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## MATE GAUGE DATASHEET

### INTRODUCING MATE GAUGE 3

#### THE NEW STREAMLINED AUTOMATIC THICKNESS GAUGE FOR LEAD-ACID BATTERY MANUFACTURING

#### 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 (UP TO 4 STRIPS)
- ✓ CLOSED LOOP THICKNESS CONTROL MODULE
- ✓ ACTIVE THERMAL CONTROL
- ✓ REPORTS MAX, MIN AND MEAN THICKNESS
- ✓ TOUCHSCREEN DISPLAY
- ✓ DATA LOGGING CAPABILITY
- ✓ EASILY INSTALLED AND MAINTAINED
- ✓ NETWORKABLE
- ✓ REMOTE SUPPORT

### TECHNICAL SPECIFICATIONS

#### PASTING LINE SPECIFICATIONS

Line Speed	100+ m / min	[300+ ft / min]
Plate Thickness (typical)	0.5 mm to 6 mm	[0.020 to 0.230 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 $\mu$ m	[0.00004 in]
Accuracy (typical)	1 $\mu$ m	[0.00016 in]
Stroke	38 cm	[15 in]
Scanning Speed	15 cm/sec	[6 in/sec]
Thickness Range	0 to 8 mm	[0 to 0.3 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%	

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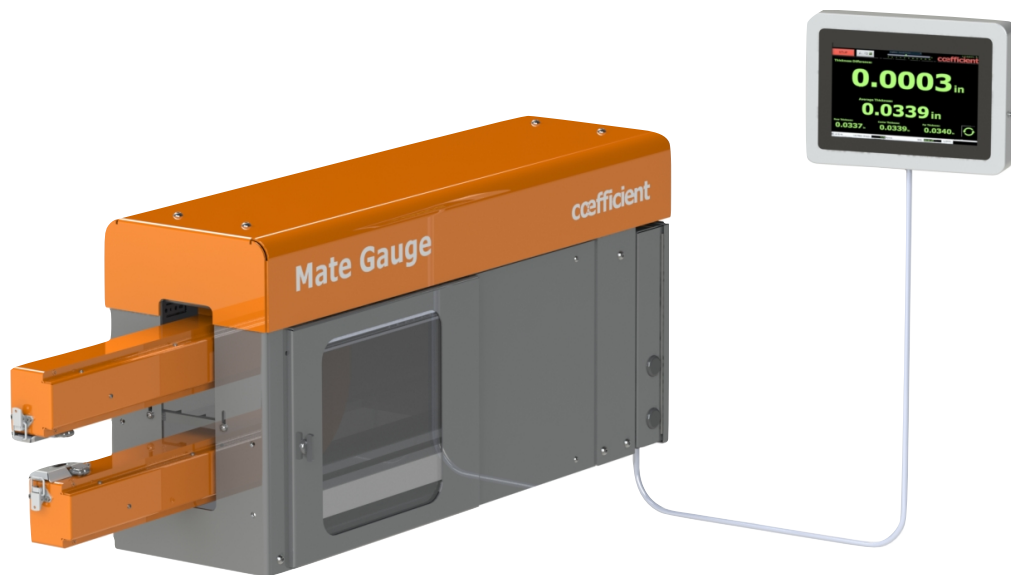
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### NEW STREAMLINED DESIGN. SAME CAPABILITIES.

We've reengineered 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.



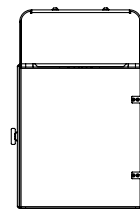
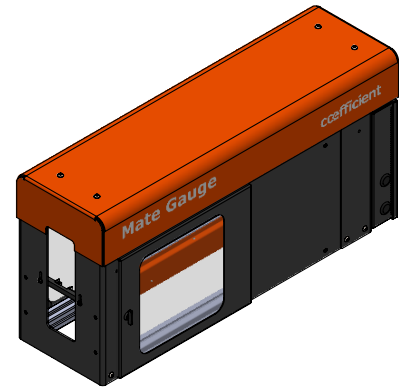
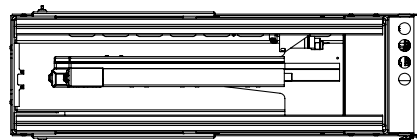
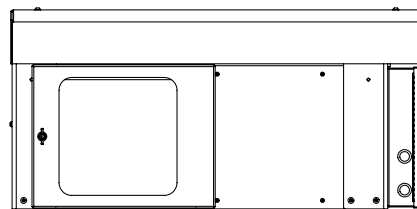
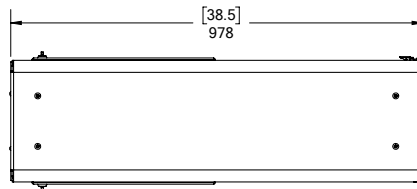
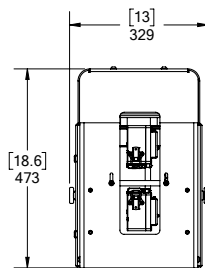
ORDER YOURS TODAY.

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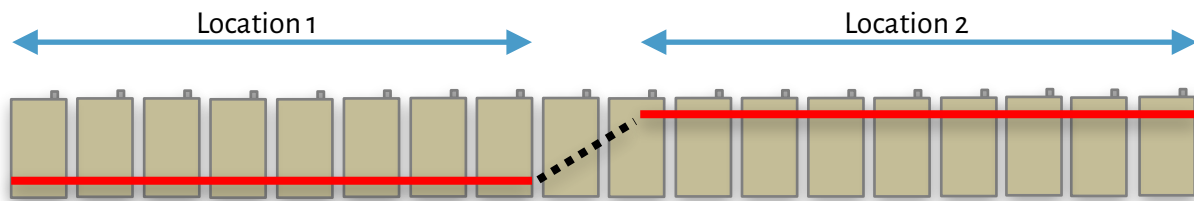


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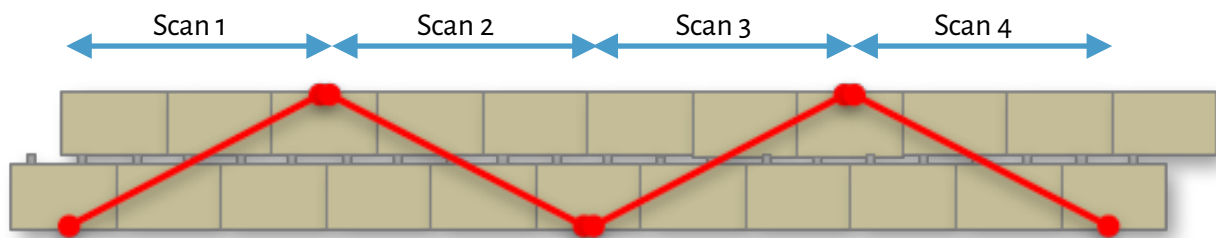
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# Flexible Scanning Modes to Capture What's Needed

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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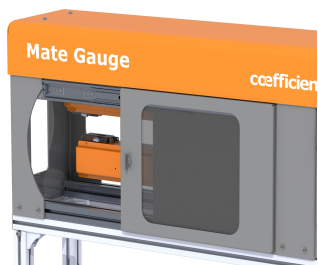
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Integration with Conveyor.



With optional skirted stand.



Cleaning Access.



Lead-strip caster installation.

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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 chart.



Needle Gauge Location Showing Left-Right thickness.

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## 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)

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