

**weisstechnik provides hygienic, efficient additional air-conditioning in hospitals**

## WHY

Additional cooling of an ultrasonic treatment room. Improvement of air hygiene

## HOW

Air-conditioning via hygienic air-cooling unit with thermal disinfection

## WHAT

**weisstechnik** hygienic air-cooling unit Vindur<sup>®</sup> Top D12

### WHY - The challenge.

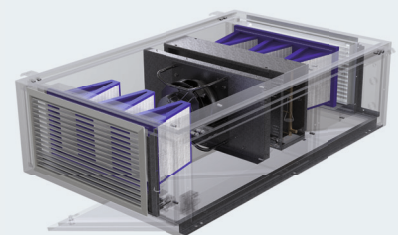
The Hospital Bank of Ghana in Accra is primarily a hospital for the employees of the Ghanaian State Bank. In a treatment room for ultrasonic examinations additional cooling is necessary as it becomes too warm during examinations by connection of machines in the room. The existing cooling is not sufficient for the additional heat load.

With the additional air-conditioning especially the operating times must be considered. To save energy, the air-conditioning unit is usually shut down again after examination. Especially in the humid and warm Ghanaian climate, condensation often occurs at the heat exchanger as a result of cooling. During standby periods, this condensate can form a biofilm that provides an ideal breeding ground for the growth of viruses, bacteria and mould - a hygiene risk that must be absolutely avoided.

### HOW - The concept.

To create a reliable hygienic room climate, a circulating air cooling system with two-step filtering has been selected that meets the strict German hygiene standards for rooms occupied by persons (DIN 1946-4 and VDI 6022). Compliance with them was a criterion for obtaining the contract. Any germs, bacteria and viruses are filtered out by both filter steps before the air is blown into the room.

A so-called "additional thermal disinfection" ensures an optimum air hygiene that automatically heats up all relevant building components of the cooling system for a short time after shutdown of the unit. By this, not only the relevant building components are dried, but all microorganisms are safely killed. Shutdown of circulating air cooling units outside the operating periods are no longer a microbiological risk.



## WHAT - The solution.

The selected hygiene air cooling unit Vindur<sup>®</sup> Top D12 is a circulating air cooling unit especially for the additional cooling if the existing room cooling is not sufficient. It was installed below the ceiling in the ultrasonic examination room. From there 1.200 m<sup>3</sup>/h supply air via two filter steps is conducted into the room.

The thermal disinfection is automatically activated after shutdown of the unit, if the electronics detect the accumulation of condensate. It dries and heats up all building components that had water contact and with this reliably safely kills microorganisms, such as bacteria, viruses and mould.

### Selected product: **Vindur<sup>®</sup> Top D12**

All relevant building components of the selected unit are highly accessible from below, easy to clean and exchangeable. This also contributes to good hygiene.

The applied, high-performance EC fan with direct drive guarantees high energy efficiency, allowing high pressures.



## Implemented modifications:

- The waste heat generated when using the Vindur<sup>®</sup> Top hygienic air cooler is released into the ambient air. The condenser required for this was installed directly adjacent to the outside on the flat roof of the examination room.

