



GO FLAT OUT

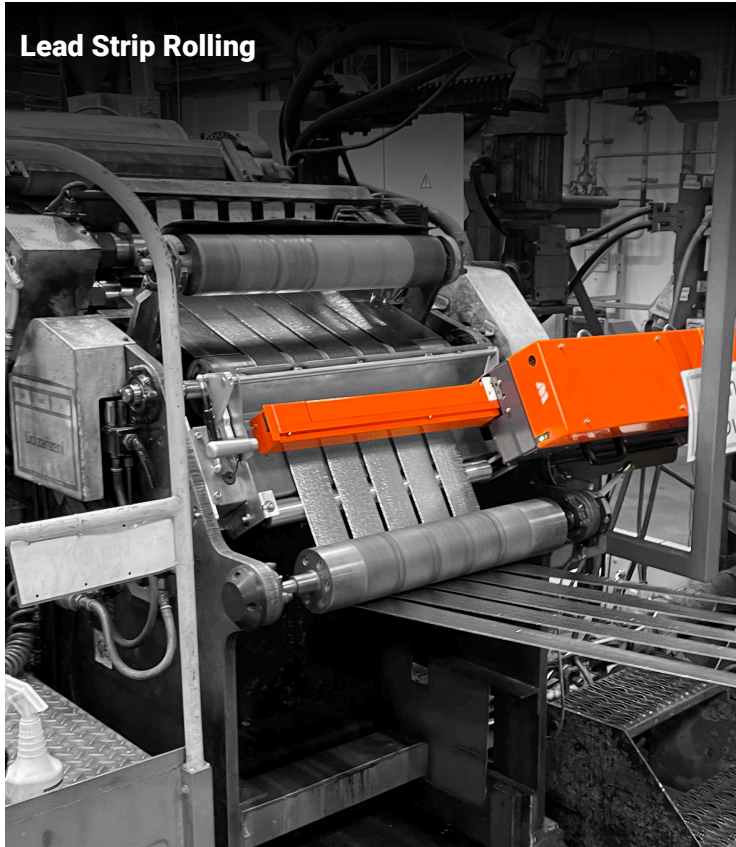
Get Complete Thickness Control



SCAN FOR
DIGITAL DOWNLOAD

Turnkey Laser Thickness Measurement Solution for Flat Product Manufacturing

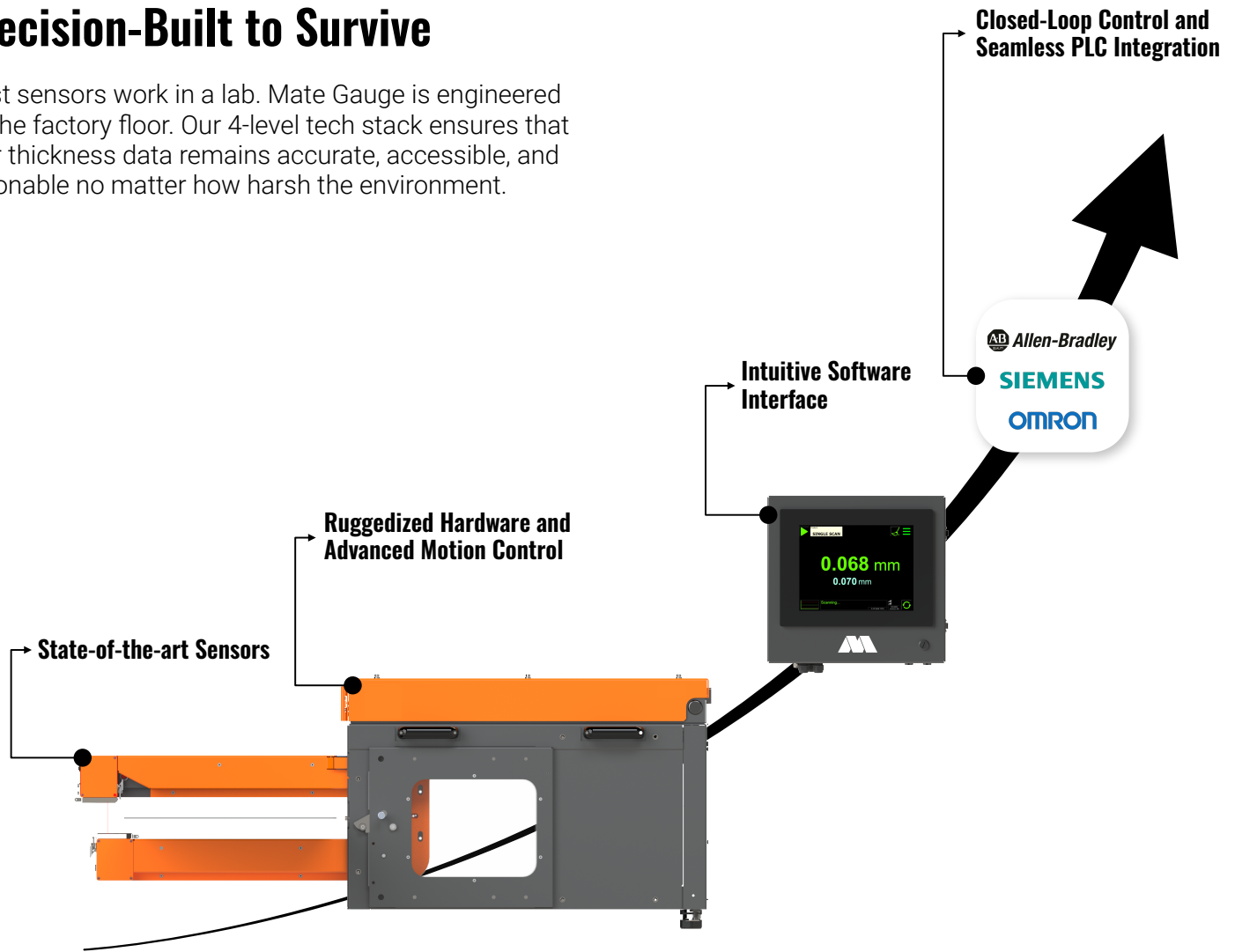
Most suppliers sell you a sensor. Mate Gauge gives you a complete thickness monitoring system engineered for your line, installed by our team, and supported for the life of the machine.



The Mate Gauge Tech Stack:

Precision-Built to Survive

Most sensors work in a lab. Mate Gauge is engineered for the factory floor. Our 4-level tech stack ensures that your thickness data remains accurate, accessible, and actionable no matter how harsh the environment.



Built Around One Goal: Process Certainty

Every component of the Mate Gauge platform works in concert from the sensor lens to the PLC output to give manufacturers certainty at every micron, on every shift.

01

State-of-the-Art Sensors

25kHz high-fidelity sampling captures sub-millisecond process events that slower systems miss.

Achieves micron-level accuracy without ever contacting the material surface.

02

Ruggedized Hardware & Motion Control

Active $\pm 0.1^{\circ}\text{C}$ thermal management eliminates measurement drift on 24/7 production shifts.

Air-purged optics survive dust, steam, and vibration without performance loss.

03

Intuitive Software Interface

mgOS converts 25kHz raw data into clear, stable operator displays in real-time.

Shape visualization and Virtual Micrometers bring lab-grade quality inspection to your production line.

04

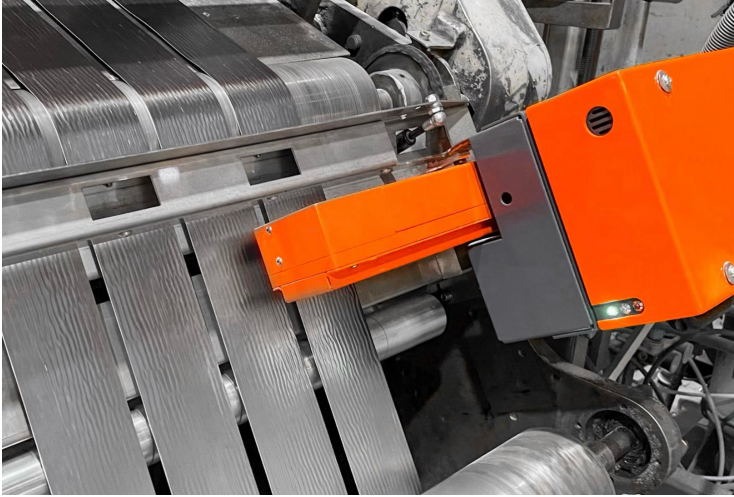
Closed-Loop PLC Integration

Native Ethernet/IP communication with Allen-Bradley, Siemens, and Omron PLCs out of the box.

Feed live thickness data back to your mill or caster to automatically reduce scrap.

Applications

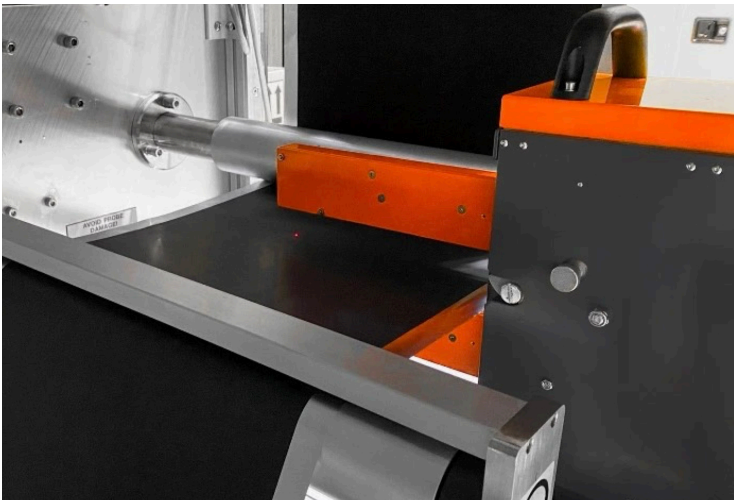
Cast Lead Strips



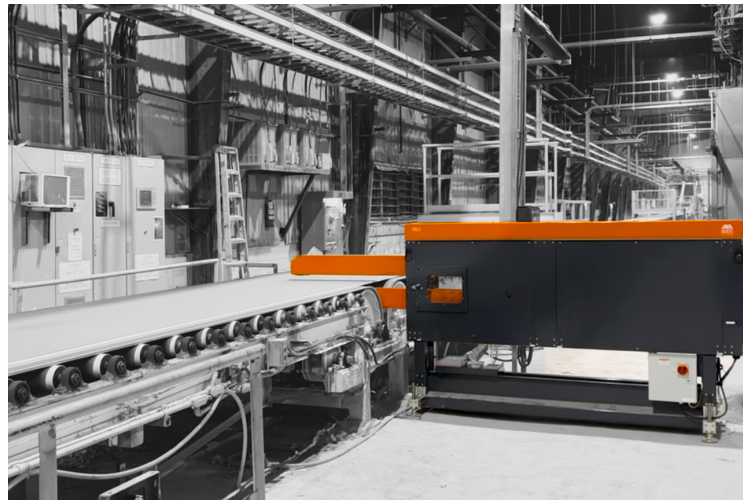
Veneer



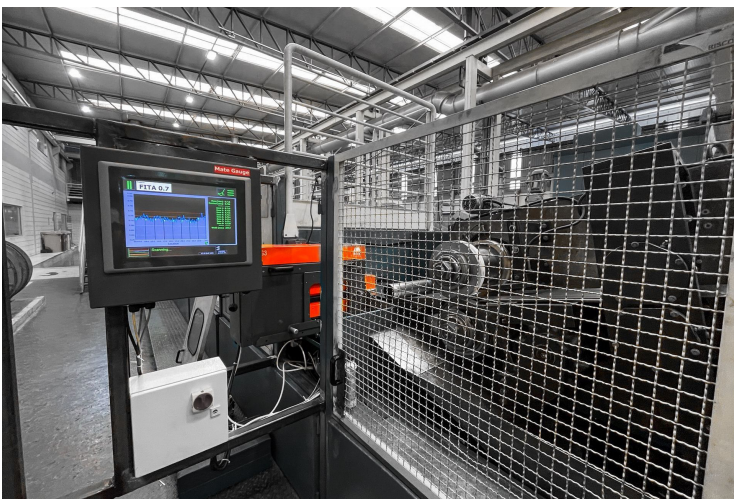
Lithium Battery



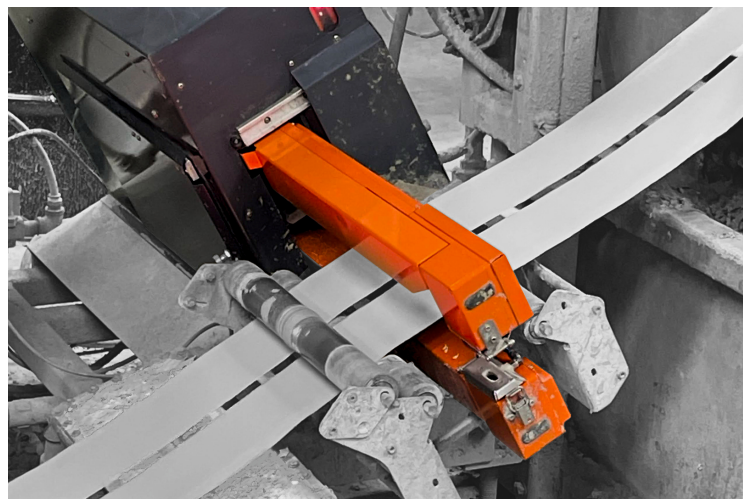
Gypsum



Rolled Lead Strips



Pasting Lines



CONTINUOUS VENEER MEASUREMENT

See the true thickness of every ribbon, edge-centre-edge, in real-time.



Complete Veneer Thickness Data.

At Line Speed. Every Sheet.

03

Runs reliably without intervention.

Self-calibrating, temperature-stabilized, and cleaning-monitored. The MGV is built to hold accuracy across every shift without operator babysitting.

02

9 micrometer readings per sheet, live to your PLC.

Every sheet is measured from edge-to-edge across 9 virtual micrometer positions: head, middle, and tail. Results are published directly to your PLC in real-time. No manual logging, no sampling, no lag.

01

Full coverage at full speed.

The MGV samples at 75,000 times per second across three locations simultaneously, measuring both edges and centre without slowing your line or interrupting production.

Reliability

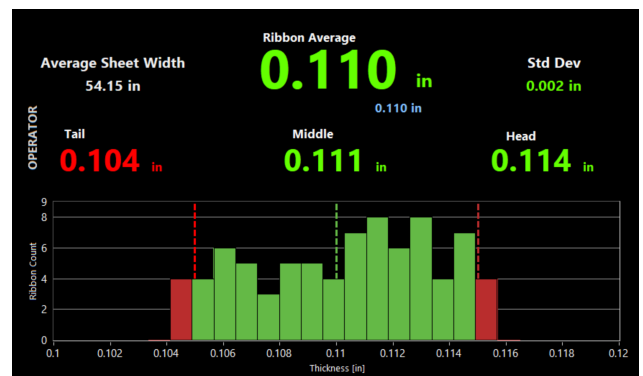
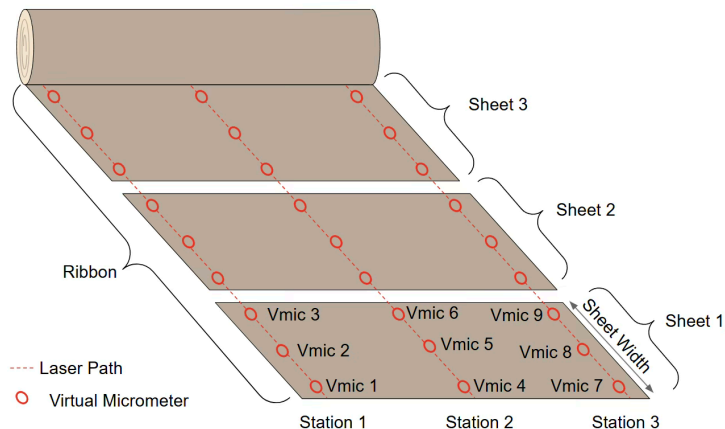
- Self-calibration thickness reference system
- Active temperature stabilization up to $\pm 0.1^{\circ}\text{C}$
- Sensor cleaning status indicators
- Active air curtains for dust control and steam mitigation
- NIST-traceable calibration every 3 months

Integration

- Native Ethernet/IP works with Allen-Bradley, Siemens, and Omron
- Line-triggered scanning. Starts automatically when your line runs
- Real-time KPI publishing to PLC tags
- CSV data logging stored on-device
- Remote access and diagnostics

Measurement

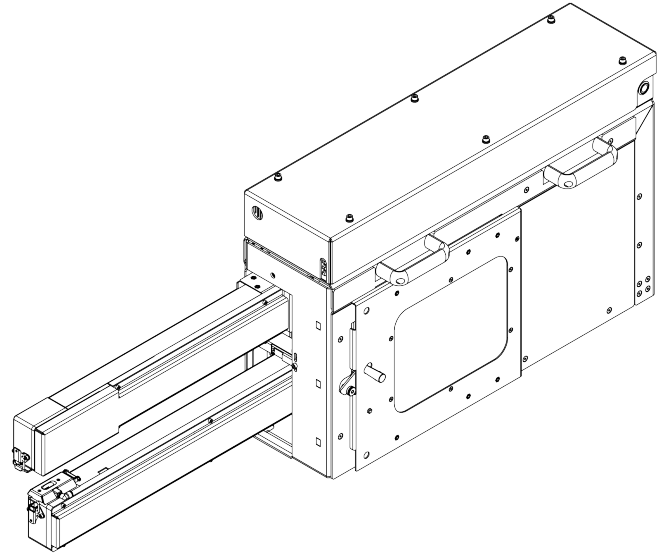
- 75,000 samples per second
- Runs at full line speeds; no slowdown required
- 9 virtual micrometer readings per sheet
- Full sheet and ribbon thickness profiles
- Thickness roughness measurement
- Clip width measurement





Built to Run Where Other Systems Fail

Factory floors are dusty, damp, and induce lots of vibration. Lead processing lines corrode equipment. Veneer peeling lines fill the air with steam and wood dust. Mate Gauge hardware is engineered specifically for these environments, sporting sealed enclosures, air-purged sensors, and active thermal management to keep the system measuring accurately through conditions that induce drift in unstabilized sensors.



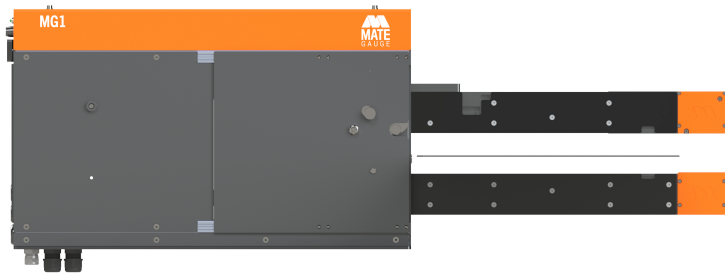
Linear Movement Across Material Width

The scanning actuator travels edge-to-edge, capturing a complete cross-sectional thickness profile at up to 25,000 samples per second. Choose Scan Capture for full profiles or Gauge-and-Go for point measurements at preset locations. Utilize our virtual micrometers to match your current hand micrometer process.

Closed-Loop Control

mgOS feeds live thickness data directly to your PLC via Ethernet/IP. A configurable PID controller calculates corrections to caster or mill speed automatically, keeping production in-spec without operator intervention. Supported on Allen-Bradley, Siemens, and Omron.

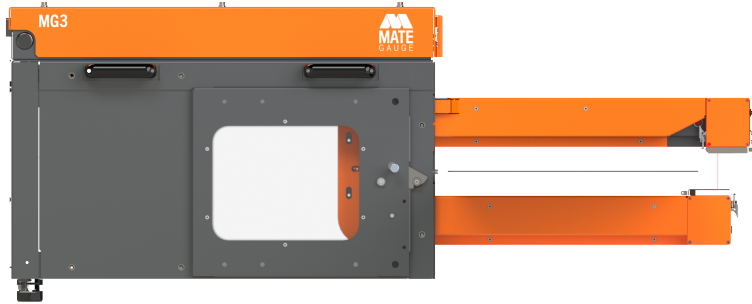




MG1

Scanning Range	460 mm
Thickness Range	0 to 20 mm
Measurement Frequency	0 to 5 kHz

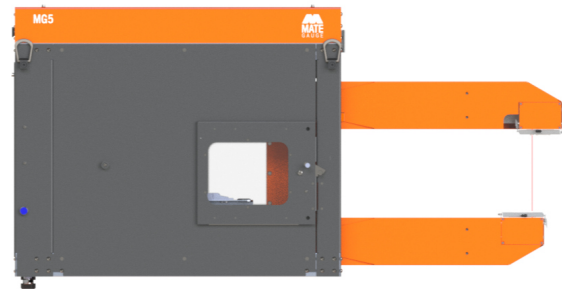
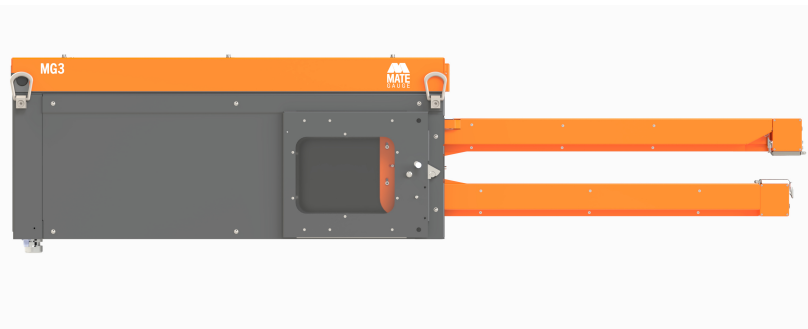
Easy to set up and maintain, this affordable solution is ideal for small to mid-sized facilities with limited floor space.



MG3

Scanning Ranges	
20"	515 mm
36"	924 mm
Thickness Range	0 to 20 mm
Measurement Frequency	0 to 5 kHz

Operator independent. Non-contact inline thickness measurement.

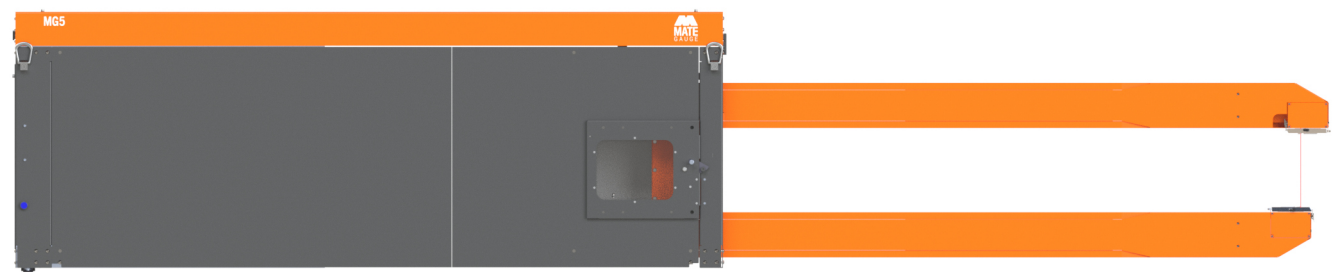


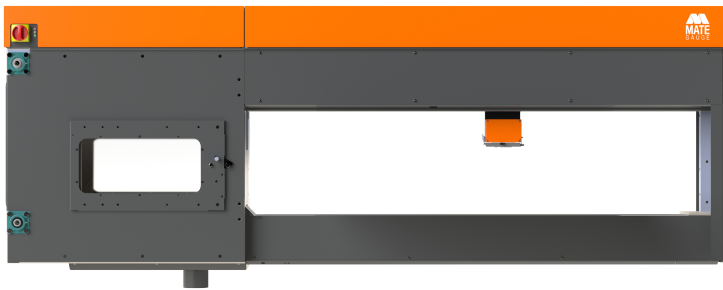
MG5

Scanning Ranges	
24"	635 mm
48"	1219 mm
65"	1650 mm
80"	2032 mm
86"	2184 mm

Thickness Range	0 to 51 mm
Max Measurement Frequency	0 to 20 kHz

A large-scale non-contact thickness measuring gauge designed for wide product manufacturing.





MGO

Scanning Range	1803 mm
Thickness Range	0 to 51 mm
Max Measurement Frequency	0 to 20 kHz

Laser thickness measurement for boards and panels. Improves thickness control with automatic thickness readings across the full panel without taking up additional floor space.



MGV

Scanning Range	2591 mm
Thickness Range	0 to 51 mm
Max Measurement Frequency	0 to 20 kHz

Purpose-built for veneer peeling lines. Triple-laser edge-centre-edge measurement delivers continuous, inline thickness monitoring across the full ribbon.



HMI Powered by mgOS

Virtual Micrometer

Get instant, micrometer-like readings directly without stopping your line.

mgApps

mgOS comes standard with a comprehensive repository of apps catered to specific thickness monitoring needs.

Recipes

Easily store product specifications to simplify changeovers and standardize quality.

Warnings and Alarms

Stay ahead of problems with intelligent alarms. Highlight out-of-spec conditions in real-time for operators to take immediate action.

PLC Integration and Closed Loop Control

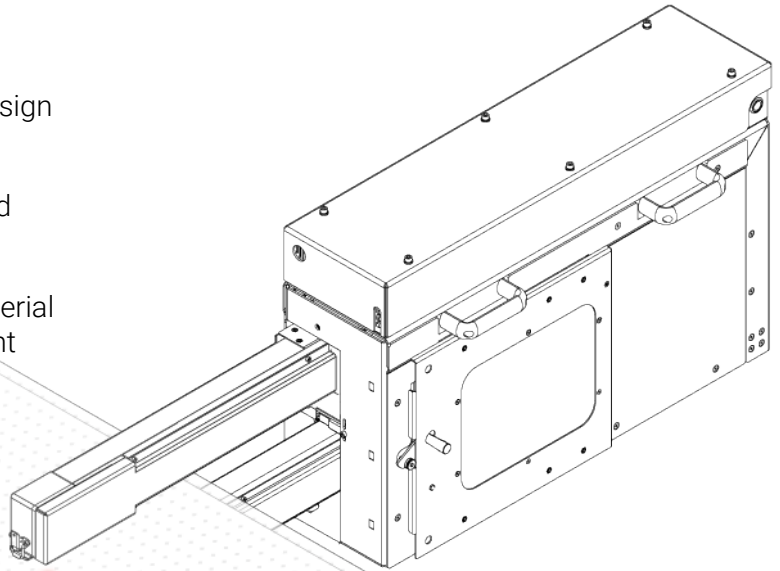
Connect seamlessly to your existing control system architecture. Feed thickness data directly back to your PLC for on-the-fly adjustments.

Switch Products in Seconds with Recipe Management

Getting started with mgOS is straightforward. Three steps take you from configuration to scanning:

1. **Measuring Profile** Select your app and configure it to your process requirements, including any motion overrides.
2. **Product** Define your product specifications, then assign a measuring profile and material preset.
3. **Select & Scan** Choose the product on the gauge and start scanning. mgOS handles the rest.

Each product stores its own measuring profile and material preset, so switching between runs is fast and consistent with no manual reconfiguration required.



1 MEASURING PROFILE

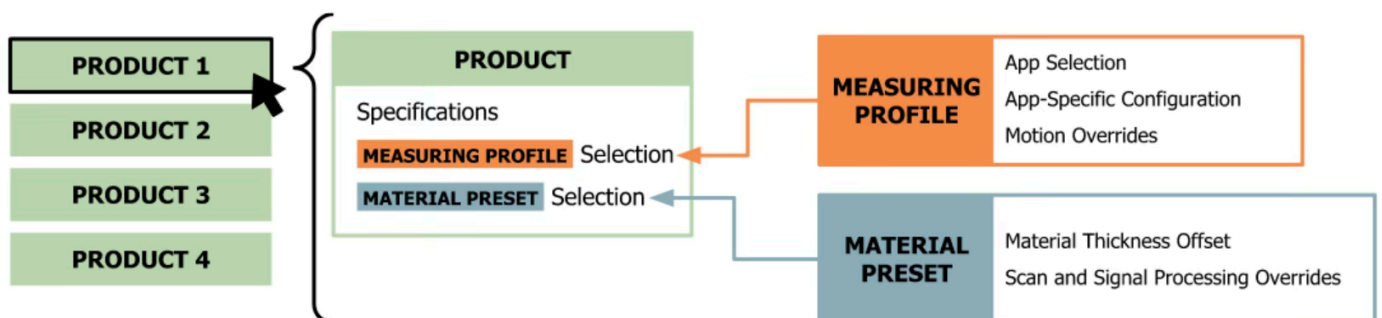
Select the desired **app** in a measuring profile

2 PRODUCT

Associate the **MEASURING PROFILE** to a product, along with a **MATERIAL PRESET**

3 SELECT & SCAN

Select the **PRODUCT** on the gauge and start scanning!



Thickness Alone Isn't the Full Picture

mgOS visualizes complete cross-sectional shape in real-time, exposing taper, crown, and edge deviation that point measurements never reveal.

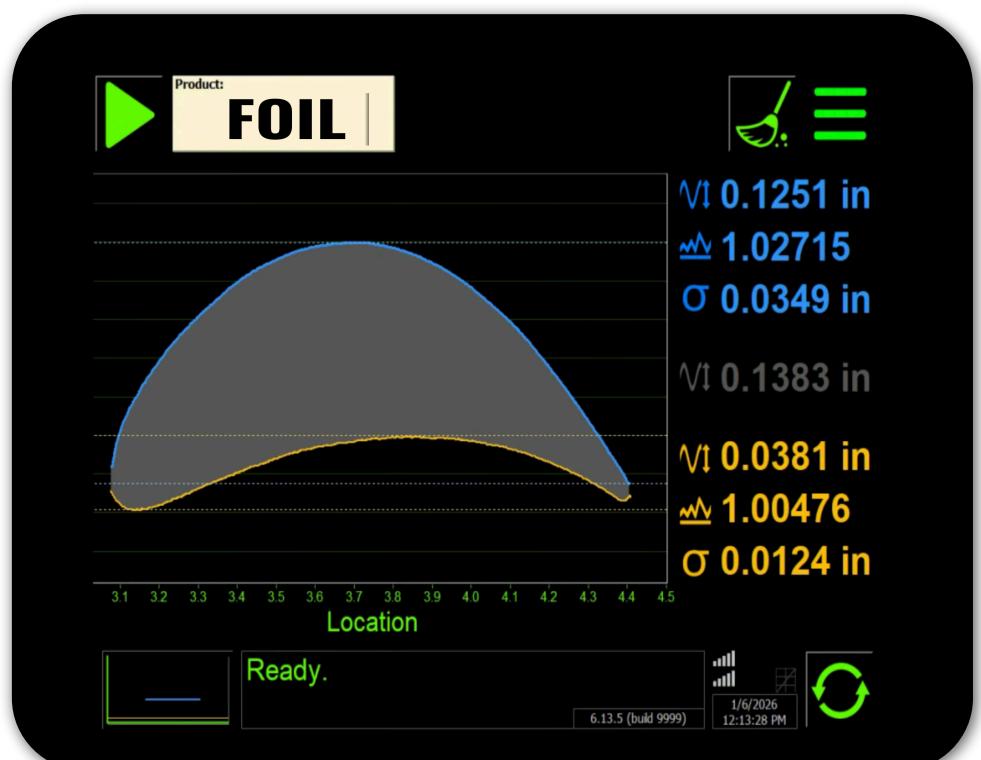


Taper Edge Detection

mgOS maps taper width and depth across both edges of a gypsum board simultaneously. Quality issues invisible to caliper checks are revealed in seconds without stopping the line.

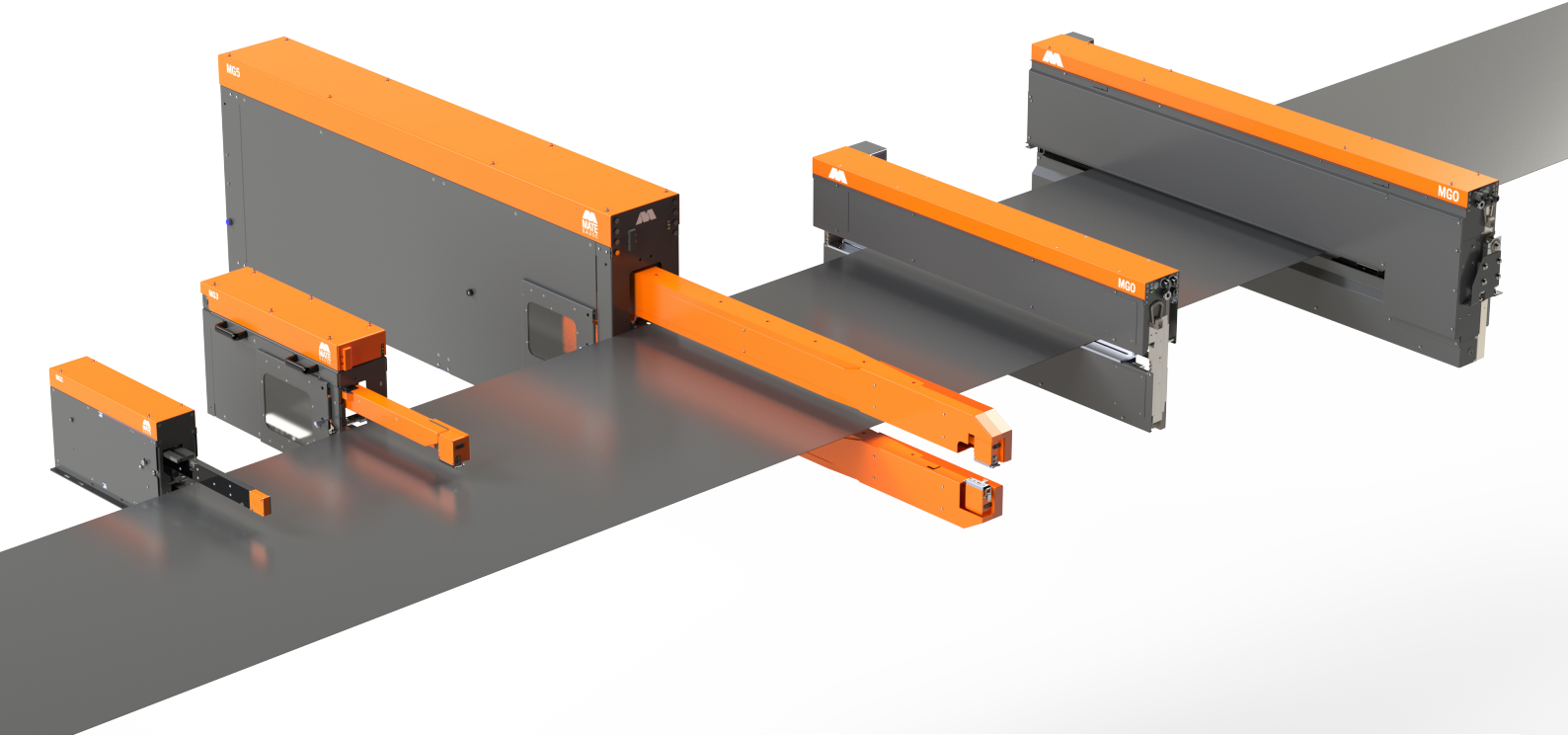
Cross-Section Profile Visualization

The top and bottom surfaces of the strip are measured simultaneously, producing a live cross-sectional profile. For contoured components, a single thickness reading tells you almost nothing — this tells you the full geometry.



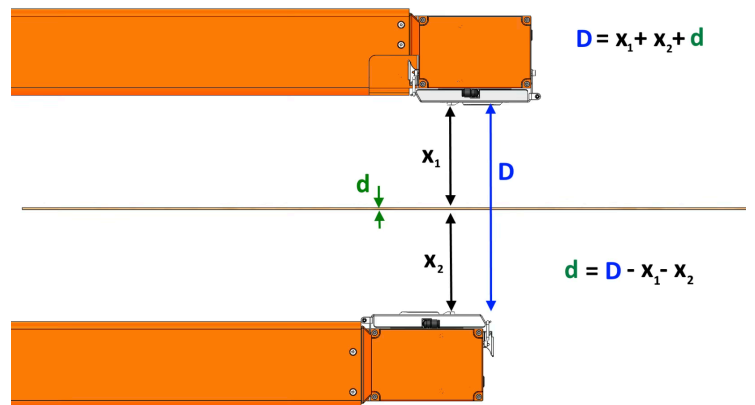
Benefits of Scanning

Scanning gives you self-calibration, sensor health monitoring, full-width profiling, and flexible measurement locations which are capabilities that a fixed sensor simply cannot deliver.



Opposed Laser Distance Sensors

Two opposed laser sensors, one above your material and one below, travel edge-to-edge across the full width, measuring simultaneously at up to 25,000 samples per second. No contact with the material. No gaps in data.

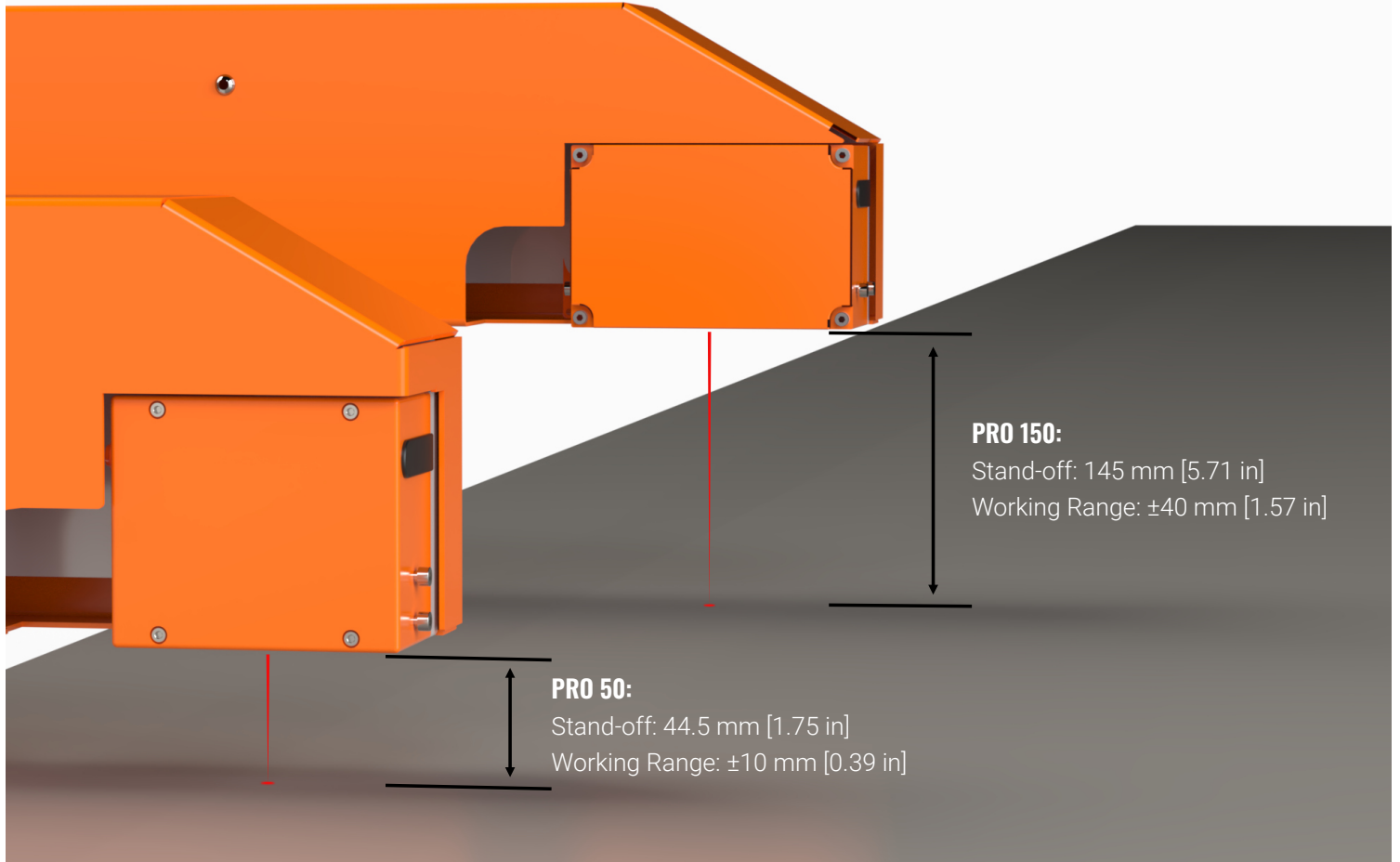


mgOS for Strips

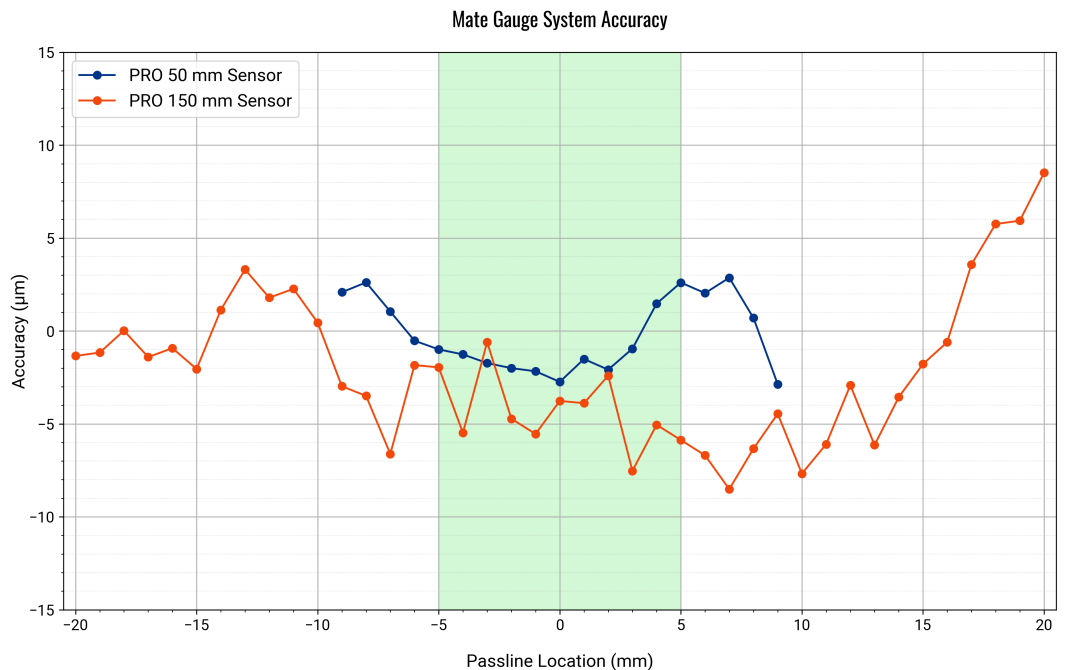
The Strips App has a live display of mean thickness of each strip, plus minimum, maximum, standard deviation, and width. Color-coded alerts (green/yellow/red) fire the instant any strip drifts out of spec.



Stand-Off Options Matched to Your Process



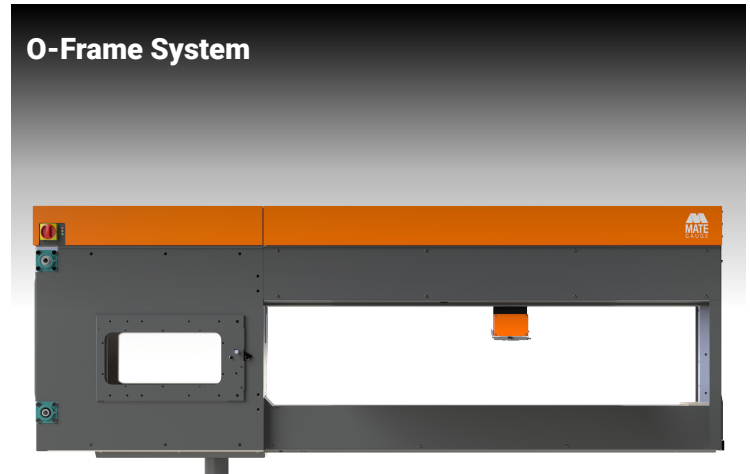
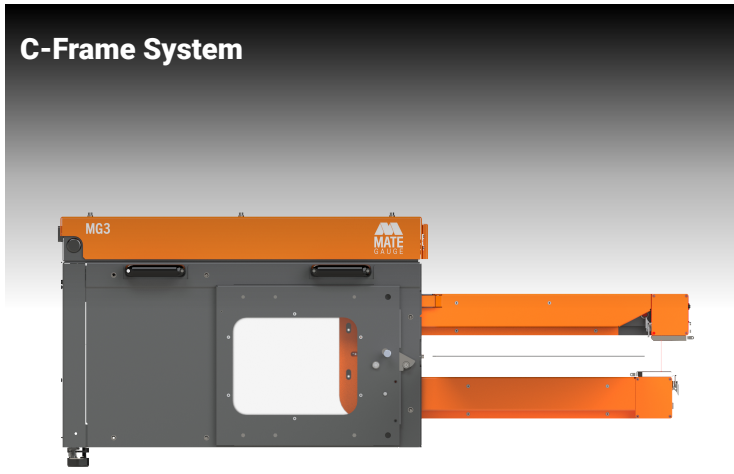
Real accuracy, tested on real Mate Gauge systems. Within the specified operating window for each sensor, both the PRO 50 and PRO 150 hold within a few micrometres across the full passline range.



**Data collected with a 1 mm acid blackened sample

Mate Gauge Automates Critical Measurements for Increased Production Quality

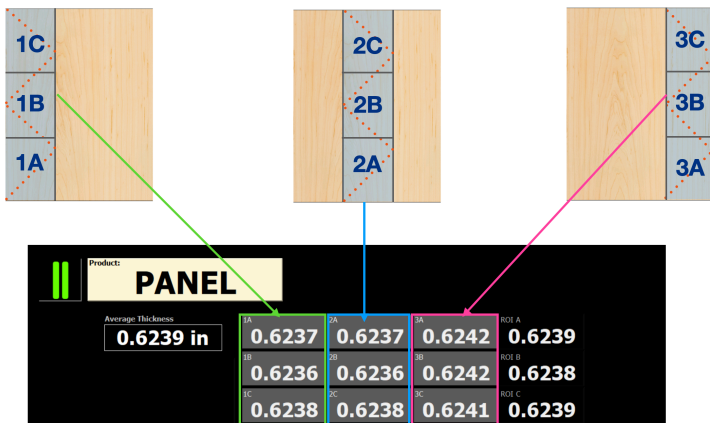
C vs O Frame. Which one to Choose?



The C-Frame arm sweeps across the material with housing beside your line, making it ideal for lines that require the gauge to retract completely off the line. The MGO's O-Frame mounts around the line with no footprint beside the line, making it ideal for compact spaces.

Nine-Zone Panel Grading

mgOS for Panels captures thickness data at high speed as three successive panels move through the gauge. Each panel is automatically divided into three zones — graded and averaged independently — giving you nine discrete readings per capture cycle. Spot thickness variation across the panel face, between panels, and from edge to zone instantly.



Gypsum Board Analysis

mgOS maps the full cross-sectional profile of each board (taper, shoulder, face, shoulder, taper), measuring thickness, taper depth, taper width, and board width continuously. Issues that would previously go undetected until post-dryer inspection are visible the moment they develop, giving operators time to act.



Lead Strip Casting

Continuous multi-strip monitoring with closed-loop caster speed control. Meets the demanding environment of lead processing.



Veneer

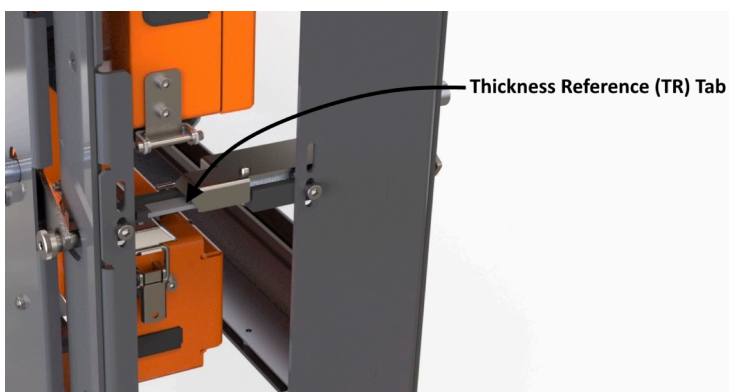
Triple-laser cluster measures both edges and center simultaneously. Active air curtains protect optics against wood dust and steam in the peeling environment.



Auto-Calibration System

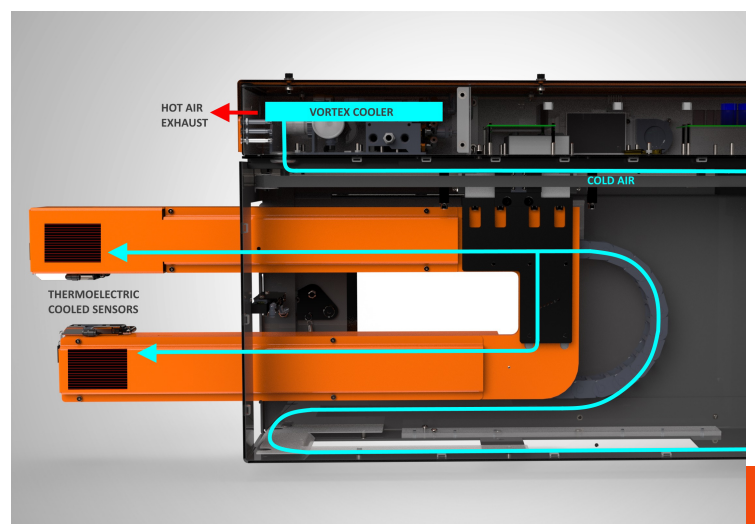
Every system performs periodic Thickness Reference (TR) self-checks, measuring an internal reference tab to detect and compensate for thermal drift and debris build up. No production interruption.

Calibration uses NIST-traceable blocks every 3 months with available certificate generation. Calibration accuracy is verified with a validation scan immediately after each calibration procedure.



Vortex Cooling System

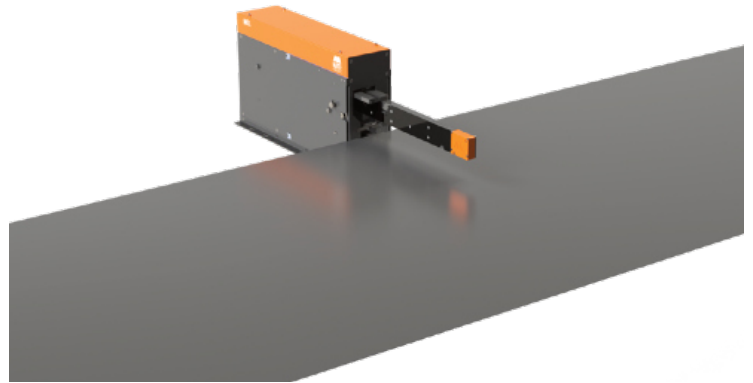
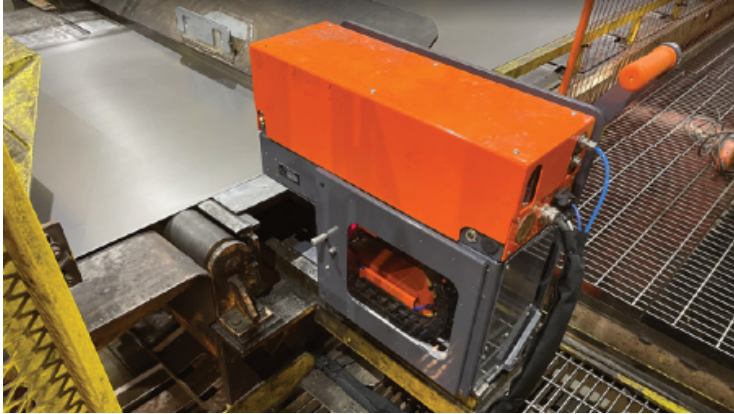
Laser sensors are sensitive to temperature drift. The vortex cooling system uses compressed air to hold sensor housings at a stable operating temperature regardless of what's happening on your production floor.



Steel Application Installations

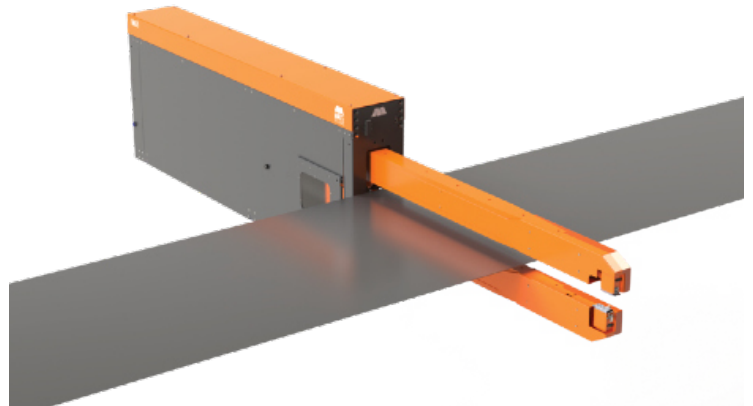
Edge Gauging

For applications in which the edge needs to be measured, Mate Gauge provides compact gauging solutions, maximizing aisle space.



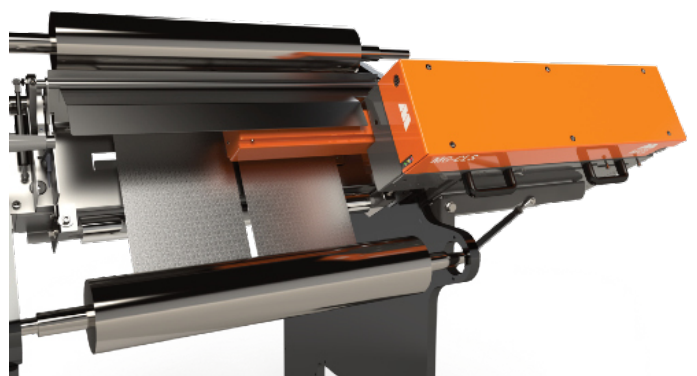
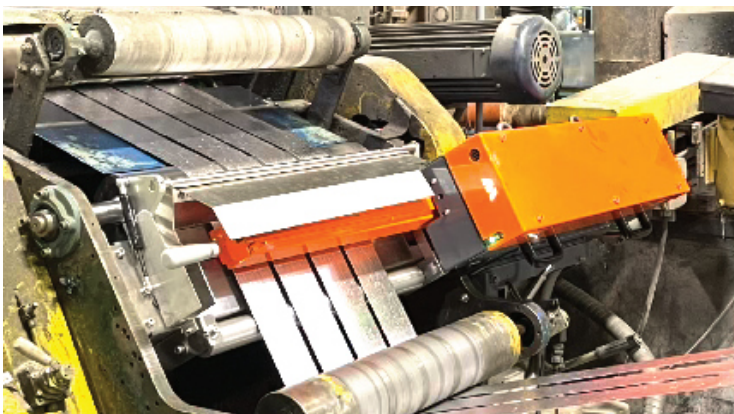
Full Strip Gauging

Accommodating a variety of strip widths, Mate Gauge's long stroke systems give you full control over the thickness consistency and quality of your material and coatings.



Cast Lead Strip

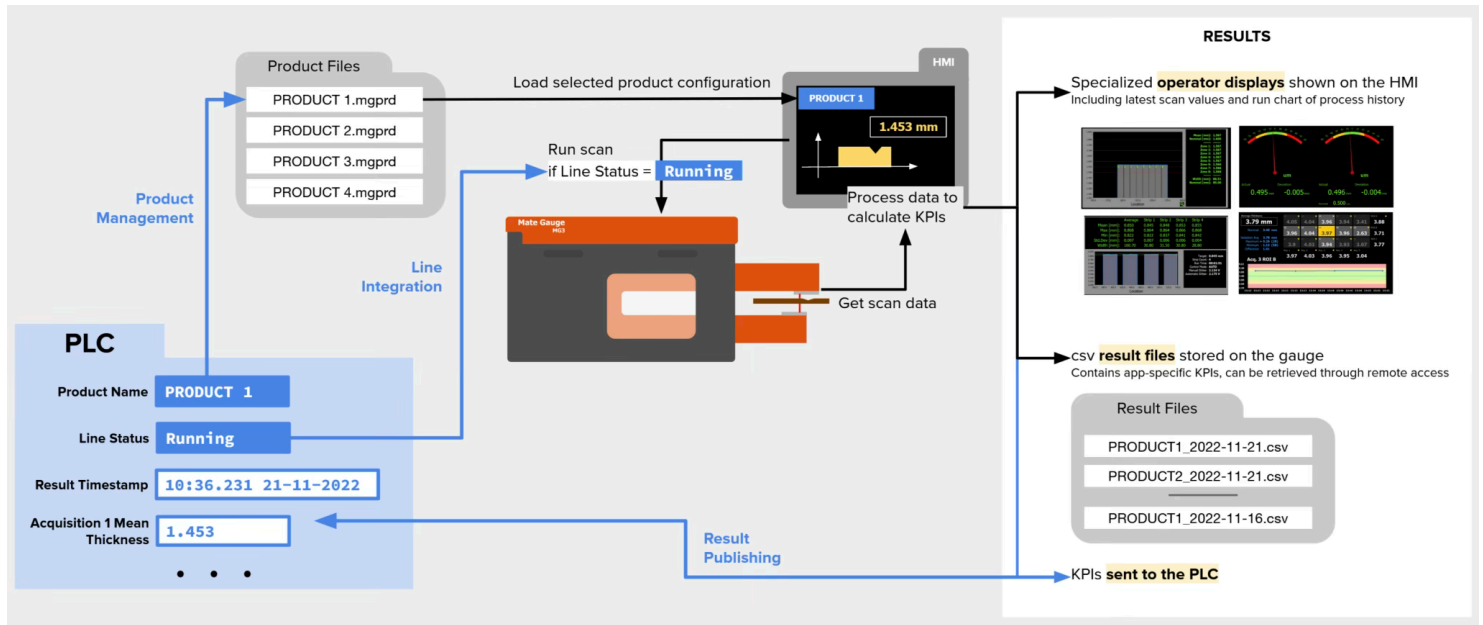
Mounts directly to the caster, optimizing floor space. Perfect for measuring multiple strips.



Your PLC Already Speaks Our Language

Plug Into Your Existing Line

Mate Gauge reads and writes to your PLC right out of the box. Mate Gauge integrates directly with your production line PLC via EtherNet/IP. During commissioning, you provide your PLC's IP address and tag names and we handle the rest. From that point on, your PLC and your gauge are in constant communication.



Result Publishing

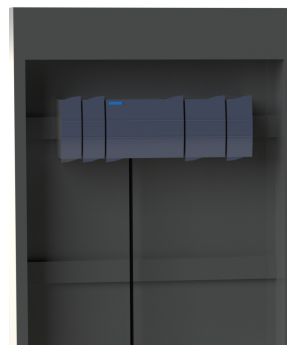
Every KPI the gauge calculates, including mean thickness, min/max, standard deviation, width, and more, is written directly to your PLC tags after every scan. No manual exports. No middleware. Your control system gets the data it needs, automatically.

Product Management

When your PLC changes the active product, the gauge changes with it. Load a new product name or ID through your existing control system and Mate Gauge instantly loads the matching specifications, measurement mode, and material settings without any operator input required.

Line Integration

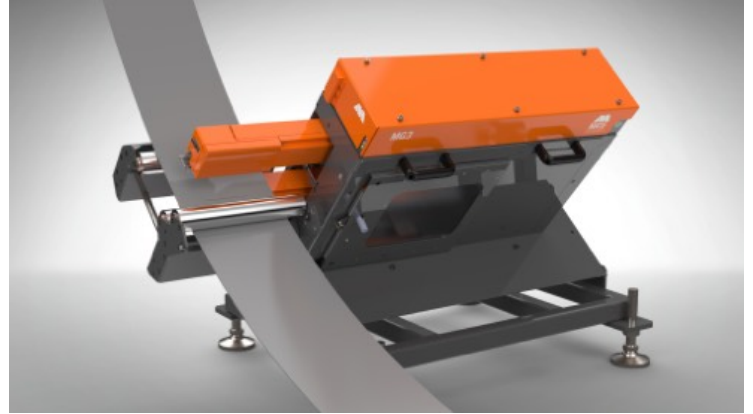
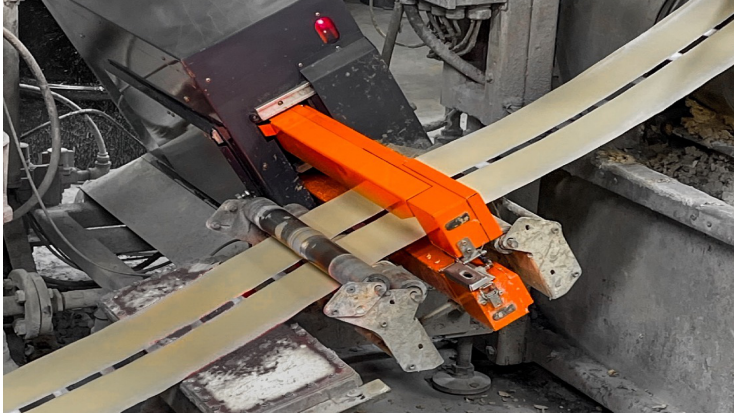
The gauge reads line status and line speed directly from your PLC. Scanning starts and stops automatically with your line, and speed data feeds into advanced processing and reporting without a separate trigger or manual command.



Battery Pasting Installations

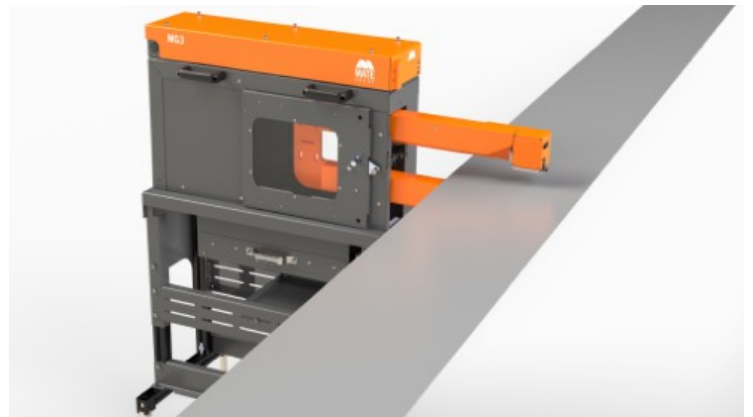
Wet Side

Positioned closest to the paster for the fastest response times, seamlessly fitting into existing control loops without extending the production line.



Dry Side

Measures thickness just before curing, providing the most accurate final thickness readings. Ideal for panel lines without a stacker.



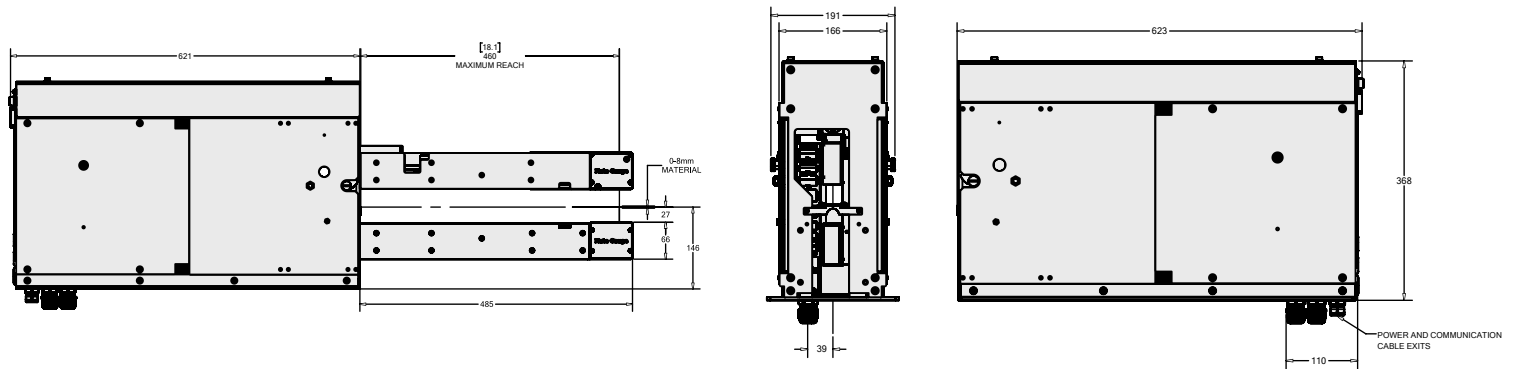
Integrated with Stacker Conveyor

Space-efficient option that integrated directly with stacker conveyors, optimizing line layout while maintaining precise measurement control.

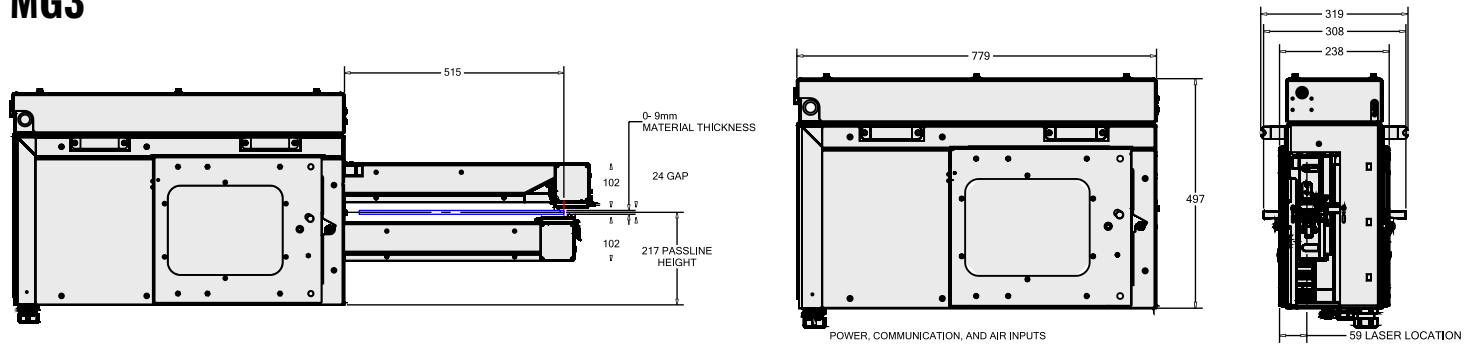


Mate Gauge System Dimensions and Drawings

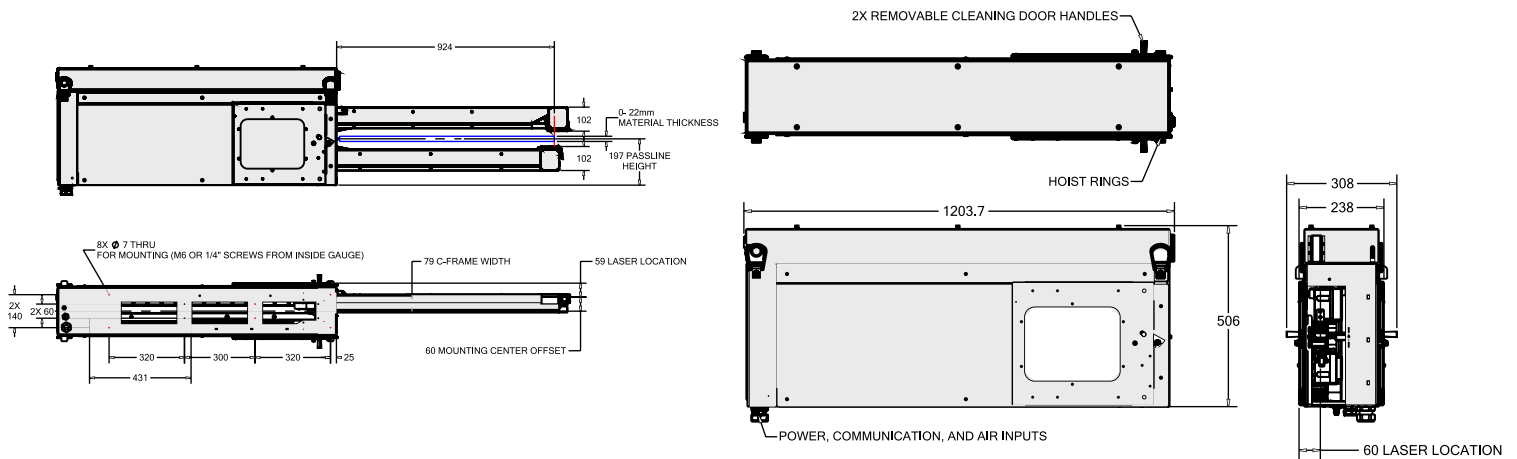
MG1



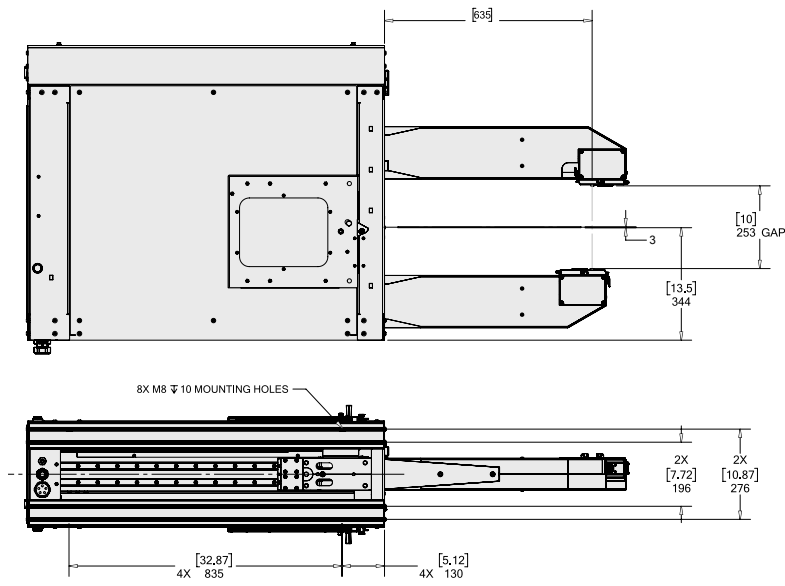
MG3



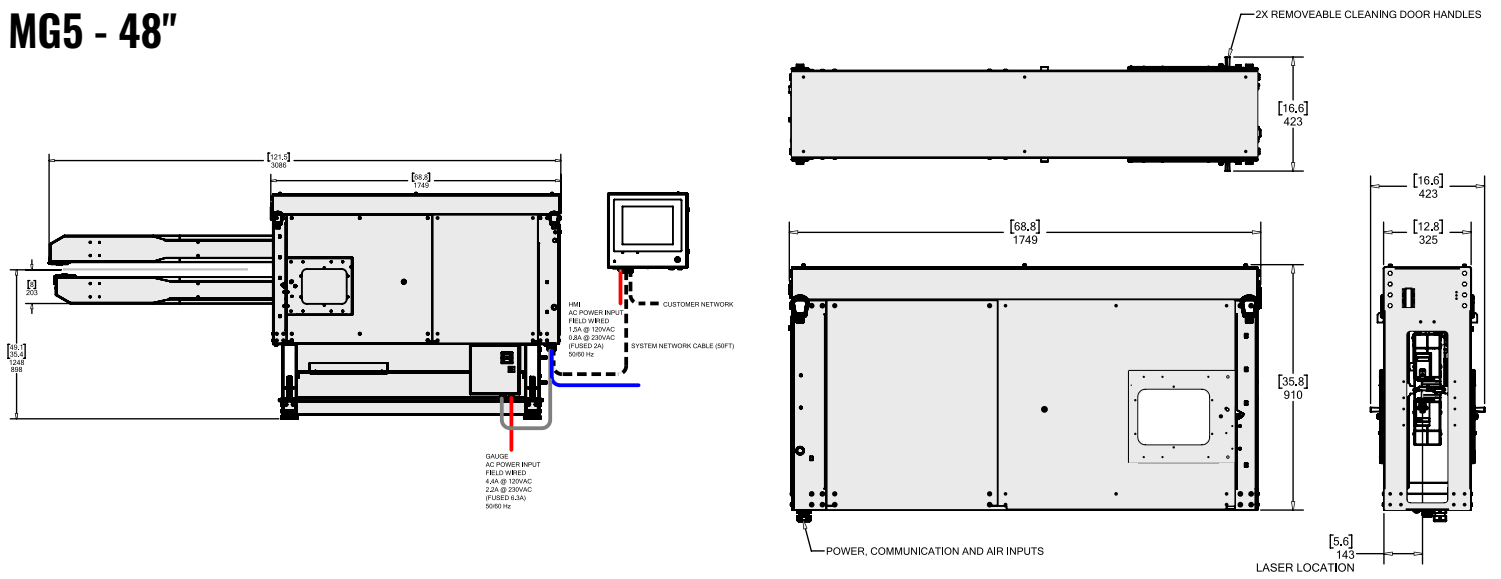
MG3-36



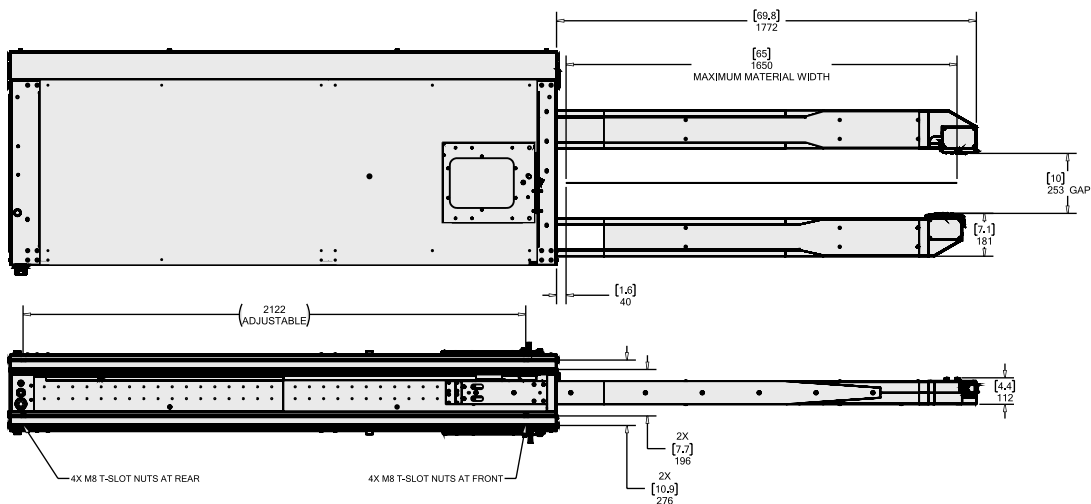
MG5 - 24"



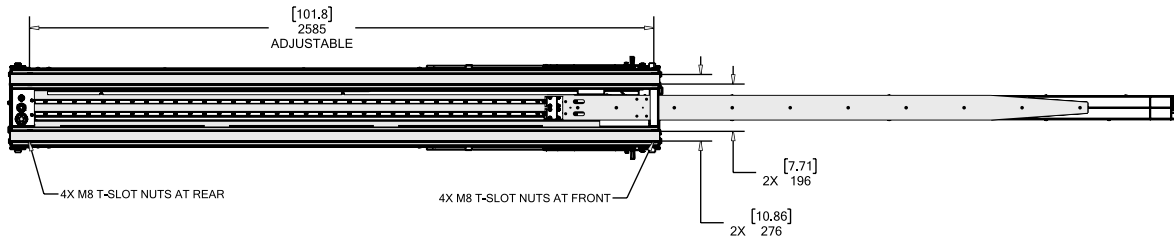
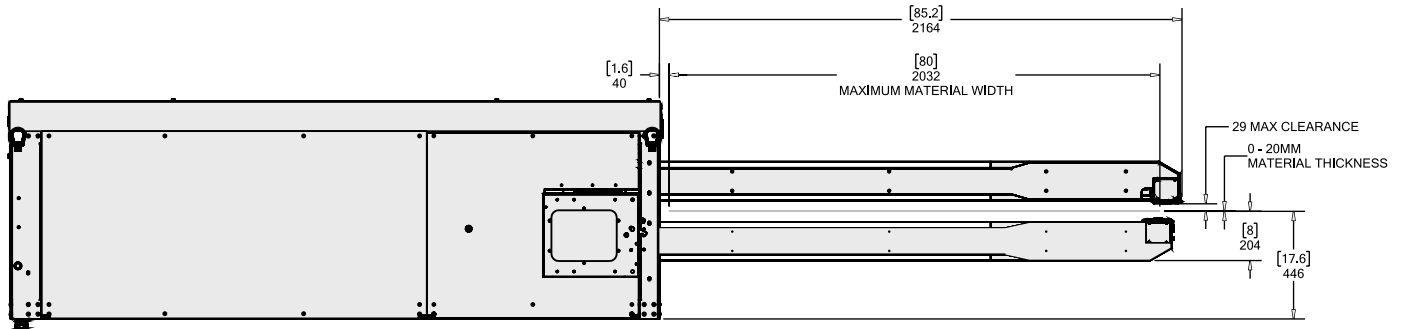
MG5 - 48"



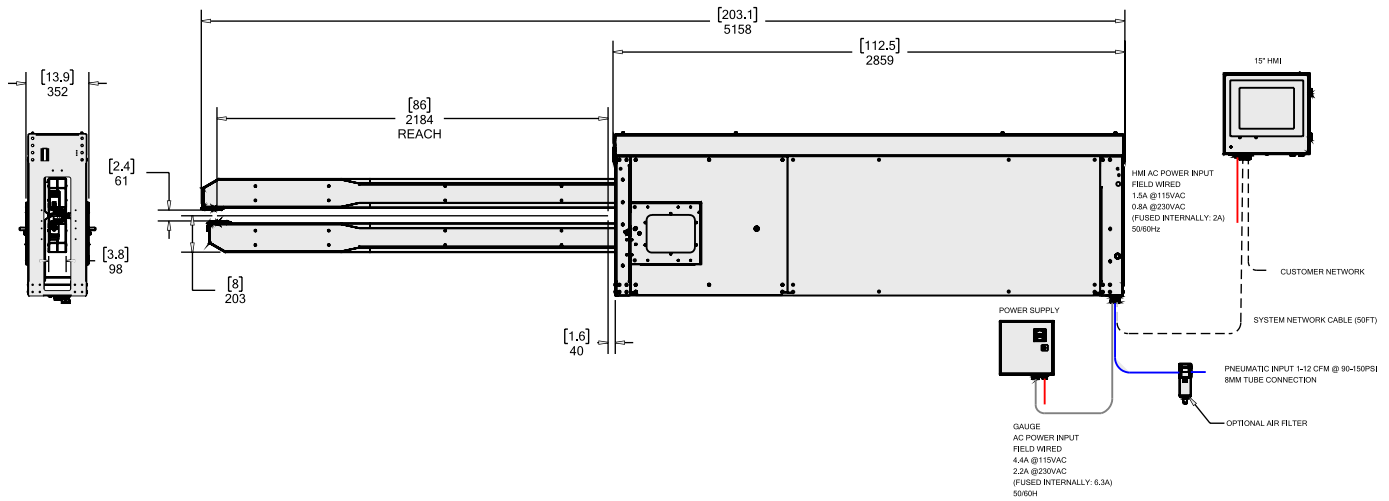
MG5 - 65"



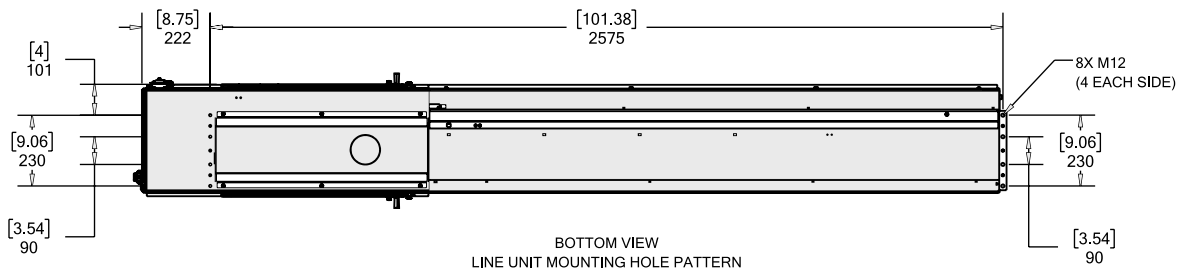
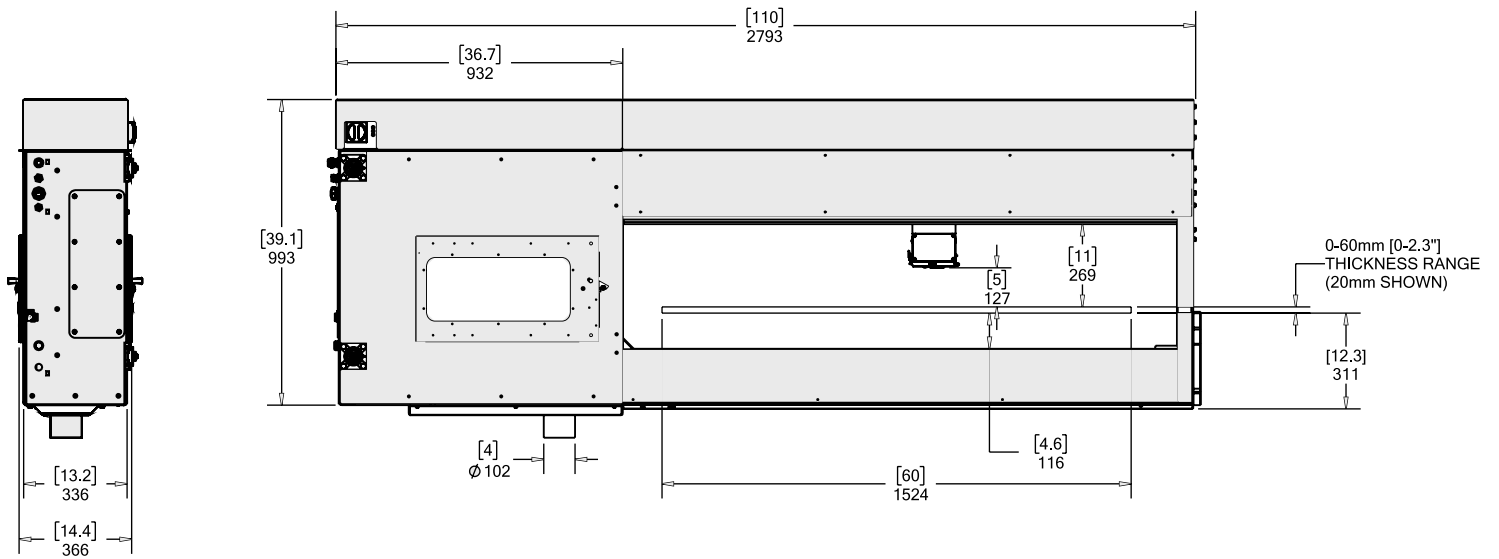
MG5 - 80"



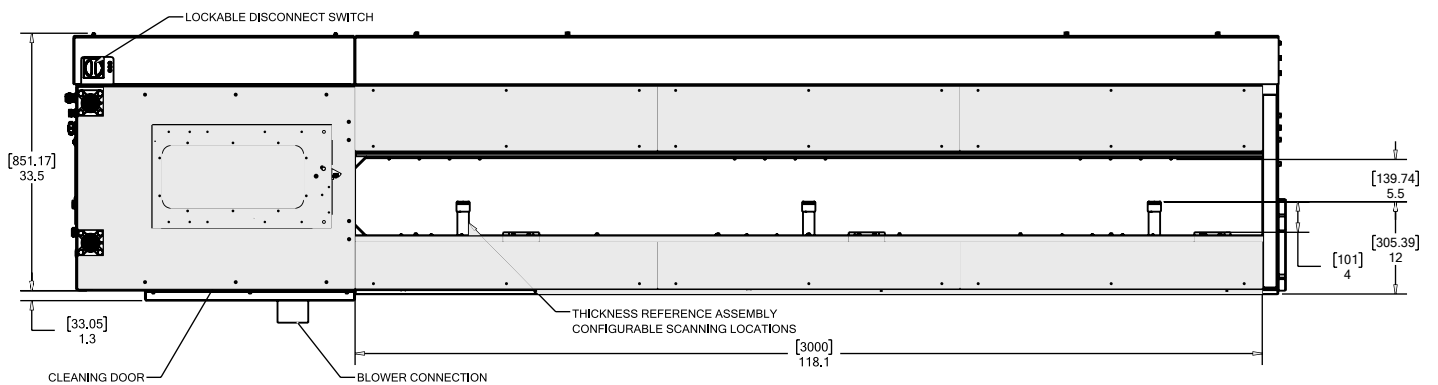
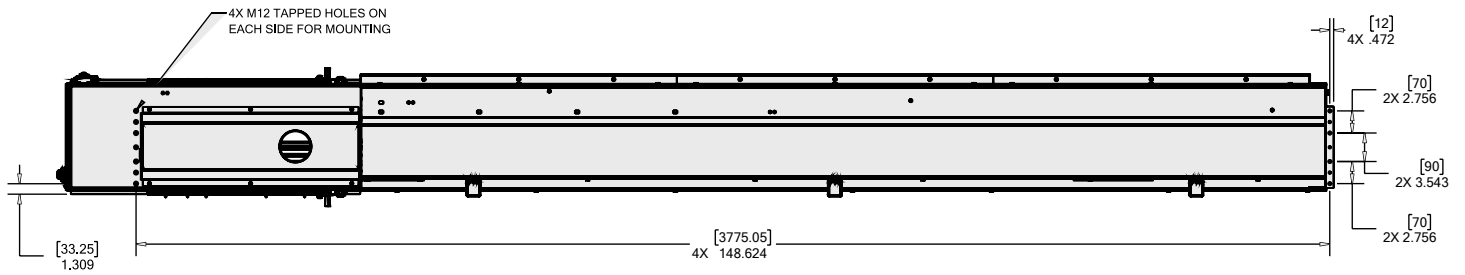
MG5 - 86"



MGO



MGV



Raw Technical Data

MG1

Model	MG1 - 30mm Standard	MG1 - 50mm Standard
Resolution	0.5 µm 0.00002"	1.5 µm 0.00004"
Accuracy	1 µm 0.00004"	4 µm 0.000016"
Thickness Range	0 - 8 mm 0 - 0.3"	0 - 20 mm 0 - 0.8"
Stroke	460 mm 18"	
Scanning Speed	150 mm/sec 6"/sec	
Measurement Frequency	1 - 5kHz	
Line Unit Power	1A @ 115V / 0.5A @ 230V	
HMI Power	1.5A @115V / 0.8A @ 230V	
Air	0-5 CFM @ 90 - 110 PSI / 0 - 8.5 m³/hr @ 6.2 - 7.6 Bar with Optional Air Purge	
Complete Assembly Weight	20.4 kg 45 lbs	
Main Housing Dimensions	623 x 368 x 203 mm 22 x 13 x 7"	
Operating Temperature Range	5°C to 45°C 41°F to 113°F	
Humidity Range	< 90%	

MG3

Model	MG3		MG3-36	
Model	30mm Standard	50mm Standard	30mm Standard	50mm Standard
Resolution	0.5 µm 0.00002"	1.5 µm 0.00004"	0.5 µm 0.00002"	1.5 µm 0.00004"
Accuracy	1 µm 0.00004"	4 µm 0.000016"	1 µm 0.00004"	4 µm 0.000016"
Thickness Range	0 - 8 mm 0 - 0.32"	0 - 20 mm 0 - 0.79"	0 - 8 mm 0 - 0.32"	0 - 20 mm 0 - 0.79"
Stroke	515 mm 20.3"	515 mm 20.3"	924 mm 36.4"	924 mm 36.4"
Measurement Frequency	1 - 5 kHz			
Scanning Speed	150 mm/sec 6"/sec			
Line Unit Power	4.4A @ 115V / 2.2A @ 230V			
HMI Power	1.5A @115V / 0.75A @ 230V			
Air	1 - 12 CFM @ 90 - 150 PSI / 1.7 - 20.4 m³/hr @ 6.2 - 10.3 Bar			
Operating Temperature Range	5°C to 50°C 41°F to 120°F			
Humidity Range	< 90%			

MG5

Model	MG5 - 24	MG5 - 48	MG5 - 65	MG5 - 80	MG5 - 86					
Scan Length	610 mm 24"	1219 mm 48"	1651 mm 65"	2032 mm 80"	2184 mm 86"					
Maximum Reach	635 ± 10 mm 25 ± 0.39"	1260 ± 10 mm 49.6 ± 0.39"	1690 ± 10 mm 66.54 ± 0.39"	2072 ± 10 mm 81.57 ± 0.39"	2230 ± 10 mm 87.79 ± 0.39"					
Sensors	50mm Pro	150mm Pro	50mm Pro	150mm Pro	50mm Pro	150mm Pro	50mm Pro	150mm Pro	50mm Pro	150mm Pro
Resolution	0.5 µm 0.00002"	0.5 µm 0.00002"	0.5 µm 0.00002"	0.5 µm 0.00002"	0.5 µm 0.00002"	0.5 µm 0.00002"	0.5 µm 0.00002"	0.5 µm 0.00002"	0.5 µm 0.00002"	0.5 µm 0.00002"
Accuracy (Typical)	2 µm 0.00008"	7 µm 0.0003"	2 µm 0.00008"	7 µm 0.0003"	2 µm 0.00008"	7 µm 0.0003"	2 µm 0.00008"	7 µm 0.0003"	2 µm 0.00008"	7 µm 0.0003"
Thickness Range	0 - 13 mm 0-0.5"	0 - 51 mm 0-2"	0 - 13 mm 0-0.5"	0 - 51 mm 0-2"	0 - 13 mm 0-0.5"	0 - 51 mm 0-2"	0 - 13 mm 0-0.5"	0 - 51 mm 0-2"	0 - 13 mm 0-0.5"	0 - 51 mm 0-2"
Scanning Speed	150 mm/sec 6"/sec									
Measurement Freq.	Up to 20 kHz									
Width Accuracy	0.1 mm 0.0039"									
Line Unit Power	4.4A @ 115V / 2.2A @ 230V									
HMI Power	1.5 A @ 115V / 0.75A @ 230V									
Air Supply	1 - 12 CFM @ 90 - 150 PSI / 1.7 - 20.4 m³/hr @ 6.2 - 10.3 Bar									
Operating Temp.	5°C to 50°C 41°F to 120°F									
Humidity	< 90%									

MG0

Resolution	0.5 µm 0.00002"
Accuracy	10 µm 0.0004"
Thickness Range	0 - 51 mm 0 - 2"
Stroke	Up to 1803 mm 71"
Scanning Speed	0 - 300 mm/sec 0 - 12"/sec
Measurement Frequency	1 - 20kHz
Line Unit Power	4.4A @ 115V, 2.2A @ 230V, 50/60Hz
HMI Power	1.5A @115V / 0.8A @ 230V 50/60Hz
Air	1 - 5 CFM @ 90 - 110 PSI / 1.7 - 8.5 m³/hr @ 6.2 - 7.6 Bar
Complete Assembly Weight	227 kg 500 lbs
Main Housing Dimensions	1660 x 585 x 280 mm 65 x 23 x 11"
Operating Temperature Range	15°C to 50°C 59°F to 120°F
Humidity Range	< 90%

MGV

Resolution	0.5 µm 0.00002"
Accuracy	10 µm 0.0004"
Thickness Range	0 - 51 mm 0 - 2"
Maximum Width	2951 mm 102"
Measurement Frequency	1 - 20kHz
Line Unit Power	6.6A @ 115V/ 3.3A @ 230V
HMI Power	1.5A @ 115V / 0.75A @ 230V
Blower	8A @ 120 V / 4A @ 230 V
Air	20 CFM @ 90 - 150 PSI / 34 m³/hr @ 6.2-10.3 Bar
Complete Assembly Weight	362.87 kg 800 lbs
Operating Temperature Range	5°C to 50°C 41°F to 120°F
Humidity Range	< 90%



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