

## LIVERPOOL SCHOOL OF TROPIC MEDICINE CREATES CONDITIONS FOR MOSQUITO BREEDING



Founded in 1989 and now a registered charity, the [Liverpool School of Tropical Medicine](#) (LSTM) strives to use cutting edge medical practices to reduce sickness and mortality in disease endemic countries by producing drugs, antidotes, vaccines and pesticides. The School has also focused on addressing gender inequity in medical research and intervention.

Laboratories often find themselves needed precise humidity control. Typically, in these environments humidity is a controlled variable, but in case of Liverpool School of Tropical Medicine, the scientists rely on high humidity to promote mosquito hatching and incubation. Without raised humidity, experiments suffer longer running times and testing becomes delayed.

### DROPPED HUMIDITY DURING DRAIN CYCLES

Liverpool School's mosquito laboratories had nine existing electrode humidifiers installed to ensure stable humidity control. However, being electrode technology, the humidifiers needed frequent drain intervals during operation. During a drain cycle a humidifier must remain in an idle state until the cycle is complete. During this period, scientists noted that the humidity of the test chamber was drifting out of the required bandwidth. This made it difficult for Liverpool School of Tropical Medicine to maintain the close humidity control required for consistent insect breeding conditions.

Without the subjects to conduct the experiments with, test cycles were delayed. Due to the sensitive and important nature of the research multiple testing cycles were needed to ensure the accuracy of the results.

### RESISTIVE HUMIDIFICATION ALLOWS CONTINUOUS HUMIDIFICATION AND INCREASED CONTROL

After an initial site visit, it was clear to our engineer John Bainbridge that resistive humidifier technology was required to ensure consistent humidity control. The Neptronic SKE4 series was the perfect solution, as the sophisticated software enabled the client to determine not only when the unit drains but also the percentage of the water that is drained from the chamber. This means that the humidifier is able to maintain a constant humidity control of +/- 1%.

After the [Neptronic SKE4 Humidifiers](#) were installed, the Liverpool School of Tropical Medicine noticed a difference in the reliability of the mosquito laboratories. The mosquito larvae is hatching 4 days earlier than before due to the stable environmental conditions. This allows the School to carry out tests more quickly and move on to the next batch of mosquito larvae. The installation of all 9 units went smoothly, with particular praise for John.

As a result of the seamless installation, Liverpool School of Tropical Medicine took out a Planned Maintenance contract with Humidity Solutions, with the Service Team maintaining the units twice a year to ensure the mosquito laboratories are in the optimum condition all year round.

“ From start to finish, the service process was a seamless experience, and the engineer on-site was a pleasure to work with. Their exceptional professionalism and adaptability ensured that our insectary teams could continue their work uninterrupted. Their approach made what could have been a challenging process incredibly straightforward and hassle-free.

- Ron Plumbley, Liverpool School of Tropical Medicine

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## OVERVIEW



Laboratory



75-80%RH



210.6m<sup>3</sup>

## BENEFITS

- + **9 units** installed across the facility
- + **4 days** cut off testing cycles due to early hatching
- + **Increased control** with programmable cycle times and consistent humidity throughout