

Wilden® SafeGuard™

Remote Performance Monitoring and Alert System



WILDEN®

Where Innovation Flows



Introducing Wilden® SafeGuard™ – the World’s First Remote Performance Monitoring and Alert System



Air-operated double-diaphragm (AODD) pumps are often considered critical to fluid-transfer operations and are widely installed throughout a plant. Unexpected failures can be devastating, costly, and could result in much larger issues for your operation. This means AODD pump reliant operations would benefit immensely from a real-time monitoring solution that provides the alerts they need to immediately respond to a pump failure and help optimize pump performance.

Introducing the new Wilden® SafeGuard™ – the industry’s first AODD Internet of Things (IoT) enabled remote performance monitoring and alert solution. A true game-changer in optimizing AODD pump performance, reliability, cost of operation and maintenance, the Wilden SafeGuard is an all-inclusive monitoring system that improves pump operations by monitoring and assessing your AODD pump’s operation and performance 24/7.

Common Industry Challenges with AODD Pump Failures

Unexpected Pump Failure

- Costly Downtime
- Lost Revenue
- Overtime
- Expedited Parts/Freight



REAL-WORLD EXAMPLE

A pump unexpectedly fails, maintenance is out of inventory and the pump is out of service longer than expected.

WILDEN SAFEGUARD SOLUTION

Wilden SafeGuard collects data of pump performance over time, including maintenance records, allowing the user to create robust preventative maintenance plans and anticipate need for replacement parts.

Lost Revenue

- Downtime
- Costly Batch Rework
- Product Recalls
- Limited Production



REAL-WORLD EXAMPLE

A pump is unknowingly performing below expectations due to other system issues, but its not known until a process batch is complete and the final product is found to be outside of spec, requiring rework.

WILDEN SAFEGUARD SOLUTION

Wilden SafeGuard makes it easy for the user to set alerts for pumps operating outside of the “normal” operating conditions.

Product Leakage

- Safety Hazard
- Product Loss and Recalls
- Cleanup Costs
- Costly Batch Rework



REAL WORLD EXAMPLE

A pump in a remote area of the plant fails, emptying an entire tank of finished product on the floor without being noticed.

WILDEN SAFEGUARD SOLUTION

Real-time monitoring and leak alert for immediate response, limiting product loss and potential cleanup costs.

Limited Operation Visibility

- On-site 24/7
- Missed Opportunities for Process Improvement
- Inaccurate Preventative Maintenance Plan



REAL-WORLD EXAMPLE

A preventative maintenance plan exists for a plant to service pumps every 6 months, but some pumps have far more life and others still fail prematurely.

WILDEN SAFEGUARD SOLUTION

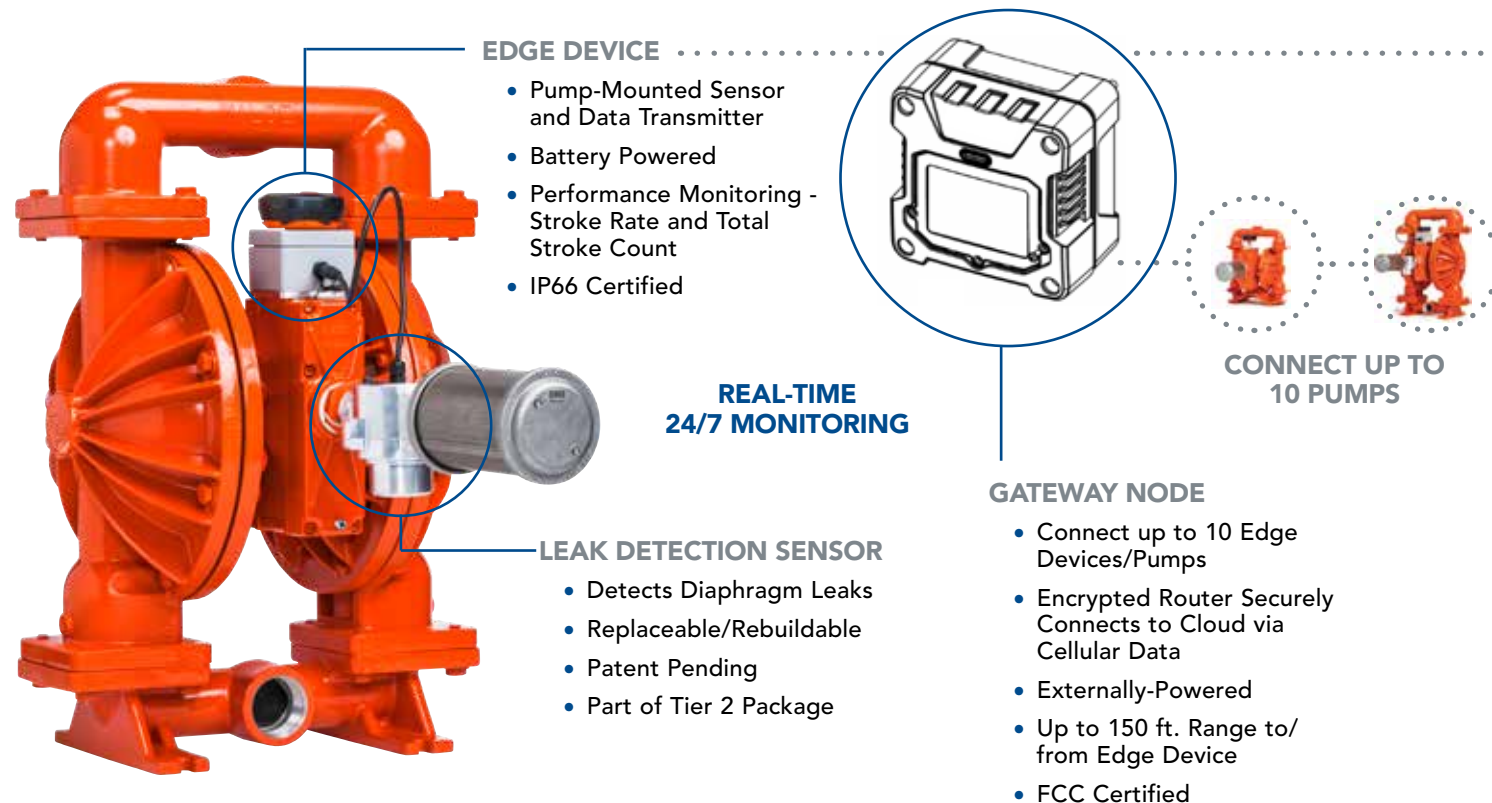
Wilden SafeGuard provides unprecedented information about diaphragm life, allowing preventative maintenance plans to be more accurate and more efficient at protecting your people, product and process.

Wilden SafeGuard Remote Performance Monitoring and Alert System

Value	Capability
24/7 Real-Time Monitoring	Performance Monitoring – Stroke Count for Batching and Preventative Maintenance Support Performance Analysis – Identifies and Alerts When Pump Operating Outside Set Normal Parameters Detect Diaphragm Leaks and Failures – Limit Product Loss and Safety Hazards
Leak Detection Retrofittable to Current Installations	Immediate Leak Detection and Alert Unique, Patent-Pending, Leak-Detection System Recognizes All Types of Leaks, No Matter How Small Can be Retrofittable
Customizable Alerts	Customize Your Alert Parameter Thresholds Receive Alerts During Abnormal Operating Conditions Recognize Below/Above Normal Stroke Rate Leverage Stroke Count Alerts to Manage Preventative Maintenance Plans
Data Accessible Through Continuous Cloud Connectivity	Online Dashboard Phone Application UI
Maintenance Record Keeping	Manageable Record Keeping for Pump Maintenance
Fleet Management View	Unprecedented Data Access Overall Pump Fleet View and Management
Battery Powered	1 Year Life Off the Shelf Easy Replacement
Other Features	Plug-and-Play Design for Easy Set Up Customizable Dashboard Signal Strength Monitoring Easily Retrofittable to Current Installations

How It Works - Equipment

Wilden SafeGuard is designed to monitor Wilden AODD pumps' health and performance. It is composed of a single battery-powered sensor (Edge Device) mounted directly onto the pump which communicates to a sensor reader (Gateway Node). The Gateway Node, which can connect up to 10 Edge Devices/Pumps, operates as an encryption router, securely transmitting the data from all pumps to the Cloud.



How it Works - Software

The data (stroke count, stroke rate, leak detection) is collected into the Gateway Node and transferred to the Cloud (via cellular data service) to be analyzed. The data is displayed and summarized on Wilden's SafeGuard Software service where you can view the status of your whole fleet of connected pumps down to the details of a single pump.



PUMP DASHBOARD

- Notice an issue? Get the full details of a pump's performance.



REVIEW MAINTENANCE HISTORY



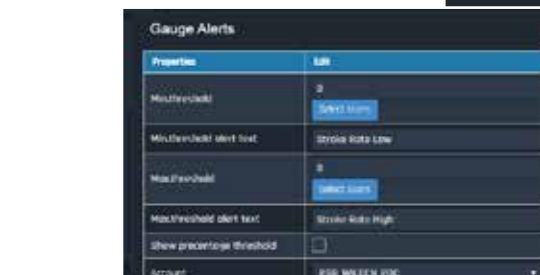
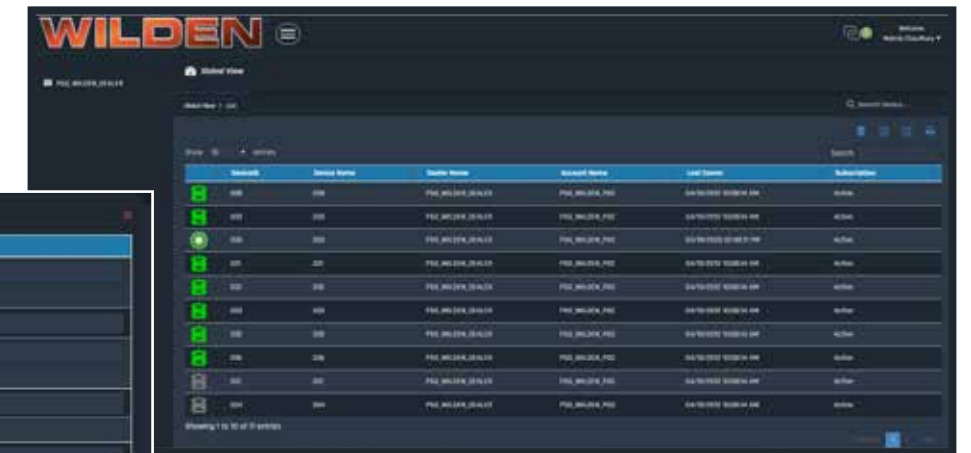
COLOR CODE INDICATORS

- Green: Active/On
- Blue: Within Range
- Orange: Warning
- Red: Alert/Fault

VIEW OPERATION HISTORY OVER TIME AND RESET COUNT AFTER FAILURE

FLEET MANAGEMENT VIEW

- View the current state of your full fleet of AODD pumps that are equipped with Wilden SafeGuard



COMPLETELY CUSTOMIZABLE TO YOUR FACILITY NEEDS

- Customize Parameters
- Customize Pump Naming
- Customize Users
- Customize Email Alerts

SMS AND EMAIL ALERTS

Device 330(330) sent alert:
Stroke Count Warning at
3/16/2020 11:51:03 AM
Code to acknowledge alert:
231155

Wilden SafeGuard System Options



Feature	TIER 1 Basic package to monitor pump performance	TIER 2 Advanced package combining pump performance monitoring and real-time leak detection
Edge Device	✓	✓
Gateway Node	✓	✓
Web UI and Phone App	✓	✓
Stroke Count	✓	✓
Stroke Rate	✓	✓
Leak Detection		✓
24/7 Real-Time Alerts	✓	✓
Abnormal Operation Alert	✓	✓
Pump Mounting Kit	End Cap	End Cap and Junction Box



WILDEN®

PSG
22069 Van Buren Street
Grand Terrace
CA, 92313-5651
USA
P: +1 (909) 422-1730
F: +1 (909) 783-3440
wildenpump.com



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