{g}$  between 50 and 100g. Ideal for weighing individual eggs extremely accurately. Our reference balance.

### Checking humidity directly - Wet bulb thermometers

Comparing wet and dry bulb thermometers is the most accurate, low cost method for measuring Relative Humidity. Simple, direct reading hygrometers are available but vary widely in accuracy and are not recommended. Brinsea offer two wet bulb thermometer models - one specifically designed for use with the Octagon 20 and 40, the other is universal and suitable for most fan assisted (forced draught) incubators. Both models come with conversion chart showing Relative Humidity level against wet bulb temperature. For fully automatic control of incubation humidity please refer to the separate leaflet for the Brinsea Humidity Management Module.

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

### Brinsea Products Inc.

704 N. Dixie Avenue, Titusville, Florida, FL 32796, USA.

**Call: 1-888 667 7009**

Phone: (321) 267 7009 Fax: (321) 267 6090

email: [BrinseaUSA@aol.com](mailto:BrinseaUSA@aol.com) Web Site: [www.brinsea.com](http://www.brinsea.com)

# Brinsea