

Basic Guidelines for Heating Vivaria

Reptiles are Ectotherms, they heat themselves and regulate their body temperature by means of the environment. They move in and out of hot and cool areas to maintain a preferred temperature. It is therefore important that vivaria have suitable temperature gradients within which the animals can behave naturally.

The heater should be placed to one end of the vivarium in a condition that does not heat the whole of the enclosure. In

this way the temperature will normally vary between the hot area near the heater and the cooler areas at ambient temperature.

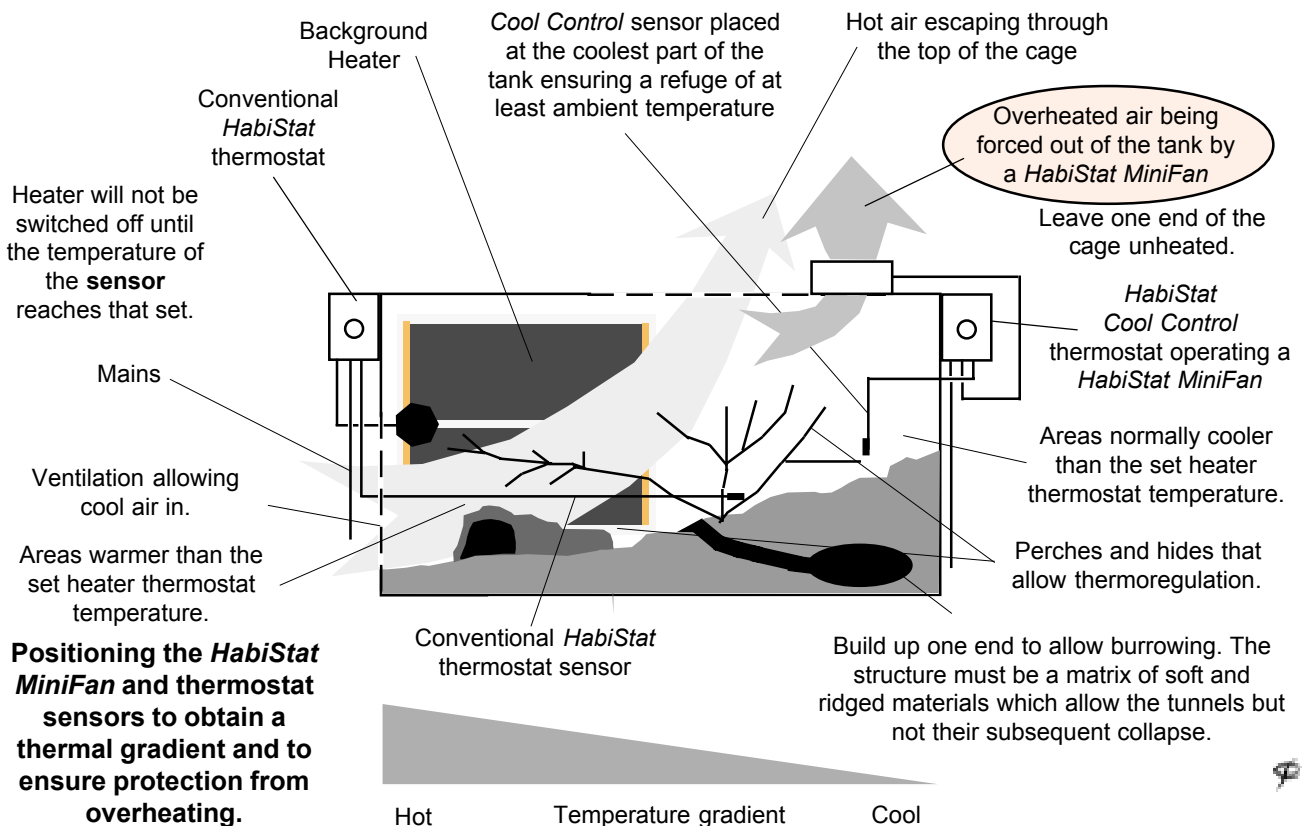
This system may occasionally fail when the ambient temperature is either too high or when the combination of a high ambient temperature and residual heat from a heater also takes the cage temperature too high. The solution is to sense these high temperatures and immediately flush them away and hopefully replace them with something cooler.

Two remedies present themselves; one is to cool the whole room and the other is to cool the individual cages. Whole room cooling is quite easy to accomplish if an extractor fan is employed to flush the heat out of the room. The disadvantage is that it may take some time for the temperature in the individual cages to drop and equilibrate with the now cooler room.

Cooling the cage is quicker and a *HabiStat MiniFan* is the ideal extractor for these occasions. It must be remembered, however, that the ambient

temperature must be low enough to give some relief. Just moving air is not enough. The incoming air must be at a lower more acceptable temperature.

Any heat pump can only move heat from one place to another. The laws of physics make it almost impossible to generate cold without an equal rise in temperature somewhere else. In essence the control of high temperatures in animal management entails removing heat from the direct environment of the animal to somewhere it can do no harm.



Positioning the *HabiStat MiniFan* and thermostat sensors to obtain a thermal gradient and to ensure protection from overheating.

...The *MiniFan* in Use

The *HabiStat MiniFan* is designed to move air. In effect it pumps air from one side of the housing to the other. It is efficient enough to change the atmosphere of a medium sized enclosure in a few minutes. The unrestricted fan will move about 18 cubic feet of air per minute.

The air can be pumped both ways, either in or out of the enclosure but it is usually better to extract. This causes

less problems as the air column is more diffuse on the inlet side. The only time the air should be blown into the cage is when it is intended to ventilate a very humid cage. The air passing through the *MiniFan* should be of only average humidity; very wet air may cause premature wear.

The management of cage environments is a fairly complex balance between air movement, heat input and extraction and humidity. These factors interact with each other

to affect the final result. Some experimentation may well be necessary before the desired values are achieved.

A few generalisations are, however, applicable. Air movement is to be encouraged as it usually results in more benefits than disadvantages. The loss of heat and humidity are easier to counteract locally than suffer the consequences of an over heated, wet environment. Air flowing through the cage also flushes out stale gasses and other undesirables.

The unnatural boundaries impermeable cage walls impose are for the most part neutralised by good ventilation.

The *HabiStat MiniFan* will substantially improve the environment of captive animals if used to effect. The ideal controller for the *MiniFan* is a *HabiStat Cool Control* thermostat. This device is like an ordinary thermostat, except it switches on when it senses temperatures above that set on its dial.

LIVINGEarth

ELECTRONICS

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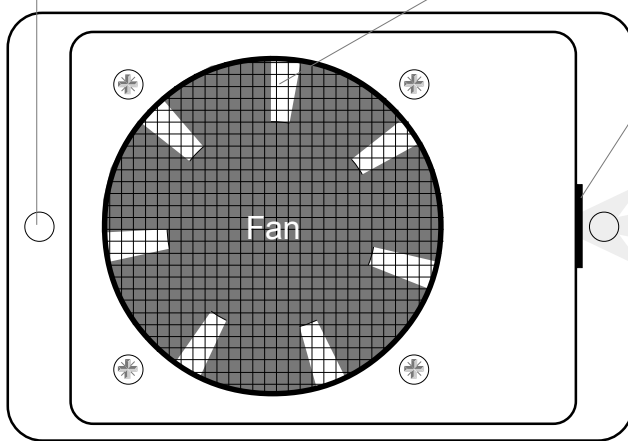
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- A low voltage fan for sophisticated environmental control.
- Ideal for use with a HabiStat Cool Control thermostat.
- Fitted plug with transformer.

Fixing holes to attach the MiniFan to the cage via ventilation in either the wall or roof of container.

Protecting gauze

Low voltage input socket



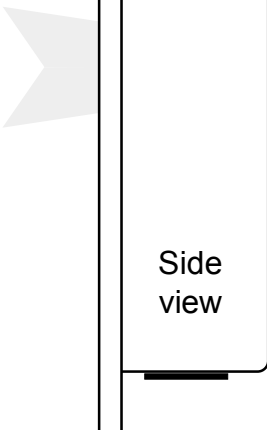
Low voltage supply plug

Warning:
The HabiStat MiniFan must only be fed with electricity from the supplied low voltage transformer.



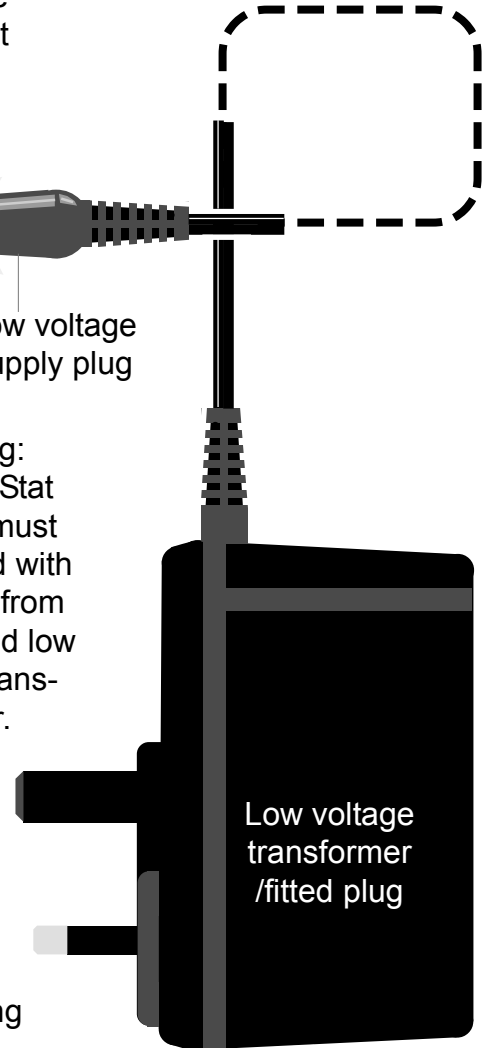
Do not obstruct either side of the fan as this will cause it to over-heat and fail.

Direction of air flow



Side view

The transformer/plug is connected to the mains supply either directly or via a controlling thermostat like the *HabiStat Cool Control*.



Low voltage transformer /fitted plug

Guarantee

Thank you for buying this HabiStat electronic thermostat. Used in accordance with these instructions this unit will give many years service. There are no user serviceable parts in this unit, so please do not open it. Any tampering, including cutting any wire, may render the guarantee void. This thermostat is guaranteed for five years from the date of purchase against faulty parts and workmanship. In the unlikely event of failure, return it to Living Earth Electronics and ensure a **receipt or proof of purchase** and details of the fault are included. We will aim to return the repaired or replaced unit in the post within one working day. If returned within one year of purchase there will be no charge but after that time a small administration and postage fee of five pounds (£5.00) will be levied. Please send a Postal Order or Credit Card details in favour of Euro Rep Ltd. to cover this. No liability is accepted other than for the repair or replacement of a faulty product. Statutory rights are not affected.

