Heat Load Testing

- **Generation & execution of test document**
- **Even distribution of heat load**
- **Heat load verification**
- **Data-logging of temperature & humidity**
- **Client demonstration**

KES Heat Load Testing enables computer room and data hall cooling equipment to be heat load tested and verified prior to use. We provide heat load test documents, 15kW convection heaters and temperature / humidity data-logging.

Our experience in this field ensures that testing is carried out efficiently and with minimum disruption.

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Heat load verification

The load is verified by placing the required number of heaters and panels in the hall with a minimum of 10% additional load available. The distribution panels, which are connected into the bus-bar terminal box, are made live and the load is raised slowly on each panel by increasing the heater speed. The load at each panel is verified by firstly clamping the 3 phases and secondly by the digital readout on the panel which displays amps, volts and kilowatts. When KES are satisfied that the correct loading has been applied to the hall, the load is finally verified on the client's EMS system.

Data logging of temperature & humidity

Prior to the load been applied, KES will start logging, in line with the test document, a grid of the entire data hall including underfloor points. On completion of all testing, the calibrated data logger results are inserted into the report. The readings from the loggers will show the resulting changes in the hall before, during and after each test.

Generation & execution of test document

The most critical stage of heat load testing is to ensure that all test procedures are performed in line with system design intent and end user requirements. KES generate the heat load test document in digital form and circulate to the project team prior to testing. This ensures all tests are in line with end user requirements. On completion of tests, a final test document is issued digitally for client review and sign-off.

Even distribution of heat load

KES supply 15kW (3 speed) convection fan heaters for even distribution of load throughout the test area. The heaters are spaced at approximately 2 meter intervals thus ensuring thorough mixing of the air returning to the CRAC units. The heaters are connected back into distribution panels which can facilitate 12 heaters or 180kW per panel. The total test area load is simulated by a multiple of this figure.

The KES heat load system ensures complete follow through by one contractor, from conception and generation of test document right through to final testing, thereby allowing one point of contact for project team. This minimizes contractual discrepancies between vendors and ensures for successful completion of the heat load testing.

Key benefits include:

- Latest up to date equipment
- Quick assembly and removal
- Minimum input from M&E team
- Digital readout of each panel load
- Even load across data hall

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