



CIP Guardian-Monitoring System

Tank Cleaning Confidence!

Verify, Validate, and Document with the Clean in Place-Monitoring System



CIP - Verification CIP - Validation CIP - Documentation

- Limits exact time to clean
- Increasing process efficiency
- Reduce effluent production by controlling wash cycle
- Save money through all of the above

CIP Monitoring Benefits

The Butterworth CIP Guardian Monitoring System increases process efficiency, reduces effluent production, instantly detects problems should they occur, and reduces operational costs.

The system will also:

- assist in post cleaning tests and / or visual verification of device operation.
- eliminate post-cleaning tests and/or visual verification of nozzle operation.
- provide detailed documentation of nozzle performance.
- identifies problems such as changes in:
 - rotation speed and frequency
 - spray loss
 - nozzle clogging
 - pressure variation
- install easily using a non-intrusive exterior acoustic sensor.
- sound an alarm when changes are detected.
- work with pressurized and non-pressurized tanks.
- provide verification/validation solution.
- communicates with networks using a unique IP address.

Documents the performance and provides alarms to alert operators to CIP problems

The Butterworth CIP Guardian Monitoring System is an acoustical diagnosis sensor used to verify, validate, and document the cleaning process of your tanks. Our acoustical monitoring system can be used with multiple tanks, on various tank/nozzle configurations, and with all types of tank cleaning nozzles.

The CIP Monitoring System will detect:

- low impact sprays
- rotation failure
- change in rotation frequency
- changes in spray pressure
- clogged and partially clogged nozzles

Easily mounted to the exterior of the tank, sensor placement is simple using our user friendly guidelines.

Specifications

Sensor:

- Acoustic, IP-68, -65 to 250°F, CE (intrinsically safe optional)

Electronics Unit:

- IP-67, -4 to 140°F, CE (CI1 Div2, Atex-4x, CSA-4x Optional)
- 120/240V single phase
- Compatible with all tank device manufacturers

Typical Applications

- Pharmaceutical
- Food & Beverage
 - Breweries
 - Dairies
- Chemical
- Transportation
 - Tank Trailers
 - Railcars
- Ethanol
- And many others



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Fast, Easy and Effective

Installation and set-up in less than one hour

1

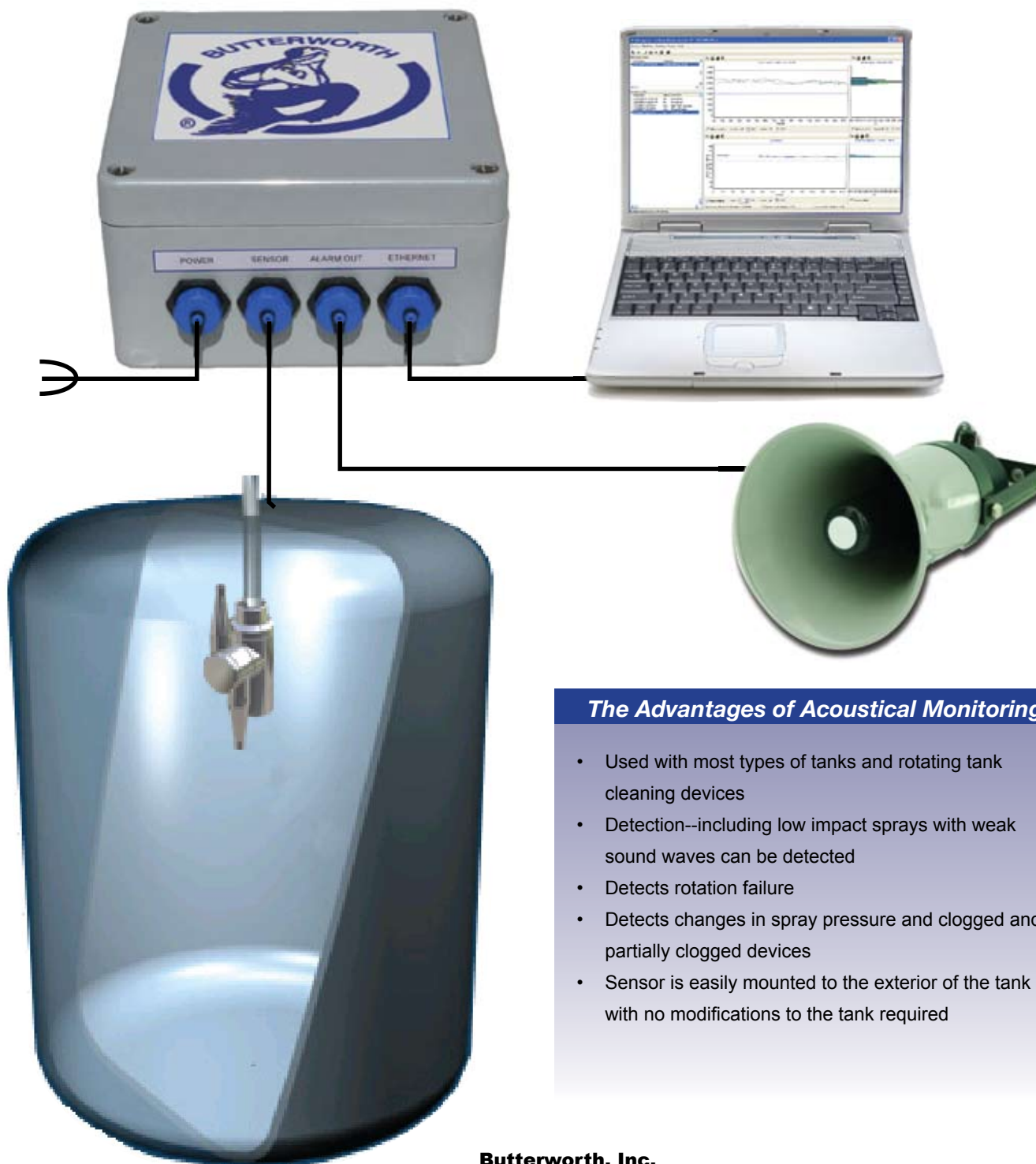
Mount the sensor to the exterior of the tank.

2

Connect the cables to the necessary devices.

3

Install CIP-Explorer software and record a baseline reading.



The Advantages of Acoustical Monitoring

- Used with most types of tanks and rotating tank cleaning devices
- Detection—including low impact sprays with weak sound waves can be detected
- Detects rotation failure
- Detects changes in spray pressure and clogged and partially clogged devices
- Sensor is easily mounted to the exterior of the tank with no modifications to the tank required

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Ongoing Monitoring Detects Problems and Provides Documentation

Stored Reference cycle

- Saved reference cycles for individual CIP-Monitoring Device units
- Records date and time of each cycle
- Allows for comments on each cycle

Alarm Limits

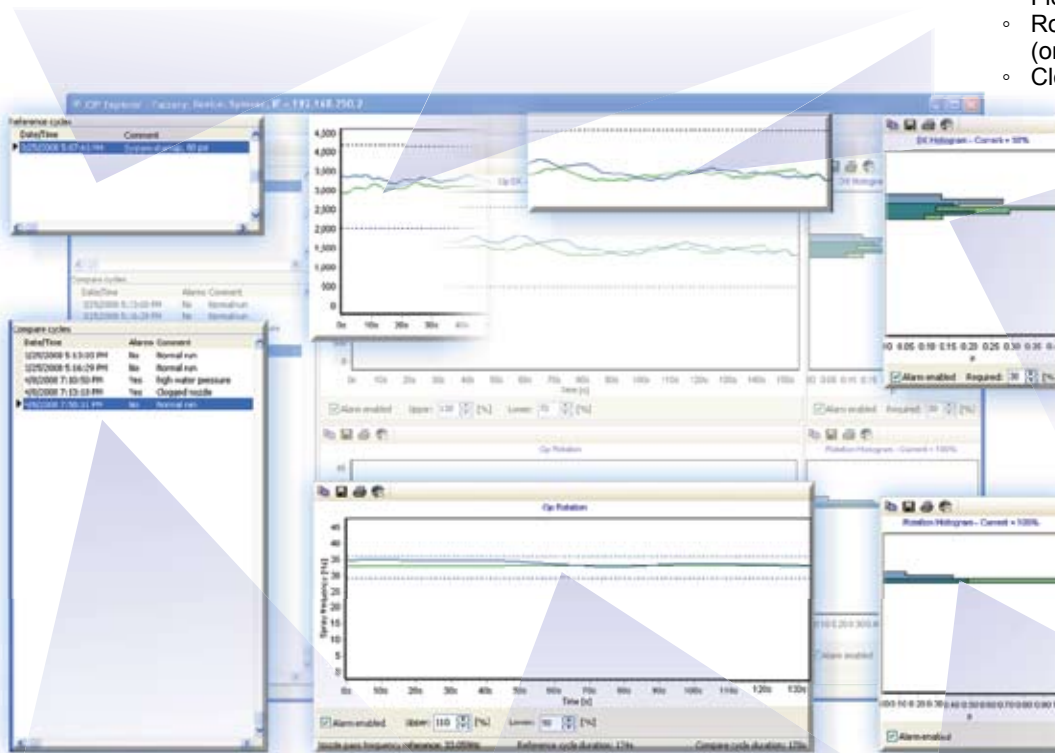
- Upper and lower alarm limits can be (re)set by the user at any time
- Alarms are triggered when alarm limits are exceeded

CIP Dx Graph

- Plots graph correlated to Pressure/Impact/Flow
- Alarms indicate:
 - Pressure loss/increase
 - Impact loss/increase
 - Flow loss/increase
 - Rotation loss/increase (on fluid driven units)
 - Clogged Nozzles

CIP Dx Histogram

- Shows overall comparison of process
- Percentage of difference is used as "slow" alarm trigger
- "Slow" alarm signals significant change in Pressure/Impact/Flow during complete cycle



Stored Comparison Cycle

- Saved results for individual tank wash operations
- Records date and time of each tank wash operation
- Allows for comments on each cycle
- Indicates if alarms were triggered during cycle

CIP Rotation Graph

- Plots graph correlated to Rotation
- Alarms indicate:
 - Rotation loss/increase
 - Clogged nozzles
 - Pressure loss/increase
 - Impact loss/increase
 - Flow loss/increase

CIP Rotation Histogram

- Shows overall comparison of process
- Percentage of difference is used as "slow" alarm trigger
- "Slow" alarm signals significant change in Rotation during complete cycle

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Everything You Need to Know to Order Your CIP-Monitoring System

FAQs

Q Where do I place the sensor?

A Placement will depend on the size of the tank and the placement of the tank cleaning device. The CIP-Monitoring System manual includes general guidelines for placement.

Q How much of a deviation from the baseline record will trigger an alarm?

A When you install the CIP-Monitoring System software, you will be able to set upper and lower limits for deviation. Alarms will be activated whenever spray impact or rotation exceed the range you specified.

Q Are the results of the cleaning operation saved for later viewing?

A The CIP-Monitoring System stores up to ten tank operations in internal memory. Software provided with the unit may be used to store an infinite number of tank wash operations.

Q Can I use one CIP-Monitoring System with multiple tanks?

A Yes, but it will only monitor one tank cleaning operation at a time.

Q Each CIP-Monitoring System has a unique IP address. Can I monitor the unit over a network?

A Yes, the CIP-Monitoring System is network capable and may be monitored from anywhere on the network.

Q I have three tank wash nozzles in a single tank. How many CIP-Monitoring System CIP-Monitoring systems will I need?

A Depending on the tank layout, the number of nozzles and types and sensor location, it is possible to use one system. Please contact us for more information.

Compatibility Chart

	SPRAY NOZZLE TYPE	SPRAY/ NO SPRAY	ROTATION	IMPACT	PRESSURE LOSS
	External Drive - Jet Tank Cleaners				
	Alfa Laval	•	•	•	•
	Scanjet	•	•	•	•
	others	•	•	•	•
	Fluid Driven - Turbine Style Spray Jet Tank Cleaners				
	Gamajet	•	•	•	•
	Alfa Laval	•	•	•	•
	Butterworth	•	•	•	•
	Scanjet	•	•	•	•
	Lechler	•	•	•	•
	others	•	•	•	•
	Fluid Driven - Reactionary Tank Cleaners				
	Alfa Laval	•	•	•	•
	Butterworth	•	•	•	•
	Scanjet	•	•	•	•
	Lechier	•	•	•	•
	others	•	•	•	•

For more information or to place an order, please contact:

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