CircuitSolver®
A ThermOmegaTech® product

Project Case Study

Integrated University Health and Social Services Center of the Capitale-Nationale Mental Health University Institute of Quebec

2601 de la canardière, Québec, Qc, G1J 2G3

Installation Site Overview



The University Institute of Mental Health (IUSMQ) is a hospital specializing in psychiatric care. The IUSMQ's main pavilion was recently renovated with the renovation including an update to their domestic hot water recirculation system. IUSMQ is a large building with total floor area of about 160,000 m².

The Opportunity

Hot water is heated and distributed from the hospital's power plant throughout its sectors. Historically, the hot water was "overheated" at the power plant to account for the heat loss that occurred over its long recirculation lines. Standards and regulations have required the hospital to readjust the temperature of this water to an acceptable level. According to the Building's Consultant, André Renaud, this requirement resulted in the hospital experiencing a lack of hot water in some sectors. This lack of hot water needed to be rectified and there was a simple solution – CircuitSolver®.

The Installation

Renaud reviewed the recirculation system to determine the required flow rate to counter the heat loss of the network and consider consumption. He found that the main recirculation piping could not withstand the flow speeds required to reach the hot water recirculation flow target due to risk of premature erosion of the copper piping. The consultant eliminated the conventional method of using fixed flow balancing valves and installed 108 CircuitSolver® balancing valves in their place to resolve this issue. CircuitSolver® is a self-actuating, in-line, thermostatic recirculation valve which automatically and continuously adjusts flow to maintain the specified temperature at the end of each domestic hot water supply line.

The Result

Hot water is now available throughout the entire main pavilion on demand. When a branch is satisfied with hot water, the CircuitSolver® automatically adjusts to a minimum flow, allowing the hot water flow to continue onto the next branch thus leaving recirculation flow available for areas that need hot water.