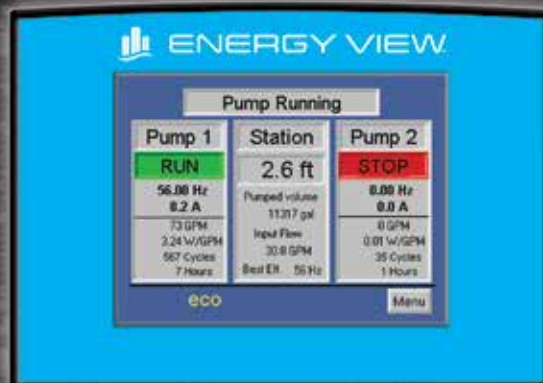


ENERGY VIEW®

DUPLEX PUMP STATION CONTROLLER

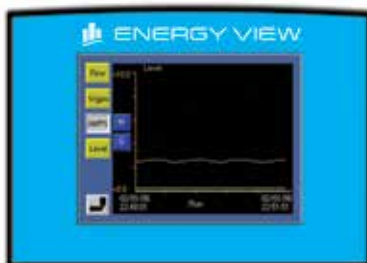


OVERVIEW

The Energy View® controller is powered by **KW Logix® Software** (patent pending). The color touch screen HMI has the ability to provide level control, pump alternation, flow monitoring, data logging, alarm logging, historical trending and comes equipped with a SD memory card for data storage and download. It can connect through multiple communication streams for remote monitoring and control.



Level Setup



Live Trends

FEATURES

- Continuous level monitoring
- Flow monitoring (with or without a flow meter)
- Power monitoring
- Motor current monitoring
- Pump speed control
- Pump efficiency monitoring (W/GPM)
- Energy View® LE available
 - Duplex or triplex
 - Constant or variable speed

SPECIFICATIONS

Pump Control and Protection:

- Pump efficiency Auto-Tuning (lowest W/GPM)
- Automatically switches to PID mode during high in-flow
- Automatic alternation
- Pump low efficiency alarm
- Pump over temperature and seal fail monitoring
- Pump dry run protection

System:

- 6 inch color touch screen
- LED backlit, sunlight readable
- Intuitive menu navigation
- Simple setup and operation
- Multiple password protection
- Data logging on SD memory card

Electrical:

- Requires external 24 VDC power supply
- Input voltage range 20.4 - 28.8 VDC
- Optional battery backup

Communication:

- (2) isolated RS 232/RS 485 ports
- Isolated CAN bus port
- Optional Ethernet port
- SMS, GPRS, Modbus
- Pump Watch™ controller compatible



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DUPLEX PUMP STATION CONTROLLER



ENERGY EFFICIENCY

Energy and maintenance expenses for a typical pumping system can add up to be more than 65% of the total life cycle cost. Therefore, energy efficiency is a critical factor when investing in new equipment or simply retrofitting existing control systems. With the Eco Smart Station® control system featuring the Energy View® controller, up to **30% energy savings** is achievable.

ENERGY SAVINGS

The Affinity Laws define the relationship between pump speed (n) and power (P):

$$P_2 = P_1 (n_2/n_1)^3$$

Motor speed (n) in RPM can be controlled with the use of Variable Frequency Drives (VFDs):

$$n = (120 \times \text{Hz})/\text{Poles}$$

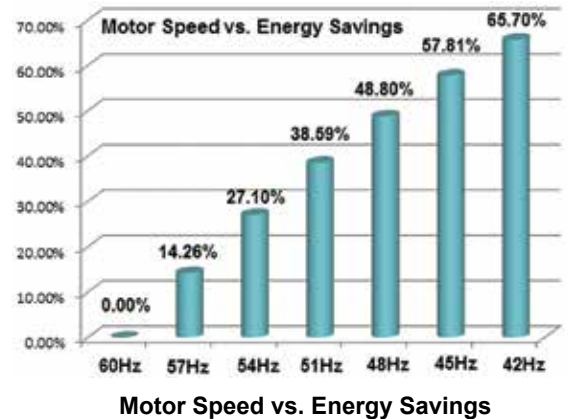
The Energy View® controller with the kW Logix® Software uses an “Efficiency Auto-Tune” algorithm that searches for the pump speed (Hz) that will consume the least amount of energy per gallons of liquid pumped (W/GPM). The flow (GPM) is calculated from the level changes, tank dimensions, fill and discharge times. A flow meter is not needed.

The pump motor power (W) is monitored by the VFDs and transmitted to the controller. No power meters are required. The auto-tun program takes into account the reduction in flow and head characteristics of the pump resulting from speed reductions to determine the Best Efficiency Frequency (BEF).

When the Best Efficiency Frequency (BEF) is found, the pumps will operate at this speed during every cycle. This mode of operation (ECO mode) is very efficient during low and normal in-flow to the station.

OPERATION

During high in-flow operation (peak hours) it is more efficient to operate in proportional-integral-derivative (PID) mode than cycling the pump ON and OFF. kW Logix® Software recognizes high in-flow conditions and automatically switches the operation mode from ECO mode to PID mode. During PID operation, the pump speed is controlled to match the incoming flow and maintain a constant wet well level. When the in-flow returns to normal, the operation returns to cycle based (ECO mode) operation automatically.



ECO (fx) Setup