

coefficient

MATE GAUGE 3

THE NEW STREAMLINED AUTOMATIC THICKNESS GAUGE FOR LEAD-ACID BATTERY

USE ON ANY PASTING LINE

- Can be installed **before** or **after** flash drying
- **In-line** or **near-process** set up options
- Measures **continuous strip**, **panel**, or **individual plates**



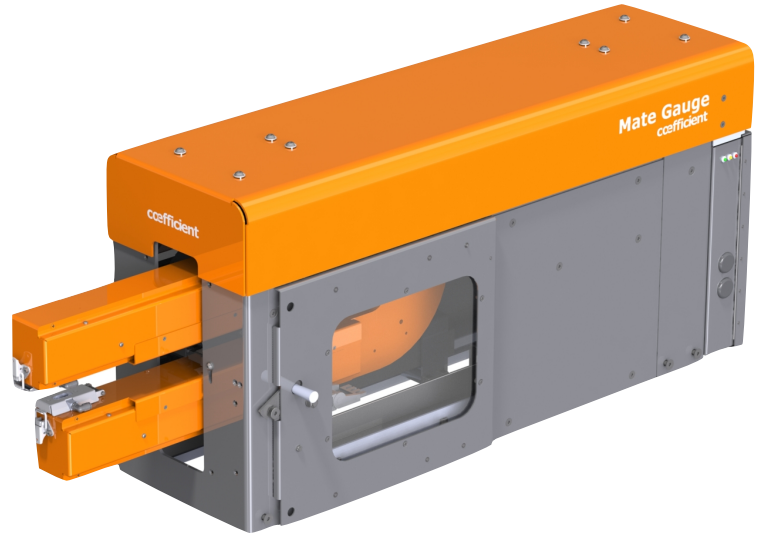
Individual Plates



Continuous Panel



Continuous Strip



REDUCES SCRAP BY 3-5%

- **Control the thickness of every plate** with unmatched precision
- **Eliminate operator error** using automatic control
- **Drive continuous improvements** using process data

CUTS YOUR THICKNESS VARIATION IN HALF

- **Slash thickness variations** across plate profiles using traversal scanning technology
- **Prevent uneven plates** and leaning stacks
- **Achieve superior quality**, every time

ACHIEVE TRULY AUTOMATIC CONTROL

- **Self-calibrating** operation for consistently accurate readings
- **Built-in cooling** and temperature stabilization to ensure low maintenance requirements
- **It even cleans itself** and performs diagnostic checks for errors or abnormalities

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FEATURES

- ✓ NON-CONTACT MEASUREMENT
- ✓ FULL STRIP PROFILE DISPLAYED
- ✓ ACTIVE THERMAL CONTROL
- ✓ TOUCHSCREEN DISPLAY
- ✓ EASILY INSTALLED AND MAINTAINED
- ✓ NETWORKABLE
- ✓ REMOTE SUPPORT
- ✓ DATA LOGGING

TECHNICAL SPECIFICATIONS

PASTING LINE SPECIFICATIONS

| | | |
|---------------------------|--|---------------------|
| Line Speed | 100+ m / min | [300+ ft / min] |
| Plate Thickness (typical) | 0.1 mm to 10 mm | [0.003 to 0.40 in] |
| Plate Type | Continuous Strip; Single or Dbl Panels | |
| Pasting Machine | Cloth Belt, Steel Belt, Drum, FOP | |
| Surface | With or without pasting paper, flat or textured. | |
| Line Location | Before or After Flash Dry | |
| Spray-Down | Near Spray Down is acceptable. Not intended for frequent high-pressure washing. | |

THICKNESS MEASUREMENTS

| | | |
|--------------------|------------|---------------|
| Resolution | 0.1 µm | [0.00004 in] |
| Accuracy (typical) | 4 µm | [0.00016 in] |
| Stroke | 38 cm | [15 in] |
| Scanning Speed | 15 cm/sec | [6 in/sec] |
| Thickness Range | 0 to 20 mm | [0 to 0.8 in] |
| Measurement Freq. | 1 to 3 kHz | |

WEIGHT

| | | |
|-----------------|-------|-----------|
| Sensor Assembly | 50 kg | [110 lbs] |
| Operator Panel | 10kg | [22 lbs] |

SUPPLY REQUIREMENTS

| | | |
|---------------------|------------------|-------------------|
| Supply Requirements | 6 A @ 110V/60 Hz | 3 A @ 240 V/50 Hz |
| Air | 12 CFM @ 90 PSI | |

PHYSICAL DIMENSIONS

| | | |
|--------------------|--------------------|-----------------------|
| Sensor Assembly | 978 x 329 x 473 mm | [38.5 x 13 x 18.6 in] |
| Operator HMI Panel | 285 x 190 x 60 mm | [11.2 x 7.5 x 2.5 in] |

ENVIRONMENTAL

| | | |
|-----------------------|----------------|-------------------|
| Operating Temperature | 10 °C to 60 °C | [50 °F to 140 °F] |
| Humidity | < 90% | |

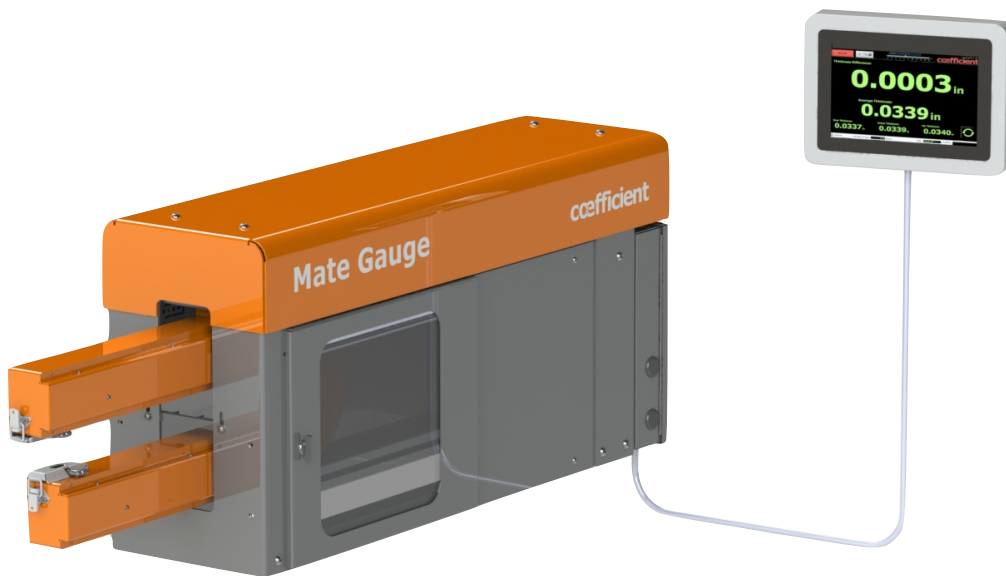


MATE GAUGE 3

NEW STREAMLINED DESIGN. SAME CAPABILITIES.

We've re-engineered the Mate Gauge to bring you the **same functionality at a reduced price**. Here are the major changes from Mate Gauge 2 to Mate Gauge 3:

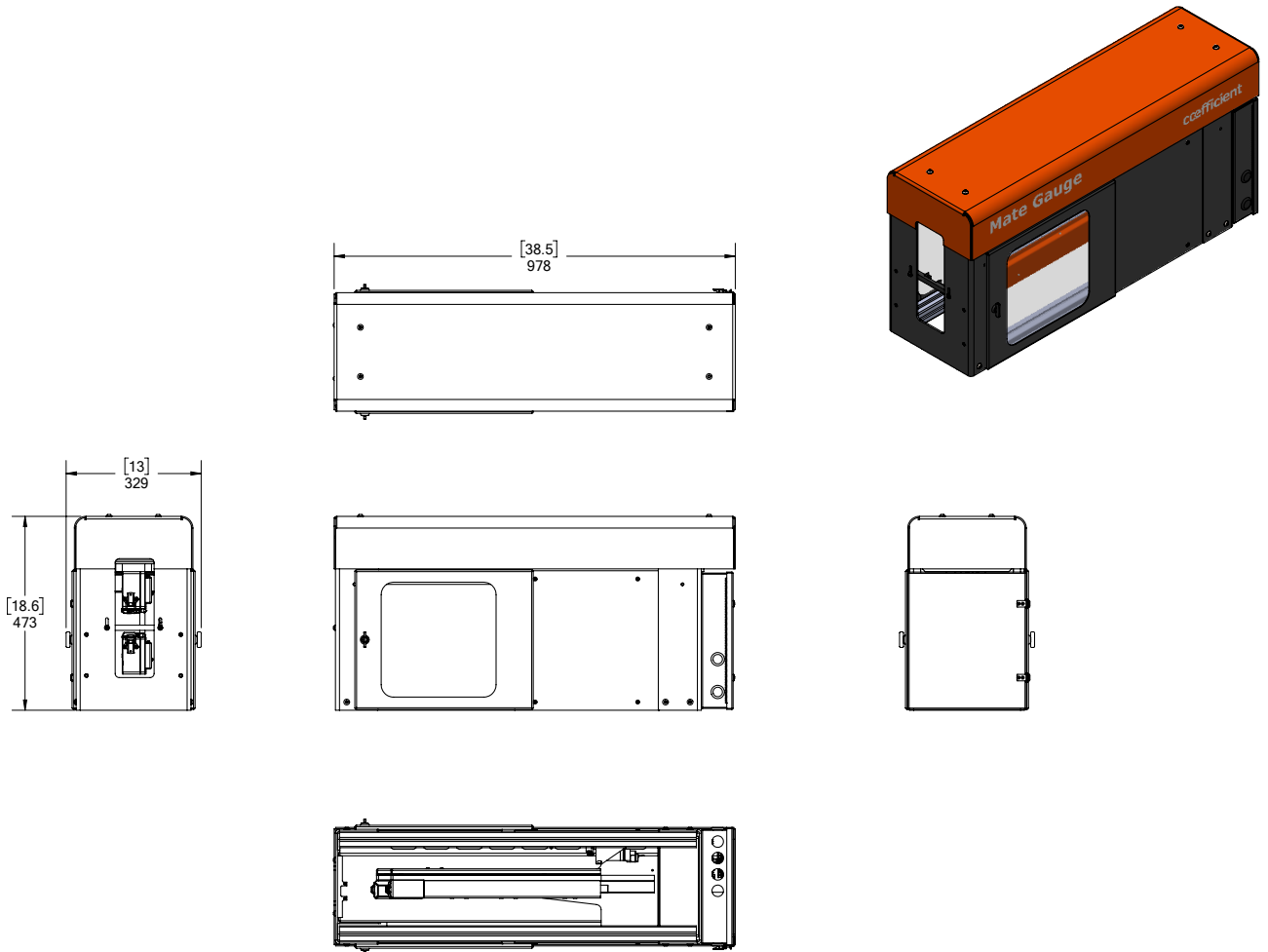
- The frame is constructed with aluminum instead of stainless steel. This reduces the corrosion resistance of the gauge but also the cost of production.
- Easier to Integrate: Smaller size to facilitate retro-fit installations on pasting lines.
- Integrated Electrical Box: Less external cabling, less field wiring.
- Improved Air Purge: Less manually cleaning.
- Included Housing: Housing completely covers the gauge when not in operation.



ORDER YOURS TODAY.



MATE GAUGE 3

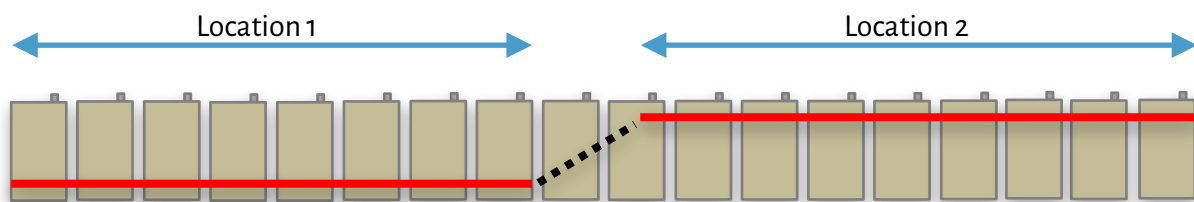


Co-efficient Precision Engineering Inc.
105 Schneider Road
Ottawa, Ontario, Canada

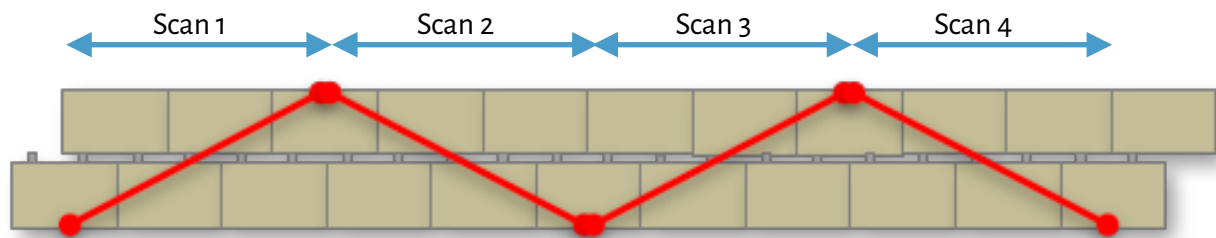
Phone: +1 (613) 287-0171
sales@co-efficient.com
www.co-efficient.com

Flexible Scanning Modes to Capture What's Needed

The **“Gauge and Go”** operating mode sets a number of transverse locations for the sensors to travel to for a defined period of time. While at each location, the sensors will continuously measure thickness. The software then reports thickness at each location and computes the side to side difference:



The **“Scan Capture”** mode performs simultaneous strip traversal and continuous thickness measurements:



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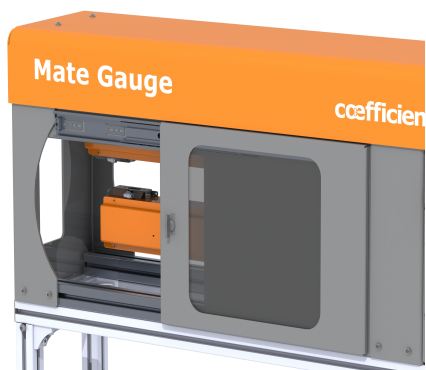
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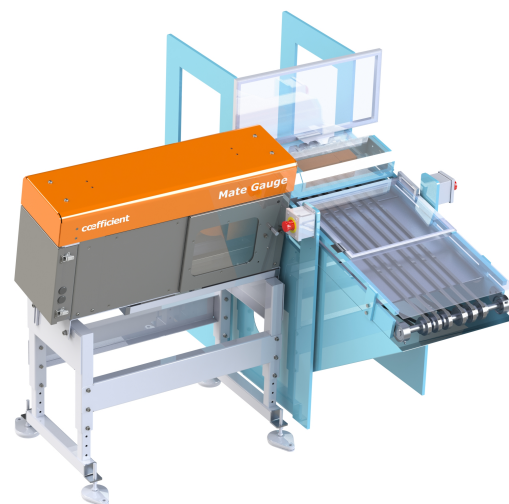
Integration with Conveyor.



Stand for strip (immediately after paster).



Cleaning Access.



Stacker Integration.

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Controls and Displays Purpose-Built for the Battery Industry

On-screen data visualizations ensure that the right data reaches line operators. The gauge display automatically connects to your existing systems to set thickness targets and key thresholds. Alarms appear on-screen with varying levels of severity (yellow tag, red tag, and flashing).

The visualizations show real-time thicknesses and run charts of multiple locations across the plates. Additional screens display cross-sectional and continuous profile thicknesses.



Large Numerical Display, Including Thickness Difference



Display showing thickness at locations, and dual-location run



**Needle Gauge Location
Showing Left-Right thickness.**

MATE GAUGE - SOFTWARE FEATURES

| | |
|----------------------------------|--|
| Operation Modes | Scan Capture Scan Capture - Sample Gauge and Go Gauge and Go - Micro Scan Gauge and Go - Four Corners |
| Measurement Filters | Outliers Working Range Deviation from recent average Deviation from target |
| Alarming System | Thickness Width Signal Quality Product centering System Health |
| Full Line Integration | Read line status from stacker Pass measurements to PLC Include PLC status in summary file Automatic Start/Stop of Mate Gauge based on line status Automatic product change based on product change at stacker PLC |
| Product Selector | Easily switch between multiple products manufactured on the same line Favourite products |
| User Interface | Separate UIs for Operators and Engineers Password Protected |
| Graphs and Visualizations | Thickness Shape Tilt Run Chart Needle Gauges (deviation from target) |
| Reporting | Measurement Summary file (MS Excel compatible) File Viewer (optional) Daily email report (optional) |

