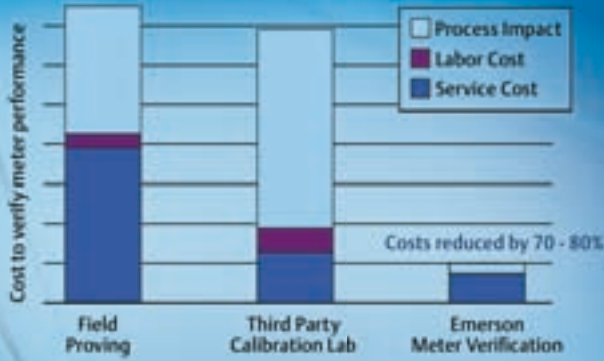


# Emerson Meter Verification and Diagnostics

In-situ meter verification for the complete flow loop



Meter Verification



## Quick, Easy, and Complete Meter Verification – only from Emerson Process Management

Emerson's in-line meter verification technology offers a complete assessment of meter performance, delivering results and confidence for your entire flow loop – and saves you thousands per year in operating costs.

### Reduce Costs

- Dramatically reduce the cost of calibration verification using embedded technology operable at the touch of a button
- Reduce troubleshooting time and cost

### Improve Health and Safety

- Eliminate the need to break process seals and avoid potential safety issues
- Verification does not require trips to the field, or hooking extra equipment or adjustment of configurations
- Simplify proof testing in SIL loops

### Improve Availability

- Checking meters without shutting down the process results in increased productivity
- Complete proof tests of critical measurements ensure confidence in meter and loop health and extends time between shutdowns

### Improve Quality

- Quickly determine if an unexpected reading is caused by measurement or a change in process conditions that requires action

### Reduce Waste & Rework

- Better overall process control avoids wasting key ingredients or needing to rework offspec product



### Emerson Meter Verification Ensures Performance

- Results are independent of fluid properties
- Verifies entire meter: electronics, sensor and connecting cables
- Immediate results with no trending
- Printable verification reports with deviation values
- Requires no process shutdown, no extra equipment, no trip to the field, and no changes to meter configuration
- Access at the touch of a button using laptop, 375 Hand-held Communicator or meter interface
- No specialized training required

### Eliminate or reduce expensive validation and calibration efforts

- Catch and Weigh with Weigh Scales
- Provers
- Master Meters
- Flow Lab or Factory Return Calibration
- Specialized External Verification Equipment



# Improving Work Practices through Improved Technology

## Historic Meter Verification Practice

### Meter pulled for annual calibration check

**Process:** Send employee to field to pull meter out of line

**Availability:** Shutdown

**Test capability:** Data gathered and analyzed manually

**Safety:** Process seals broken, employees in the field

**Cost of verification:** Typically over \$6000USD in maintenance costs

**Cost of shutdown:** Typically hundreds of thousands of US dollars in continual process applications

### Troubleshoot meter to confirm output

**Process:** Send employee to field to hook up special equipment

**Special equipment:** Multi-meter, LCR, other tools

**Availability:** Interrupted process

**Test capability:** Compares measured values to manual guidelines. Interpretation required

**Safety:** Employees in the field

**Cost of troubleshooting:** Typically over \$1000USD for every trip to the field

### Proof test for Safety Loop

**Process:** Send employee to field to pull meter out of line

**Availability:** Shutdown

**Test capability:** Quality results from sending meter to recalibration at prover or flow lab

**Safety:** Employees in the field

**Cost of troubleshooting:** Typically over \$6000USD in maintenance costs

**Cost of shutdown:** Typically hundreds of thousands of US dollars in continual process applications

## Typical Verification Processes through the Life of a Meter

## A Better Way: Emerson Meter Verification

### Run Meter Verification for annual calibration check

**Process:** Start Meter Verification check with press of button

**Availability:** Continual

**Test capability:** Device compares itself to baseline health and calibration values. Automatically confirms pass or fail

**Safety:** No process seals broken, no employees in the field

**Cost of verification:** 0.1 hours in personnel time

### Run Meter Verification to troubleshoot

**Process:** Start Meter Verification check with press of button

**Special equipment:** None

**Availability:** Continual

**Test capability:** Device compares itself to baseline health and calibration values. Automatically confirms pass or fail

**Safety:** No employees in the field

**Cost of troubleshooting:** 0.1 hours in personnel time

### Proof test for Safety Loop

**Process:** Start Meter Verification check with press of button

**Special equipment:** None

**Availability:** Continual

**Test capability:** Device compares itself to baseline health and calibration values. Automatically confirms pass or fail

**Safety:** No employees in the field

**Cost of troubleshooting:** 0.1 hours in personnel time



Over 500 processes use or recommend Emerson Meter Verification technology

- Chemical
- Refining
- Pulp & Paper
- Oil & Gas
- Pharmaceutical
- Metals & Mining
- Engineering Contractors
- Water & Wastewater
- Food & Beverage



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