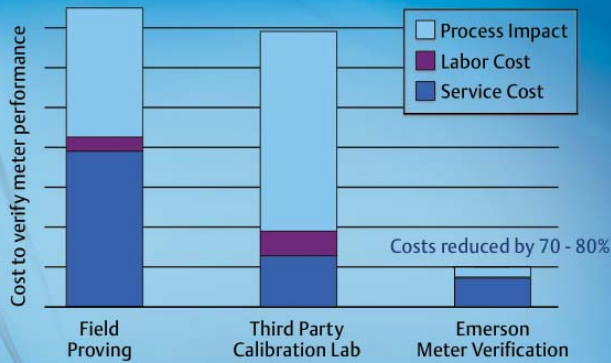


Emerson Meter Verification and Diagnostics

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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**Emerson Process Management
Micro Motion, Inc.**

Worldwide Headquarters
7070 Winchester Circle
Boulder, Colorado USA 80301
T: 800 522 6277
T: +1 (303) 527 5200
F: +1 (303) 530 8459
www.micromotion.com
Mexico T: +52 55 5728 0800
Argentina T: +54 11 4837 7000
Brazil T: +55 15 3238 3677
Venezuela T: +58 26 1731 3446



**Emerson Process Management
Europe/Middle East**

Central & Eastern Europe T: +41 (0) 41 7686 111
Dubai T: +971 4883 5235
France T: 0800 917 901
Germany T: 0800 182 5347
Italy T: 8008 77334
The Netherlands T: +31 (0) 318 495 555
U.K. T: 0870 240 1978
Russia/CIS T: +7 495 981 9811



**Emerson Process Management
Asia Pacific**

Australia T: +61 3 9721 0200
China T: +86 21 2892 9000
India T: +91 22 5662 0566
Japan T: +81 3 5769 6803
Korea T: +82 2 3438 4600
Singapore T: +65 6 777 8211

**Emerson Process Management
Rosemount Inc.**

8200 Market Boulevard
Chanhassen, MN 55317 USA
T: 800 999 9307
T: +1 (952) 906 8888
F: +1 (952) 949 7001
www.rosemount.com

