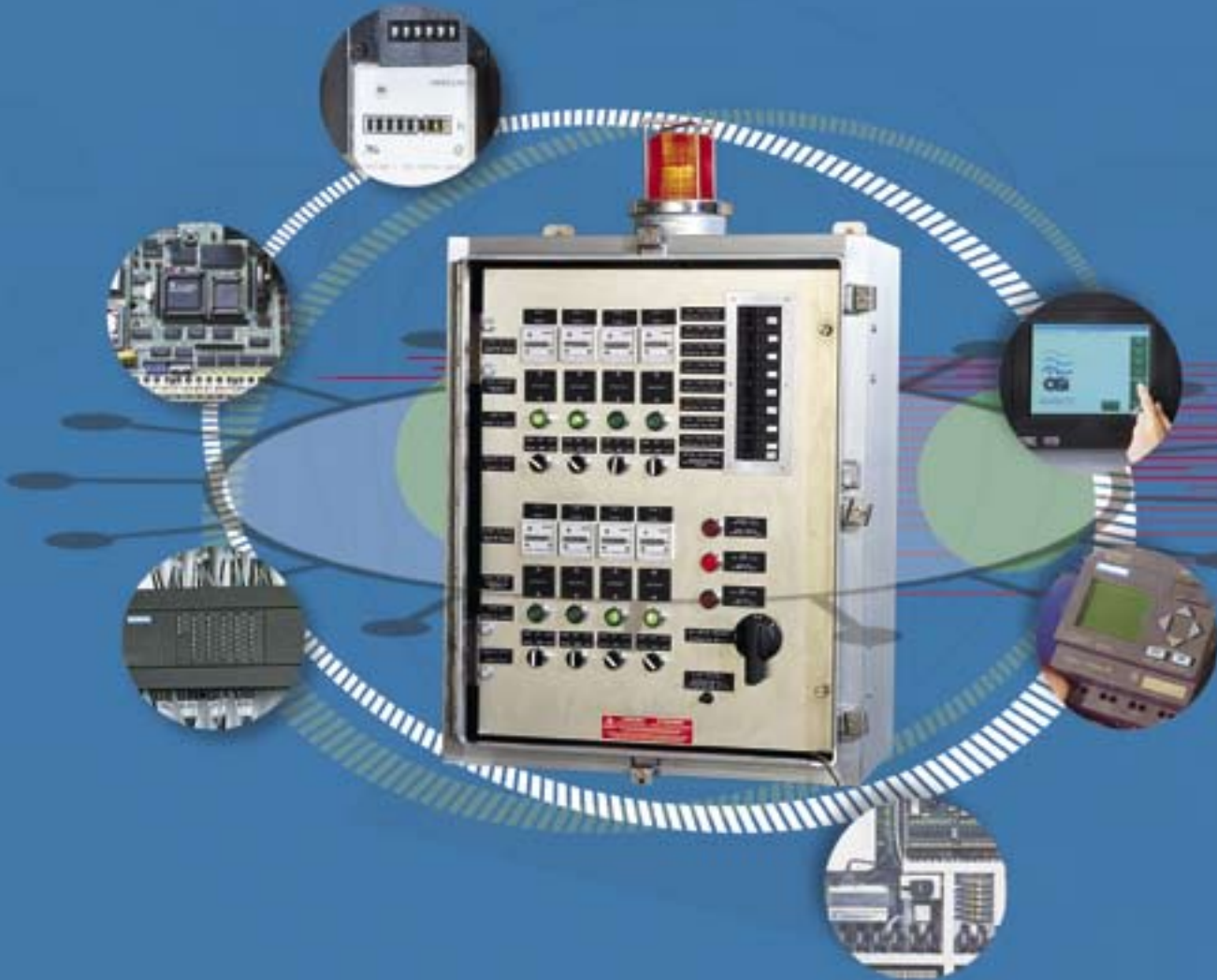


For a copy of this brochure, call 800-348-9843.

Orenco's Custom Panels Command and Control



Smart Panels and Telemetry Systems for

Water Systems
Wastewater Treatment
Environmental Monitoring
Industrial Processes



Orenco Systems[®]
Incorporated

*Changing the Way the
World Does Wastewater[®]*

FROM WIRE TO WIRE: YOUR BEST VALUE

Orenco Systems® specializes in building custom control panels for the water handling and wastewater industries. They're packed with advanced features like digital programmable logic control and remote monitoring capabilities, all integrated into a single enclosure. Here's why our panels give you the best value for your dollar:



"Orenco is good at turning things around, getting us a quote and then, once we get the go-ahead, turning around a good submittal package that's right the first time. That takes a lot of headache away from me. In fact, put me through to Jerry. I've got four more panels to order."

Ken Worst, Coeur d'Alene, Idaho
Owner: R.C. Worst (Manufacturer)
and Power Pump (Distributor)

Quality Components – We use the finest precision-engineered components available, from names you trust: Siemens®, GE®, IDEC®, Allen Bradley®, Square D®, Westinghouse®, ABB®, Danfoss®, and Sprecher + Schuh®. And we back up our panels with a three-year warranty.

Attractive Pricing – Because of our efficient operations and excellent supplier relationships, we can offer custom panels at highly competitive prices.

Quick Turnaround – Our fully staffed and automated assembly process allows us to build most panels in less than one week. We're that fast. For more complex systems featuring PLC or telemetry technology, expect delivery within a month.

At Orenco, our custom panel experts know what's important to designers, engineers, and system operators.

Certifications Available

- UL 508 – US and Canada (Service Entrance Rated also available)
- UL 698A – Hazardous Locations, US and Canada
- CE Marking available

A Range of Custom Options

Orenco specializes in the custom options described on the following pages: “Smart” components, like our MVPs and PLCs, as well as sophisticated telemetry systems. But we can custom-build virtually anything.

Do you need a minor modification to one of our standard panels*? Or a major “build-to-order” product, such as the control panels we engineered and programmed for the Hanford site? Call 800-348-9843 for a quote, or submit a quote request online at www.orenco.com.

* For information on our complete line of standard panels, call 800-348-9843 or visit www.orenco.com.

Applications

Water Systems

- booster stations
- storage tanks
- community wells
- irrigation systems
- greenhouse controls

Wastewater Treatment

- lift stations
- packed bed filters
- grinder systems
- drip disposal
- aerobic treatment systems
- UV disinfection

Environmental Monitoring

- stormwater monitoring
- groundwater monitoring/treatment
- solid waste leachate monitoring

Industrial Processes

- HVAC
- motor/valve controls
- alarm systems
- oil/water separators
- energy management systems
- variable frequency drives
- reduced voltage starters

Service, Specs Important at Hanford

“Clean-up” is the name of the game at Hanford, a former atomic energy site in Richland, Washington. While the 560-square-mile facility is being decommissioned and downsized, the onsite sewers have been upgraded and enlarged. Orenco has supplied Hanford with nearly a dozen panels, controlling sanitary sewer pumps up to 15 hp.

“They impress me with their service,” says Charles Mortimer, principal design engineer with Fluor Hanford. “If I need something, they get on it, NOW!”

Meeting specs is also important to Mortimer. “I give a

performance spec and then say, ‘It’s up to you to make it work.’ And they do. If there’s a misunderstanding over the specs, they come up to the site and make the necessary changes. Our specs are probably tighter than most, as a holdover from the days when we were specifying for nuclear.”

Like most engineers, Mortimer appreciates ‘elegant’ products. “Recently, an electrician complimented the neatness of one of Orenco’s panels . . . the logical, orderly, properly tagged wiring,” says Mortimer.

Neatness. Clean-up. We’re doing our part at Hanford.



Hanford Site

14,000 gpd Sanitary Sewer System
Simplex & Duplex Pump Panels
NEMA-Rated, Explosion-Proof,
Ultrasonic Level Sensors
Engineer: Charles Mortimer, PE,
Fluor Hanford

SMART PANELS PUT YOU IN CONTROL

MVP Makes Every Play



The MVP has been engineered with water and wastewater designers and operators in mind.

Orenco's MVP line of custom control panels is extremely affordable. MVPs allow designers to incorporate numerous control functions that are difficult or impossible to build into electromechanical panels.

The brain behind the MVP is the digital programmable logic unit. This powerful, highly accurate device can accommodate multiple pump controls, multiple timer settings for changing flow conditions, and differing audio/visual signals for different alarm conditions. The digital programmable logic component can combine the functions of relays, timers, alternators, elapsed time meters, and pump cycle counters into one self-contained unit. The result? Increased reliability. Maximized use of space. And competitive pricing.

Orenco's engineers pre-program the panels. And the user-friendly interface – featuring built-in programming keys and an easy-to-read LCD screen – simplifies any necessary in-field adjustments. In addition, the control unit features an optional removable EEPROM card that allows field technicians to make changes or upgrades, simply by plugging in a new, pre-programmed card.

MVP Handles Multiple Timer Settings



Restaurant Facility
Washington County, Oregon
1,200 gpd Onsite Wastewater Treatment System
MVP Duplex Control Panel
Designer: Brian Rabe, CPSSc, WWS, Cascade Earth Sciences

Brian Rabe, a specialist in decentralized wastewater treatment for Cascade Earth Sciences, uses Orenco's MVP Control Panels for timed dosing of sand and gravel filters. Especially for systems that experience huge variations in wastewater flows. "I designed a sand filter for a restaurant that averages 600 gpd," says Rabe. "But on weekends and special occasions, the flow increases considerably. Last Mother's Day, it nearly quadrupled, to 2,200 gpd."

To prevent prolonged dosing of a single area of the restaurant's sand filter during high flows, Rabe used an MVP to

program a second, override setting. When a high flow condition exists, the system pumps the same small doses of effluent through the sand filter's distributing valve, but at much shorter intervals. Once the override float drops down, the system returns to pumping at normal intervals. "With the MVP, I can even have a third timer setting: one that backs the pumps off – without shutting them down – during low-flow periods. And it does all this automatically... no more going out to manually adjust the settings," says Rabe. "The MVP works for me. It takes programmable timers a step further."

PLCs Add Muscle, Size

As control panels become larger and their functions more complex, the addition of a Programmable Logic Controller (PLC) is an attractive option. PLCs are modular, so we can size your panel for your current needs, and build in expansion ports for future system growth.

PLCs are pre-programmed by Orenco's engineers in-house, and they also offer tremendous field programming flexibility. If you need to make fundamental changes to the operating system, we can program the changes for you and send them on a removable EEPROM card. If you'll need to make minor adjustments to system parameters yourself (such as timer settings), we can add an MVP unit to the panel or various kinds of operator interfaces, from simple touchpad text displays to user-friendly graphic touch screens.

Simply put, control panels featuring MVP and PLC technologies provide a powerful, user-friendly solution for water and wastewater industry control applications, at an affordable price.



Big Buzz at Buzzards Bay

This large PLC automates the delivery of pre-set wastewater volumes into multiple onsite treatment systems for the Environmental Technology Initiative Program, at a demonstration site near Buzzards Bay, Massachusetts. The panel includes a touchscreen operator interface.

TELEMETRY GIVES TOTAL CONTROL

Take Control With TeleComm



Orenco's TeleComm (TCOM) line of telemetry panels gives operators and maintenance organizations the ability to monitor and control their system's performance remotely, with real-time efficiency. Telemetry eliminates many time-consuming trips out to the field.

If an alarm condition arises, system operators are immediately notified via pager or computer, helping to prevent system failures. Depending on the application, an early alert (preventive) alarm option can be added, to warn operators of performance trends that could turn into an alarm condition, if not addressed.

Best of all, because our TCOM telemetry units have been designed with "open architecture," no special software is required. Operators can

control and program their systems using the modem and software that is already on their computer. Data is recorded and stored with time- and date-stamping. And data can be easily exported into commonly used spreadsheet and word processing programs.

You can purchase an optional software package with user-friendly graphic interfaces. There's also an option for automated data collection of multiple sites, to give community system operators the ability to monitor hundreds of sites on a regular time schedule.

TCOM remote telemetry systems reduce O&M costs, while helping to ensure system reliability and performance.

Telemetry Proves "All Systems Go"



Elementary School
Lagunitas Elementary School,
Marin County, California
Recirculating Sand Filter System
Custom Control Panel with Advanced
Remote Telemetry
Designer: Norman Hantzsche,
Questa Engineering

Norman Hantzsche, managing engineer for Questa Engineering, has been using a remote telemetry system from Orenco Systems to monitor a Recirculating Sand Filter at an elementary school in California. The school's wastewater flow averages 1,400 to 1,600 gpd during the week and just a few hundred gpd on the weekends. "Working with Orenco's engineers, we developed a Summary Report that logs important system data," says Hantzsche. "Using telemetry, we make system checks regularly, but on Monday mornings we're able to make a quick scan of the previous week's report to make sure everything is operating under normal conditions."

One of those quick Monday scans showed an unusually high flow event over the weekend. "The system spiked to 6,700 gpd," says Hantzsche. "We were able to look at the computer screen and make sure everything was functioning correctly. We checked liquid levels in all tanks, pump operations, and flow readings in a matter of minutes," Hantzsche explained. "We were able to notify the school about the high flow event, while confirming that the system was, in fact, working properly. That way, the school could investigate the problem and correct it on their own." Concluded Hantzsche, "Remote telemetry saves everyone a lot of time and money, while improving overall system reliability."

For a copy of this brochure, call 800-348-9843.

With telemetry, operators can monitor and control their system's performance remotely, from a central office.



Our TeleComm telemetry units are built into the panel, and they control all panel functions. Field technicians can tie into the software from the site, using a handheld computer or a laptop.



Command and Control



While software with user-friendly graphic interfaces is available as an option, it's not required with our telemetry units.



Operators can just use their modem, with the simple communications program that is a standard feature of most computer systems.

Our Panel of Experts Provide Support

Our engineers work directly with distributors, contractors, and engineers, one-on-one. If you know what you need, we'll build a panel to your specifications. Just give us a call, fill out and fax in our "Custom Quote Form" (enclosed), or request a quote online at www.orengo.com. If you're not sure what you need, call and tell us about your application. Either way, we'll make sure you get the correct quote returned to you promptly, with an expected lead time.

If you have existing components – like pump capacitors, sensor signal conditioners, and data loggers – our technicians will assemble a panel that includes your components, all integrated into a single enclosure.

To ensure that your system gets up and running correctly, all control panels from Orenco come with . . .

- detailed wiring diagrams,
- complete installation and operating instructions, and
- toll-free technical support during the installation process.

We also private-label our panels, in larger quantities, for original equipment manufacturers.

We're known for the high caliber of our custom panel support services. For assistance, call 800-348-9843.

Our Company Signals the Way

Founded in 1981, Orenco Systems researches, designs and manufactures specialized equipment for wastewater and water technologies. Custom and standard controls are a significant part of the company's product mix. Orenco has approximately 240 employees and more than 100 distributors and dealers in the United States, Canada, Europe, and New Zealand.

Orenco maintains an onsite research laboratory and regularly participates in demonstration projects, often in conjunction with universities and onsite training centers. As a result, the company's managers are routinely asked to speak and give workshops, including presentations about advanced monitoring and control.



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ABR-CP-1
Rev. 1.3, 4/05
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