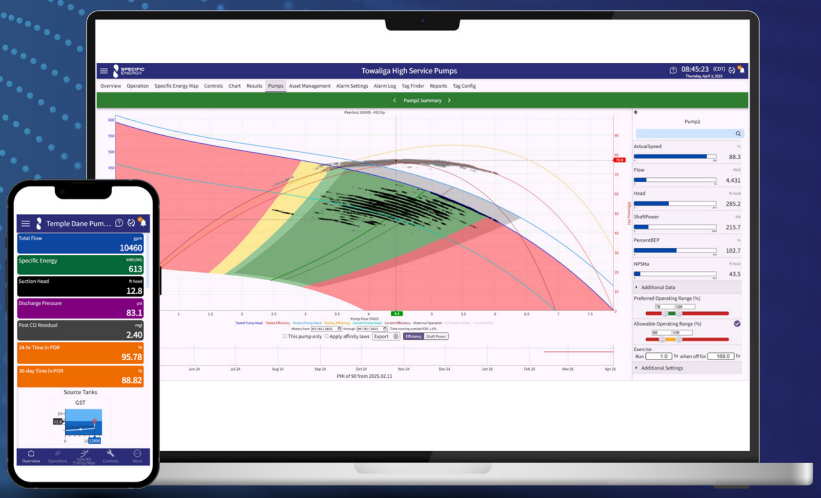
SPECIFIC ENERGY

Dynamic Pump Optimizer

Don’t get caught with your pumps down.



Extended pump life

Complete protection

5.3x

DPO monitors changes in pump health and maintains real-time pump curves to keep pumps running in their sweet spots, making them last dramatically longer.

Predictive asset management

Make every repair count

DPO identifies worn pumps and makes repair recommendations as soon as the net present value of a repair becomes positive.

Peak energy efficiency

Engineered for efficiency

Maximize efficiency by selecting the optimal combination of pumps and speeds to maintain system demands.

13.5% average energy reduction

Monthly reporting

Health at a glance

Automatically receive a monthly snapshot of pump health, operating summary, energy usage, and the net present value of repairs to make informed maintenance decisions backed by financial metrics.

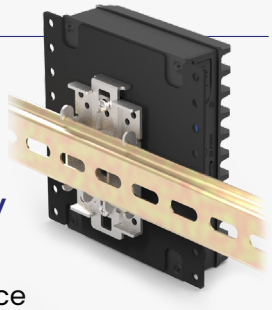
Reduce leaks

A comfortable ride

DPO can virtually eliminate pressure transients by gracefully transitioning pumps during stops, starts, and speed changes.

70% average reduction of peak transients

PLC



Plug and play

Steps to install:

1. Din-rail mount device
2. Plug in power
3. Plug in communication cable
4. Mount magnetic antenna

Included components

- Industrial PC (2GB RAM, Intel CPU, 64GB SSD)
- Temperature rating: 0°C to 70°C
- Required power: 120VAC, 4.5A or 12-32VDC
- DIN rail mountable
- Antenna with magnetic base
- Coax antenna cable

Communications

- Supports communication with industrial devices using standard protocols including Modbus serial, Modbus TCP, EtherNet/IP, and DF1 and more
- Supports communication with devices using RS-232, RS-485, and Ethernet
- Capable of integrating with existing SCADA systems

Required instrumentation

- Common suction pressure OR source level
- Common discharge pressure
- Station flow
- Per pump power
- Per pump speed

Installation process

- DPO is installed at pump station near PLC
- One DPO required per pump station
- Remote start-up and commissioning

Support & service

- Unlimited engineering support during regular business hours during service contract term
- Configurable, automatic text message or email alarms with available alarm history
- Automatic software updates/security patches/ feature upgrades
- Unlimited data logging
- 24/7 Emergency support available via technical support hotline

Control system

- System constraints configurable by users; station can operate based on flow, pressure, tank level and/or power controls
- Flow paced ramping of pumps to minimize transients
- Digital twin predicts and charts all possible station operating points
- Change set-points via user interface to make instant process changes

Secure Authentication

Strong password enforcement

Two-factor authentication

Passwords securely stored as SHA-256 hashes

Passkeys supported

Monitoring and Updating

We follow the NIST Cybersecurity Framework

Access logging and monitoring

Regular security audits

Devices automatically receive the latest security update

Data Protection

Specific Energy uses the Google Kubernetes Engine environment for data storage and protection. This is a multi-layered, redundant environment focusing on secure configuration, access controls, and vulnerability scanning to protect data.

Defense

Strict firewalls on all devices

Device protection with encrypted RSA-2048 public/ private key pairs

Exclusive use of encrypted protocols