

In Partnership with



Self-powered water quality monitoring. PRV installation with MetriNet.

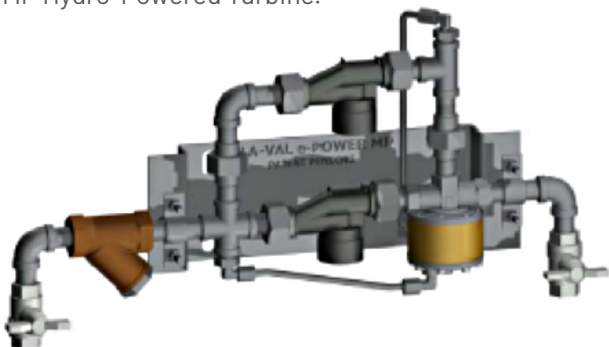
Self-powered water quality monitoring, with zero water wastage, is helping water companies gain a deeper understanding of DMA performance, through the acquisition of a wide range of metrics.

Typically, data is recorded and transferred once a day, primarily due to the limitations of battery life. This limits the operator to observing the network performance up to 24 hours later, which reduces the ability to respond to events that may require immediate attention.

The industry preference is to gather 'real-time data' and 'alarmed condition monitoring' and with our low powered MetriNet smart water quality system.

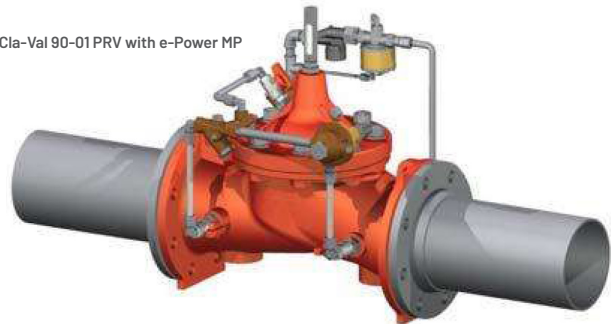
ATi, market leaders in water quality monitoring and data analytics, and Cla-Val, an industry leading automatic control valve manufacturer, have collaborated to offer a sustainable power supply. The MetriNet system was installed on a PRV at the entry point into a DMA, to demonstrate real-time water quality monitoring.

In order to provide a sustainable and green energy supply, Cla-Val installed a Cla-Val 12VDC Twin e-Power MP Hydro-Powered Turbine.



e-Power MP wall mounted bracket example with 2x e-Power MP

Cla-Val 90-01 PRV with e-Power MP



ATI M-Node Water Quality Sensors

The ATI M-Node sensors were connected to the water supply feeding the turbine to ensure zero water wastage. The turbine assembly powered multiple metrics including: turbidity, free chlorine, pH & conductivity. The acquired data was sent back to the customer via a data logger for analysis every 4 hours via GSM.

A PRV is designed to burn energy from a higher-pressure source to a lower pressure. The Cla-Val e-Power 2MP twin turbine exploits this redundant energy. It is connected between the inlet and outlet tappings of the valve body and utilises differential pressure to generate power.

In this application, the e-Power 2MP system delivers sufficient energy to power the MetriNet, including the four M-Node water quality sensors. The system has been running successfully for more than 2 years with acquired data transferred every 4 hours.

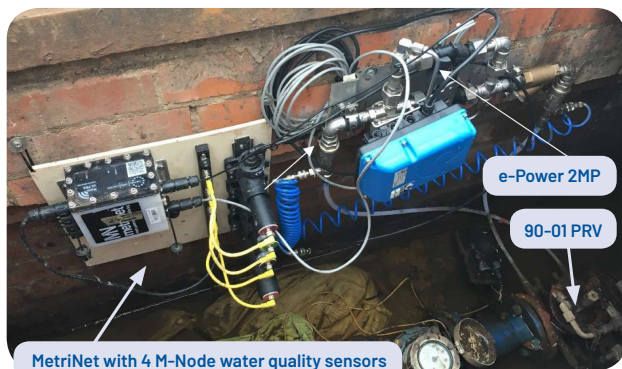
The Cla-Val E-Power MP

- Real-time accurate data
- Environmentally friendly
- Sustainable energy
- 6VDC or 12VDC option
- PRV site key location for water quality monitoring
- Valve or wall mountable
- Power multiple devices
- IP68 Rated

The trial demonstrated that ATi UK were able to provide the customer with reliable data consistently over the logging period at site. The installation of a mains power supply would have been prohibitive. A battery powered solution alone would be more expensive and time consuming due to frequent replacement.

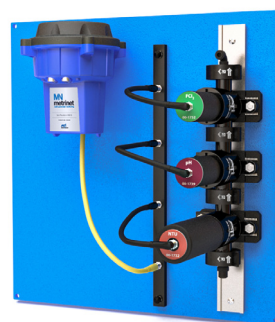
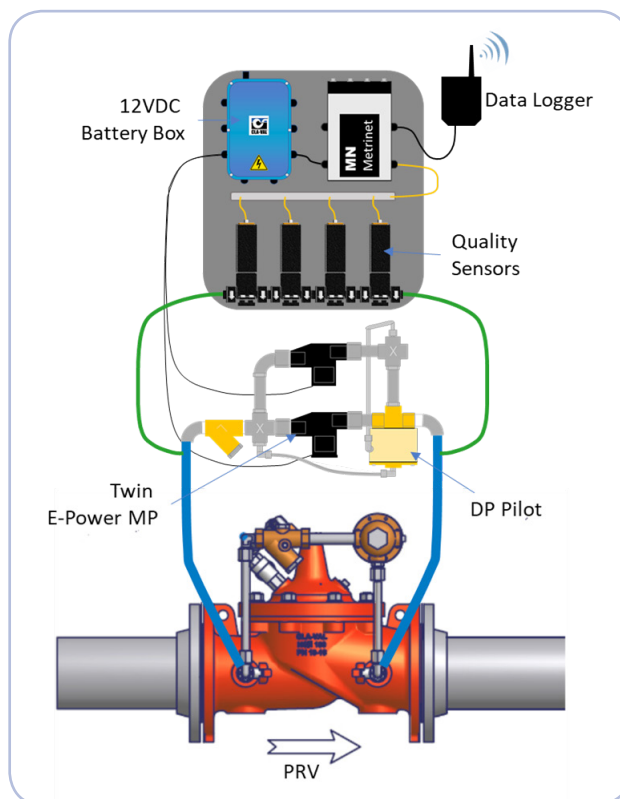
To acquire this specific data, a standard battery would only last between 6-18 weeks, even less at 4-8 weeks on 15-minute logging and transferring every 6 hours via GSM.

The Cla-Val e-Power 2MP offers a reliable and environmentally sustainable method for gathering data, capturing events and understanding why they occurred.



Summary of benefits include: -

- Ease of deployment, allowing the MetriNet to be retro-fitted to existing PRV installations
- One power source for multiple logged parameters
- Minimal maintenance is required
- No cumulative leakage as sampled water re-joins mains flow
- Constant data alerts to any issues needing attention



ATi UK MetriNet system with chlorine, pH and turbidity low powered M-Nodes.

ATi UK is a leading provider of engineered, analytical sensor monitoring solutions for water and gas applications and data insights. Our pioneering and industry leading range of Network Monitors, Water Quality Monitors and Gas Detectors provide innovative solutions for the most demanding of applications.

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