

Pump Controllers by



PUMP CONTROL MADE SIMPLE

Introducing TVC Systems Pump Control Packages, designed for automated pumping of chilled water, hot water, and domestic water. Our systems are designed for optimal performance and economic return. Based upon user requirements, each system is customized to give the customer exactly the level of technology needed, without extra complexity.



With over 30 years of Systems Integration experience, TVC can help you navigate the “Technology Jungle” to achieve a system that precisely meets your expectations. You can be sure that TVC Systems will design, build, install and support a pump package that balances performance, economics, and technology to solve your pumping needs. You can also be certain that it will easily communicate with your control system, saving operator time and money. TVC Systems is ready to ease your pain! Give us a call at (888) 431-5251 and let’s talk about what we can do for YOU.

We Didn't Mean To Get Into The Pump Control Business Our Customers Made Us Do It!

TVC Systems was leading a nice quiet business life as a control systems integrator. One of our best customers, one of the world's largest pharmaceutical manufacturers, had a problem. Dealing with the myriad of pump controls installed in their research campus plant sites was plaguing them to a point of distraction. TVC had done a great deal of central utility plant work that included chilled water distribution systems for them over the past ten years, so in desperation they asked us if we could help.

The controls that they had purchased and made part of their systems were too complex and too difficult to understand, service, maintain, and use. They asked TVC Systems to come up with a solution. After talking to the facility managers, building managers, maintenance technicians and system operators, we realized that they all shared the same concerns about their current pump control systems. Some of their main concerns were:

- ◆ The control devices were hard to understand
- ◆ There was no interface with the plant control system
- ◆ Non-standard products were used, which lead to double inventory of parts and maintenance problems and field service by a number of firms, none of them local
- ◆ The systems could not be programmed or maintained by plant personnel
- ◆ The customers didn't like the drives that their vendor furnished and there was no flexibility in drive selection on the part of the controller manufacturer
- ◆ The operator display was difficult to understand and hard to use
- ◆ The documentation furnished with the equipment was incomplete and/or difficult to use
- ◆ No source code had been furnished in the documentation

With our customer's concerns in mind we wrote a specification tailored to their needs and wishes, which included:

- ◆ The site standard PLC
- ◆ The site standard variable frequency drives
- ◆ An operator interface that included no more than the plant operators felt was required to achieve full required functionality
- ◆ A simple, well-documented program including source code
- ◆ A complete and easy to follow operator maintenance manual based on equipment standards familiar to all
- ◆ A complete drawing package with point-to-point wiring diagrams including field connection details
- ◆ Installation supervision, field startup engineering and technical assistance
- ◆ Local Service

Successful Results and Happy Customers!

The resulting Pump Control Package was a success. The customer is now in the process of continuous replacement of all of its pump control packages and all concerned are a great deal happier. Through the engineering and technical grapevine, other companies with the same problem came to hear of TVC's solution to pump control troubles and came to us to see if we could help them achieve the same level of technical bliss that our pharmaceutical customer is beginning to enjoy.

Because we aren't building every controller to meet every possible application, only for the individual application itself, the controller works for the precise application. One amazing feature of our Pump Control Package is that even though we are, in effect, custom-building pump controls for each customer, the price is lower than the "one fits all" controllers we replace. This approach not only leads to easily understood, easily used and maintained controllers, built of plant standard components, but a cost savings as well.

Our customers realize other savings as well. They no longer require expensive visits by the vendor technician to make a simple program change. Spare parts inventory is reduced and fewer operator mistakes occur. These savings are a real bonus that establishes a continuing payback over the course of many years.



What Makes TVC's Pump Controller Standout From The Competition?

- ◆ It's simple
- ◆ It's easy to configure
- ◆ It's customizable
- ◆ The customer only pays for the features they want without buying features that will never be used
- ◆ The controller is not limited to a single communication platform making integration into an existing plant control system simple
- ◆ Spare parts inventories are reduced since the controller can be built using equipment that is currently in the customer's installed base
- ◆ Addition of pumps to a system can be made without the need or expense of an outside vendor

Just What Does TVC's Pump Controller Do?

TVC Systems solution is a multiple pump, multiple zone pump controller capable of controlling flow, pressure, etc. It consists of a programmable logic controller (PLC), Input and Output (I/O) modules, an operator interface display and manual pushbuttons, pilot lights and selector switches. The controller is made up of "off-the-shelf" components of highly reputable control hardware manufacturers.

Our panels are fabricated in TVC's UL panel shop. In addition, a Factory Acceptance test is performed on every pump control system. During this test the control panel is hardwired to our in house simulators and rigorously tested to assure that all of TVC's strict quality control standards are met before it leaves our facility. The customer is invited to witness this Factory Acceptance test to ensure that the system completely meets their requirements.

Standard Features:

- ◆ Packages can support up to 4, 8 or 12 pumps
- ◆ Keypad Operator Interface display
- ◆ Auto/Manual control selector switches
- ◆ Pilot light pump status indication
- ◆ Alarming
- ◆ Scaling
- ◆ Engineer's configuration screen
- ◆ One year warranty

Documentation included with every system:

- ◆ Full and detailed Operation and Maintenance Manuals including:
 - ◆ Detailed system operation instructions
 - ◆ Functional Specification
 - ◆ I/O list
 - ◆ Sequence of Operations
 - ◆ Complete documented source code
 - ◆ AutoCAD 2002 System drawings
 - ◆ Manufacturer's hardware operation, maintenance and troubleshooting instructions

Customer Selected Optional Features and Services:

- ◆ Touch-screen Operator Interface
- ◆ Communication Interface Modules:
 - ◆ Serial Modbus, Modbus+, DH-485, DH+, Ethernet I/P, Modbus TCP/IP, ControlNet, DeviceNet, Profibus, Interbus, any many other protocols
- ◆ PLC Manufactured by:
 - ◆ Allen-Bradley, Modicon, Siemens, GE, Wago, PLC Direct, and other controllers as required
- ◆ NEMA Ratings 12, 13, 3, 3R, 4 and 4X
- ◆ Drives by ABB, Allen-Bradley, Robicon, Danfoss, and others as required
- ◆ Motor Starters
- ◆ UL listed and labeled
- ◆ Customer specified voltage up to 480VAC
- ◆ Disconnect operators
- ◆ Alarm horns and beacons
- ◆ Customer defined functions
- ◆ Custom painted enclosures
- ◆ Installation Services
- ◆ Validation

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