Integrated Pump Monitoring
The Smart Choice for Optimal System Performance
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The integrity of your pumps is essential to the operation of your utility. The more efficiently your pumping stations run, the more efficient your water handling system. No doubt, you designed and sized your pumping system for the Best Efficiency Point (BEP) possible.

But if you’re like most municipalities, keeping your pumps performing at an optimal level can be a challenge – especially as the demands on your system fluctuate. You may periodically dispatch maintenance personnel to manually inspect and monitor key pump parameters. And you might rely on costly, standalone motor monitoring systems for your most critical equipment.

However, despite these efforts, the simple fact remains: the majority of your pumps remain unmonitored most of the time.

Compromising Pump Performance

Without adequate monitoring, your system could be vulnerable to conditions that can compromise pump performance – and possibly lead to equipment failure.

For example:

**Excessive Vibration**: While some vibration is normal in pipes, determining the root cause of excessive vibration is crucial. Excessive vibration can be caused by a variety of mechanical or hydraulic issues. Excessive vibration can damage pipe seals and internal systems.

**Cavitation**: Cavitation is the formation of vapor cavities in a liquid. Cavitation may occur when fluid pressure falls below its vapor pressure – or when fluid accelerates in a control valve or around a pump impeller. When the vapor cavity rapidly collapses, it can cause shockwaves – or vibration – throughout the system that can harm internal mechanisms.

**Pressure**: Excessive pump case pressure or pressure spikes can damage pump seals – especially in an aging infrastructure. Pressure spikes are particularly common during pump starts/stops.

**Temperature Fluctuations**: Excessive temperature within a motor can cause damage. Temperature within motors can increase for a variety of reasons, including ambient temperature or mechanical issues.

**Current Fluctuations**: Motor heating caused by current overloads or locked rotor conditions can cause damages.
Mitigate Threats to Pump Performance

With smart monitoring and scalable control you can mitigate the issues that threaten to compromise pump performance.

Based on the Rockwell Automation Integrated Architecture® system and EtherNet/IP™ network, our Integrated Pump Monitoring solution leverages the capabilities of Intelligent Motor Control, the Logix control platform and intuitive HMI software to deliver the information you need to keep your pumping systems running optimally.

Maximize System Availability & Efficiency

Embedded Diagnostics
Real-time data from Intelligent Motor Control devices can trigger either manual or automatic intervention – well before equipment failure.

Condition Monitoring
Integrated protection modules, sensors, portable instruments, and surveillance software, perform real-time processing of critical parameters used in assessing the current health and predicting the future health of your pumps.

Troubleshooting Wizards
In addition to real-time monitoring, event and alarm history, troubleshooting wizards can help keep your systems running – and reduce your unplanned downtime.

Automatic Device Configuration
Minimize manual reconfiguration by using your Logix controller, integrated on EtherNet/IP, to automatically detect and replace a PowerFlex® drive – and download all configuration parameters.

Remote Monitoring
And thanks to EtherNet/IP connectivity, you can achieve secure, real-time access to diagnostic information regarding any device in your integrated system – from any location.
Truly Integrated. Simply Optimal.

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Unlike standalone pump monitoring systems, our seamlessly integrated pump monitoring solution is scalable to provide you with the core functionality your system demands – and flexible, so you can add functionality to meet specific requirements.

The result? A truly integrated solution – designed to deliver optimal pump performance throughout the entire lifecycle of your application.

Intuitive, Real-Time Monitoring & Protection

Reliability, efficiency, and redundancy of pump systems are crucial to seamless water service to your customers.

Lack of diagnostic information results in increased maintenance and downtime.
E300™ Electronic Overload Relay
The modular design allows you to tailor the device for your application’s exact needs, providing voltage, current, and energy diagnostic information.

PowerFlex Family of Drives
Optimize pump performance and reduce energy use by regulating motor speed with VFDs to control system pressures and flows. They also help reduce or avoid peak demand utility charges by controlling fluctuations in water demand.

Logix Programmable Automation Controllers
Our programmable controllers are fully integrated, with real-time visibility and the ability to monitor load trends, detailed alarms, data collection, and automatic reports.

Dynamix™ Integrated Machinery Monitoring System
Helps protect machinery from possible failure, the integrated system processes in real-time with critical parameters to assess current and predicted health.

FLEX™ I/O
With the functionality of larger rack-based I/O without the space requirements, Flex I/O offers cost-effectiveness, flexibility, modularity, and reliability on various communication networks including EtherNet/IP.
Visit bill of materials and architecture drawing here:

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