

# GIRVAN COMMUNITY HOSPITAL

## PROJECT DETAILS

<b>Client:</b>	NHS Ayrshire & Arran
<b>Location:</b>	Girvan, South Ayrshire, Scotland, UK
<b>Completion Date:</b>	November 2009
<b>Contract Scope:</b>	Design, Supply, Installation
<b>Applications:</b>	Hot water temperature maintenance for single pipe hot water systems
<b>Technology:</b>	nVent RAYCHEM HWAT-R cable with HWAT-ECO controllers



## KEY CHALLENGES

Girvan Community Hospital is a new build acute hospital designed to the highest standards of sustainability. Both the client and their consultants had the requirement for a hot water distribution system that was not only highly energy efficient but also easy to install and balance. The system also had to be able to overcome the potential issues posed by legionella disease and to be compatible with the overall building management system (BMS). Time was also a major factor for the project as it demanded a quick turnaround, within a year from design to final commissioning. nVent key challenge was in convincing the client to move away from a traditional recirculation system to a more advanced, electrically heat-traced single-pipe solution.

## SOLUTION

nVent was able to educate M&E consultants RSP Consulting Engineers in the benefits of a single pipe system, working closely with them and providing all the support necessary to convince their clients to move to this higher specification solution.

The resultant design saw the deployment of some 1.8 km of RAYCHEM HWAT-R self-regulating heating cable in a single-pipe hot water distribution system throughout the new hospital. Capable of maintaining water temperatures at a standard 55°C, the system also provided the capability to boost temperatures to 65°C periodically during legionella prevention cycles. The system is controlled via 19 RAYCHEM HWAT-ECO controllers which communicate seamlessly with the central BMS.

As the system uses half the pipework of a conventional recirculation system, on-site installation time was cut dramatically and this was enhanced further by the use of the company's RayClic connection systems. It also meant that space savings could be made in walls and ceiling voids.



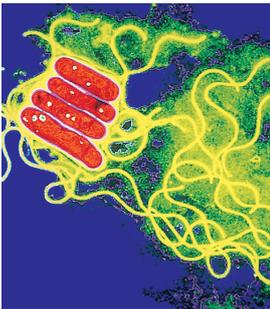
## PRODUCTS

RAYCHEM HWAT are self-regulating heating cables that adjust their power output to compensate for variations in water and ambient temperatures. They replace supply-pipe heat losses at the point where the heat loss occurs, providing continuous, energy-efficient hot water temperature maintenance and eliminating the need for a recirculation system.

Installation of the HWAT system is simple. The heating cable can be cut to length, spliced, tee-branched, and terminated at the job site, reducing installation costs. Fewer plumbing components are needed; recirculation piping, pumps, and balancing valves are all eliminated. The HWAT system maintains hot water temperature continuously at every point along the supply pipe. Unlike conventional recirculation systems, they do not require overheating of supply water to allow for cooling. The HWAT system reduces the energy requirements of typical hot water systems with reduced heat loss from supply piping, no heat loss from recirculation piping and no pump to run.

The HWAT-ECO electronic controller provides flexible temperature control, energy savings, heat-up cycle function, BMS interface, and nine predefined programs that can be customized by the user.

The RAYCHEM RayClic connection system is a simple, fast and reliable set of connection kits which requires no wire stripping because the insulation displacement connector makes the electrical connection. Easy-to-install, it reduces installation time, lowering the total installed cost of the heating cable system.



## BENEFITS

- Faster and more economical system to install than recirculation systems
- Overall reduction in running and maintenance costs
- Balancing issues eliminated
- Space saving
- BMS compatibility

Girvan Community Hospital comprises a community casualty unit, inpatient accommodation for 26 beds, 2 GP practices, a rehabilitation unit and an outpatient day hospital. Designed by Austin-Smith: Lord for, the new £15m landmark building is seen as a flagship development for the modernisation and re-design of health and social care services in South West Ayrshire. It received the award for Best Sustainable Design in the 2010 Building Better Healthcare Awards and the Health Facilities Scotland Award for Energy and Environment

Overall reductions in capital, running and maintenance costs have provided long-term benefits.

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