

Is your
**Wastewater
Treatment
Submerged**
in budget
issues?

Cut space.

Treat your wastewater with KMS membrane-based systems and save about 50% of the space you would use in a conventional system—cutting costs!



PURON®
MBR technology
submerged modules

Call KMS

for cutting edge
wastewater treatment
systems.

1-888-677-5624

KOCH
MEMBRANE SYSTEMS

www.kochmembrane.com/kms7

Write in 722

PROBLEMSOLVER

By Daniel Kernan

A HOT WATER *Situation*

Located in the heart of Phoenix, St. Joseph's Hospital and Medical Center provides a wide range of services, with special advocacy for the poor and underserved. With tens of thousands of annual admissions, emergency room visits and outpatient/inpatient surgeries each year, the water demand at St. Joe's is critical to medical center operations.

St. Joe's was recently 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 needed to be operational 24 hours a day, and down time had to be minimal. As the hospital expanded over the years, the water service for new facilities was tied into the existing lines supplied by two outdated sets of pumps—one each for cold and hot water service.

With the increase in water service requirements, the hot water booster in the medical center had problems

A medical center uses pumps and an intelligent control system to solve its hot water pressure problem

keeping 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 to multiple showerheads and valves. In addition, maintenance on the existing pumps was becoming intolerable.

"They were having to do quite a bit of maintenance to the old pumps," said Michael Marquez, technical sales representative for Quadna, Inc., a Phoenix-based distributor for ITT and a fluid-handling solution provider. "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."

Plug-and-play system needed

The medical center needed a booster pump system that could keep up the pressure for the hot water, regardless of the facility's requirements. Quadna's team of application specialists proposed a design 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 four hours.

To effectively accommodate the hospital's fast-paced growth, Quadna selected ITT's Goulds Pumps brand SSV high pressure, vertical multistage 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, offered the medical center optimal high pressure in a space-saving design.

The new system connected efficiently with the medical center's existing piping system and had the correct proportions to make it through doorways and onto elevators. 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 was without hot water. Additionally,

Are vacuum sewers right for you?

Flat terrain and high groundwater make gravity sewer installation costly and disruptive in Albuquerque, New Mexico. That's why city officials and consultants turned to AIRVAC. Vacuum sewer pipes can be installed in much shallower trenches, so installation is faster and less disruptive. And one vacuum station can replace 5-7 lift stations – an enormous cost-saving factor. Also, vacuum sewers are closed systems, preventing both exfiltration and infiltration.

Cities like Albuquerque are saving time, money and the environment with reliable AIRVAC technology.

*"AIRVAC was
right for us."*

Bob Paulette, P.E.
Wilson & Company

Greg Olson, P.E.
City of Albuquerque

Bill Zimmerman, P.E.
HDR Engineering



AIRVAC
The World Leader in Vacuum Sewer Technology
www.airvac.com

For a rapid response, request
literature at www.airvac.com/info

Get a free system layout & budget estimate.

Tampa Office: 200 Tower Drive • Suite A • Oldsmar, FL 34677 • 813-855-6297

Write in 718

Introducing: The 2007 Directory of Water, Wastewater, Public Works & Procurement Officials!

- Easy to sort Excel spreadsheet;
- Delivered right to your desktop;
- Over 5,800 decision makers.

Order your own copy today:
<http://sgcbookstore.safeshopper.com/105/1245.htm?768>

**Management
Resources
International**

Write in 746

the pump system included a design to handle variable pressure drops. PumpSmart also adjusts to changes in system conditions automatically.

PumpSmart system provides intelligent control

Equipping each pump with the PumpSmart control system helped meet the medical center's demand for low total lifecycle costs. PumpSmart utilizes a smart variable frequency drive controller and proprietary control software to provide advanced process control, enhanced reliability through failure prevention, reduced lifecycle costs and up to 65% lower energy costs.

The system offers process control and pump protection in one package for virtually every industrial process. With preprogrammed applications such as pressure, flow and level control, setup is designed to be quick and easy. The system is capable of coordinating efforts between other PS200 controllers as well as existing constant speed pumps.

"This skid, equipped with ITT's PumpSmart system, will allow the customer to cut down on management and maintenance," Marquez said. "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."

With the PumpSmart-equipped pumps providing low total lifecycle 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. **WWD**

Daniel Kernan is product manager for PumpSmart ITT Monitoring & Control. He can be reached at 315/568-7874 or by e-mail at dan.kernan@itt.com.

For more information, write in 1118 on this issue's Reader Service Card.

LEARN MORE

For additional articles on this topic, visit:
www.WWDmag.com/lm.cfm/wd110708



:: Positive Control for Ultimate Process Performance ::

The AquaExcel® batch reactor system combines a comprehensive array of innovative process, mechanical and control advancements with the proven durability of the AquaSBR® system. Leveraged by more than 20 years of proven performance, the AquaExcel® system offers the complete spectrum in multi-goal process objectives.

Featuring the AquaEnsure® maintenance-free decanting system, clear effluent is assured with an operator-centric design that is suited for the most harsh environments. The AquaExcel® system's synergistic mixing and aeration provides a versatile combination of energy savings with tight control of the process environment to achieve maximum performance. With the IntelliPro® on-line process monitoring and control system, all of the AquaExcel® system's elements are dynamically linked for immediate operator notification and auto-response capabilities.

The integration of experience and progressive engineering makes the AquaExcel® batch reactor process cutting-edge in advanced wastewater treatment.

:: Benefits

- Advanced nitrogen and phosphorus removal
- Rugged maintenance-free decanting system
- Time-based process management
- Automatic power saving mode
- Proactive operator guidance
- Simple, yet flexible system operation

:: Applications

- Municipal/Industrial wastewater treatment
- BNR
- Wastewater reuse
- Industrial pretreatment
- New plants and retrofits



AQUA-AEROBIC SYSTEMS, INC.
Partnering for Solutions

6306 N. Alpine Road • Rockford, IL 61111
PH 815.654.2501 • FX 815.654.2508
www.aqua-aerobic.com

Write in 707

FIVE YEAR WARRANTY

DEMONSTRATING TOTAL CONFIDENCE IN PRODUCT RELIABILITY, WATSON-MARLOW BREDEL HAS INTRODUCED A NEW FIVE YEAR WARRANTY ON ALL CHEMICAL INJECTION AND METERING PUMPS.

- 100 PSI Discharge Pressure
- Eliminate Ancillary Equipment
- Million:1 Flow Range
- No Internal Check Valves
- SCADA Ready
- Will Not Vapor Lock

WATSON MARLOW PUMPS
Bredel

1-800-282-8823

Watson-Marlow Bredel... Value for life www.watson-marlow.com

Write in 738

LEADERSHIP in Factory-Built Water Distribution Equipment...

is a **BIG** thing

Only EFI

Warren, MI - Groesbeck Hwy
36" Pressure Reducing Station

ENGINEERED FLUID, INC.

PO Box 723, Centralia, IL 62801 (618) 533-1351 Fax (618) 533-1459 www.engineeredfluid.com

Write in 716