General recommended incubation RH levels for species groups:

During incubation:

Parrots	35 - 45% RH
Poultry	40 - 50% RH
Ratites	20 - 30% RH

Hatching:

All species	65% RH or more

See your incubator instructions on methods for varying humidity to achieve the desired level.

Maintenance

Use of distilled water will reduce the salt deposits which build up on the exposed wick, and extend the wick life. It is essential that dirty and encrusted wick is trimmed off and more wick is drawn through the tube to ensure accuracy. A small amount of disinfectant may be added to the water to reduce the chance of bacterial contamination but for complete accuracy and minimal infection risk trim back the wick between each hatch.
Additional lengths of wick are available from Brinsea Products or your local Brinsea distributor.

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Brinsea

Octagon 20 Wet Bulb Thermometer

USER INSTRUCTIONS

Introduction

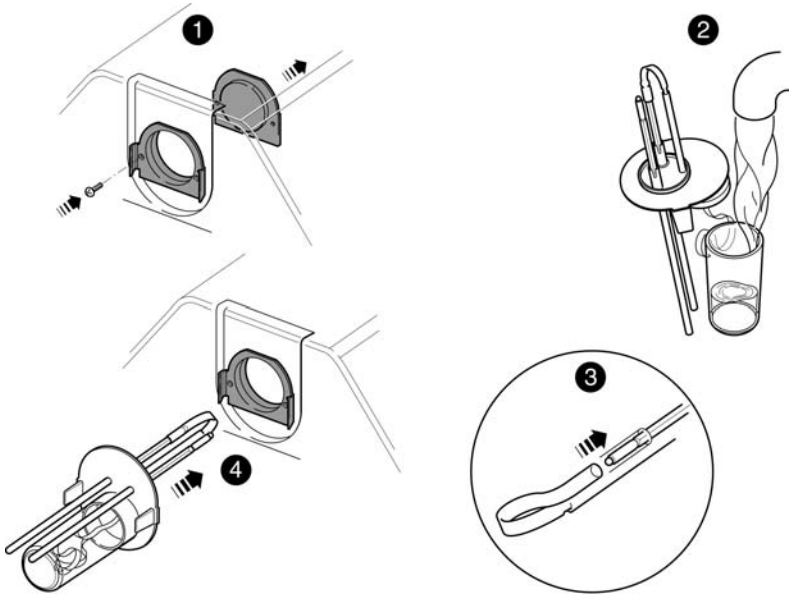
Your new wet bulb thermometer is specifically designed to allow the accurate measurement of relative humidity in the Brinsea Octagon 20 MkIII, Octagon 20 and Octagon 40 digital incubators or Parrot Rearing Module. To derive % Relative Humidity (%RH), two temperatures are recorded, one normal ‘dry bulb’ temperature and one ‘wet bulb’ temperature where the thermometer probe is moistened.

The unit consists of:

1	two piece translucent molding
1	spirit incubation thermometer
1	length of hollow wick
1	clip
2	screws and nuts

The wet and dry bulb thermometers needed to gauge humidity are held parallel and are easily read outside the incubator, effectively allowing measurement of temperature and humidity in one convenient unit.

Installation



You will need a piece of stiff wire about 8cm long (e.g. paper clip extended straight), a phillips screwdriver and a small amount of distilled water.

Fig.1 Remove the black blanking plate from one end of your Octagon 20 incubator top. Depending on the age of manufacture of the incubator this could mean unscrewing fixing screws and nuts or pushing out plastic locating plugs from the inside of the incubator with a screw driver. Use the countersunk screws provided to attach the black plastic clip supplied in place of the blanking plate using the existing fixing holes through the incubator casing.

Fig. 2 Pull the water reservoir from the wet bulb thermometer molding. Tie a knot in one end of the length of hollow wick provided and using the piece of stiff wire, push the other untied end of the wick through the clear wick tube from the reservoir side. The remaining wick including the knot will be submerged in the reservoir. Fill the reservoir with distilled water, hold it upright to prevent spillage and push the wet bulb thermometer molding firmly back onto the reservoir. Fit the thermometers supplied through each hole bulb-end first. The thermometers should extend out as far as the wick tube.

Fig. 3 The end of the wick should then be pushed over the bulb of one of the thermometers like a sock so that the thermometer bulb is completely enclosed. (This is the thermometer that will give you the wet bulb reading. The other is the dry bulb or actual temperature of the incubator.) Ensure that the wick is neither pulled tight nor in a wide loop between the end of the tube and the thermometer bulb.

Fig. 4 Clip the wet bulb to the plate on the side of the incubator ensuring that the bulb end of the thermometers is inside the machine.

Measurement

Relative humidity (always expressed as a percentage) is proportional to the difference between the dry and wet bulb thermometer readings. Do not confuse wet bulb temperatures (which are sometimes quoted in books) with percentage relative humidity. The following table gives the wet bulb temperatures that relate to percentage relative humidity. (The figures assume a dry bulb incubation temperature of 37.5ºC / 99.5ºF.)

RH level (%)	WB Temp °F	WB Temp ºC
20	69.1	20.6
25	71.6	22
30	74.1	23.4
35	76.5	24.7
40	78.8	26
45	80.8	27.1
50	82.9	28.3
55	84.9	29.4
60	86.7	30.4
65	88.5	31.4
70	90.1	32.3
75	91.9	33.3
80	93.6	34.2
85	95	35
90	96.6	35.9
95	98.1	36.7
100	99.5	37.5

If the incubation temperature is different compensate by adjusting the wet bulb temperature accordingly. For example: if using the incubator at 36ºC with a wet bulb temperature of 26ºC, calculate the RH level using the 27ºC wet bulb temperature: = 46%. Note that the wet bulb thermometer will read the same as the ordinary (dry bulb) thermometer either at 100% RH or, more probably, when the wick dries out.