

Case Study

Georgia Medical Center Saved by AERCO's Steam-fired Heaters

Customer	Henry Medical Center
Location	Stockbridge, GA
Industry	Healthcare
Sales Representative	Calloway Engineered Systems
AERCO Product Installed	WaterWizard B+



What the Client Needed

The water heating system at Henry Medical Center in Stockbridge, GA had served the hospital well when installed in 1976. However, over the last decade, facility personnel found themselves scrambling to meet demand with increasing frequency.

The completion of a brand new surgical center in 2000 finally pushed the original system to its limit as the hospital began to experience sudden, critical failures. Chief engineer, Zack Holt turned to David Heath of Art Plumbing for a solution.

AERCO's Solution

Four, thermally efficient, semi-instantaneous AERCO steam-fired water heaters were installed to support two independent heating loops at the hospital. These new condensing, water heaters supply 100% of the hospital's domestic hot water and support the special temperature requirements of a separate heating loop for the facility's dietary services, surgical center and central sterilization areas. All four heaters are online, but should failure occur, just two units can adequately handle the load.

Holt recalls that there were a growing number of complaints leading up to the renovation. The existing system sporadically ran short in terms of both capacity and temperature. In some locations it would take 20 or 30 minutes for hot water to arrive at the tap in both patient rooms and public areas. Holt suspected that scale build-up was restricting flow and decreasing heat transfer efficiency.

When the increased load of the surgical center put the existing system at borderline capacity and the facility experienced sudden critical failures, Heath concluded that this excessive fouling of the equipment had had a greater impact on the performance than anyone had anticipated. As equipment supplier Caroline Calloway also pointed out "even where heating needs are being met, older systems may cost a facility tremendous dollars in excessive energy losses due to poor heat transfer and restricted flow."

Because the replacement heaters are designed with free floating copper coils, scale build-up has been minimized. Each of the helical coils naturally flexes during operation – expanding and contracting in a way which conventional U-Tube heat exchangers cannot. Heat transfer and flow remain maximized on this self-cleaning surface.

There were two distinct water temperature requirements at Henry Medical Center – 140°F to dietary, sterilization and surgical centers, and 115°F-120°F to patient care and public areas. While the original heating plant had to be specially configured with independent heating loops to help address these system requirements, the replacement equipment allows precise temperature control using continuous, feed-forward, Load-alert technology. Outlet temperatures are controlled to $\pm 4^{\circ}\text{F}$ even under fluctuating domestic loads.

Return on Investment

Heath, who has specified and installed this equipment for more than 20 years, as well as engineers at other hospitals, described the equipment to Holt as reliable, long lasting and virtually maintenance free.