



CASE STUDY

INGENIOUS VILLAGE HALL HEATING

Mandeville Village Hall Project | Great Britain

THE EXISTING SITUATION.

As with many community buildings, Mandeville Village Hall in Kimbolton, Cambridgeshire had a heating system which was inadequate for today's needs, costly to run and required constant maintenance.

For many years the hall management had received complaints from hirers about the heating. The system comprised of wall-mounted electric bar heaters, with 2 or 3 elements, which created hot and cold spots in the rooms - with the emphasis on 'cold'! With the passing of time, finding replacements for failed elements became more difficult; not to mention more time consuming and costly.

THE CHALLENGE.

The committee were looking for a heating system which was effective at evenly warming the premises, easily controllable and economical to run. A wide variety of activities, both active and sedentary (e.g. yoga, toddler groups, ballroom dancing, bridge evenings, etc.), required different room temperatures. It was, therefore, important that the new heating system controls were flexible enough to accommodate the varied heating requirements throughout the day.

The constantly used external doors caused cold air to be sucked into the hall each time the doors were opened. Thus a standard convection based heating system, which heated the air that was pulled out of the room, was neither an efficient nor comfortable option.

THE SOLUTION.

Whilst looking for the perfect solution, the committee researched infrared heating and found that it met all their requirements. Infrared heating works on the principle of the sun, directly heating the thermal mass of the building and its occupants, rather than the air. This form of heating is more energy efficient, better for the building (drier walls mean better insulated walls) and provides unrivalled levels of thermal comfort for the occupants. The system requires no ongoing maintenance and has a variety of health benefits, including improved peripheral circulation and less air-borne allergens.

In the small and main hall infrared heating units were ceiling-mounted which provide a cosier environment and a more aesthetically pleasing installation. Ceiling-mounted the infrared heaters ensure an even heat distribution, maximise the amount of floor space available and reduce the risk of damage from accidental impact.

Other rooms, including the toilets and computer room all have installed wall-mounted infrared panels. The total infrared heating load is 7.5kW (37.5%) less than the old system, despite the significant increase to the heating requirement in the main hall as the previous level was inadequate. The wireless control system allows the two halls and other rooms to be easily configured as individual heating zones.

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THE SOLUTION IN DETAIL

The main hall heating comprised 8 ETHERMA EZ 2 kW double-panel infrared heaters. These were installed in two rows of four on the ceiling. The smaller hall was a more recent extension with better insulation and a lower ceiling height. Here only two ceiling mounted LAVA® BASIC-DM 1500W panels were required. In each hall, the heaters were installed on a single circuit, controlled by a wall-mounted eNEXHO-CL thermostat which accessed the heating circuit via an external contactor. In the smaller rooms

wall-mounted LAVA® BASIC-DM infrared panels with wireless LAVA®-R controls were installed. Both the eNEXHO-CL thermostats and LAVA®-R controls are regulated by the eNEXHO home automation system. This fully automatic system allows the programming of zones and daily/weekly programmes.

PRODUCT BENEFITS ETHERMA EZ

- + Hygienic indoor climate
- + Dark emitter
- + Rust-resistant housing
- + Straightforward installation
- + Surface structure optimises radiation

PRODUCT BENEFITS LAVA® BASIC-DM

- + Very high proportion of radiation
- + Large infrared emitting surface
- + Lightweight design for easy ceiling mounting
- + Pleasant room climate thanks to comfortable infrared radiant heat
- + Magnetic field & maintenance free



ETHERMA EZ



LAVA® BASIC-DM

eNEXHO-NT – RADIO-CONTROLLED INTERNET MODULE

Central radio-controlled data module which allows internal & external communication for all units. Using the eNEXHO Software, it is possible to use a smartphone, tablet or PC to change the room temperature at any time. Additionally, venetian blinds can be opened and closed, the light dimmed and various safety systems such as fire detectors, flood sensors and cameras may also be controlled with the eNEXHO-NT.



eNEXHO-CL – RADIO-CONTROLLED ROOM THERMOSTAT

The eNEXHO-CL radio-controlled thermostat allows precise room temperature control. Once installed and integrated into the eNEXHO system, at the touch of a button, up to 6 different on- and off-times per day can be programmed for each thermostat.



COMPETANCE AND QUALITY FOR OVER 35 YEARS.



With ETHERMA you have a competent partner for your heating solutions with more than 35 years of experience. ETHERMA relies on constant innovation, highest product quality and modern design. We support you with a comprehensive service to ensure you use the most suitable product solution for your project. ETHERMA is an Austrian company with international reputation, producing high quality electrical heating systems for our clients, custom-made and manufactured right here.