



ITT

PUMPLINES

Innovation ... Technology ... Leadership

A newsletter for users of pumps, controls, monitoring and maintenance services
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Medical Center Solves Hot Water Pressure Problem with ITT Pumps and Intelligent Control System

When faced with a booster pump system that could not keep pace with fluctuating demands for hot water, St. Joseph's Hospital and Medical Center turned to ITT for a solution that included a set of skid-mounted pumps with intelligent controls.

Located in the heart of Phoenix, Arizona, St. Joseph's Hospital and Medical Center is a 520-bed, not-for-profit hospital that provides a wide range of health, social, and support services with special advocacy for the poor and underserved. "St. Joe's" is a nationally recognized center for quality tertiary care, medical education, and research.

Founded in 1895 by the Sisters of

Mercy, St. Joe's was the first hospital in the Phoenix area. It has come a long way since it opened with 24 private rooms – each opening up onto porches. With tens of thousands of annual admissions, emergency room visits, and outpatient/inpatient surgeries – not to mention the thousands of babies delivered each year – the water demands for St. Joe's is critical to medical center operations.

Specifically, St. Joe's was in need of a way to maintain the availability of hot water pressure in its growing complex of buildings. Like all health care facilities, the system needs to be operational 24 hours-a-day and downtime must be minimal. As the hospital was expanded over the years, the water service for new facilities simply tied into the existing lines supplied by two outdated sets of pumps – one each for cold water and hot water service.

With the increase in water service requirements, the medical center began to have problems with the hot water booster being able to keep up with the cold water booster in terms of water pressure. Depending on the varying needs during the day, the hot water system pressure fluctuated so much that it was causing damage on multiple showerheads and valves. In addition, maintenance on the existing pumps was becoming intolerable. According to Michael Marquez, a technical sales representative for Quadna, Inc., a Phoenix-based distributor for ITT and a fluid-handling solution provider, "They were having to do quite a bit of maintenance to the old pumps. The pumps have been rebuilt numerous times because they were constantly running overspeed and way off the curve. Additionally, the medical center maintenance people would sometimes have to be sent to the booster set to turn on another pump to maintain hot water pressure."

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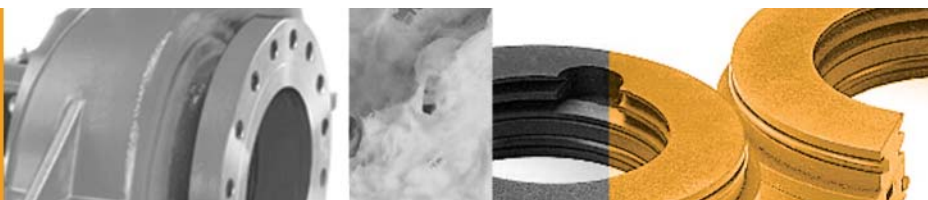
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“Plug and Play” System Needed

What the medical center needed was a booster pump system that could keep up the pressure for the hot water no matter what the facility requirements were. Quadna’s team of application specialists proposed a design – created specifically for the hospital – that would achieve these goals and serve as a drop-in replacement. The replacement system also needed to be functional quickly, as the medical center could not be without hot water for more than 4 hours.

To more effectively accommodate the hospital’s fast-paced growth, Quadna selected ITT’s Goulds Pumps brand SSV high-pressure, vertical multi-stage pumps combined with ITT’s PumpSmart® PS200 control system. Quadna manufactured a custom-designed booster pump skid to house the three pumps and PumpSmart systems. The pumps, which are combined to optimize their capabilities, offer the medical center optimal high pressure, in the most mechanically-friendly, space-saving design.

The new system also met St. Joe’s requirements to connect efficiently with the medical center’s existing piping system as well as for elevator weight and the proper dimensions to pass through doorways. When the skid was installed in February 2007, the “plug and play” system became fully functional in a couple of hours, minimizing the amount of time the hospital went without hot water. Other exclusive characteristics of the pump system include a design to handle variable pressure drops. The pressure set point can be modified for future system requirements. PumpSmart also adjusts to changes in system conditions automatically.

ITT’s PumpSmart System Provides Intelligent Control

Equipping each pump with the PumpSmart control system was done to meet the medical center’s concerns for a system with low total life-cycle costs. PumpSmart is ITT’s award-winning intelligent flow system that works with any pump. PumpSmart utilizes a smart variable frequency drive (VFD) controller and proprietary control software to provide advanced process control, enhanced reliability through failure prevention, reduced life cycle costs and significantly lower energy costs - up to 65%.

“PumpSmart will provide the hospital with great energy savings,” says Marquez. “The medical center is on a strict budget. When you consider that they were running the old pumps at full speed, the savings provided by PumpSmart will be significant.”

The workhorse of the PumpSmart family, the PS200 offers process control and pump protection in one easy-to-use package for virtually every industrial process. With pre-programmed applications such as pressure, flow, and level control, set-up is quick and easy. The PS200 is capable of coordinating efforts



between other PS200 controllers as well as existing constant speed pumps.

“I am a big fan of PumpSmart,” notes Marquez. “I have sold them before to customers who have major problems. I look at PumpSmart as a great, cost-effective solution. This skid, equipped with ITT’s PumpSmart system, will allow the customer to cut down on management and maintenance. The customer will not have to send maintenance people to the pumps to change the pressure – which is what they had to do previously. PumpSmart will also rotate the pumps out as needed, automatically.

In addition to PumpSmart, ITT offers additional monitoring and control solutions to lower total life cycle costs to pumps and other rotating equipment.

ITT’s ProSmart systems provide continuous, predictive monitoring for all rotating equipment. With ProSmart, the focus of any predictive maintenance program can change from data collection to analysis and improvement activities. Additionally, ITT’s Performance Services team can help you identify and quantify the opportunities for improvement that exist in your plant.

With the PumpSmart-equipped pumps providing low total life cycle costs, St. Joe’s can now face a future of expansion plans and the varying demands of patient care without worrying about providing adequate water service.

ITT’s Goulds Pumps brand is a world leader in the manufacture of pump systems and accessories for industrial applications including chemical processing, pulp and paper, power generation, oil refining, gas processing, mining and mineral processing and general industry.

For more information on ITT’s Monitoring and Control solutions: www.itmcm.com