GLOBAL GAUGE CORPORATION

Eagle Eye Vision Systems

Hot Mill, Cold Mill, & Slitting Line Solutions

HM3100 | HM3200 | CM3100 | CM3200 | SL3200

Made in America | Respected Worldwide

www.globalgauge.com

The Eagle Eye 3000 Series Platform

A unified, camera-based measurement platform engineered for the extreme environments of hot strip mills, cold rolling mills, and slitting lines.

Industrial Cameras

High-speed GigE digital cameras in ruggedized, water-cooled enclosures rated for continuous operation in radiant heat, steam, water spray, and scale dust.

Common Architecture

All Eagle Eye systems share a common hardware platform with application-specific software modules, reducing spare parts and simplifying maintenance training.

L1/L2 Integration

OPC UA, Modbus TCP, and Ethernet/IP communication protocols supported natively. Direct integration with PLC, HMI, and Level 2 process computers.

Eagle Eye 3000 Series Product Lineup

Product Name	Configuration	Mill Type	SKU	Description
Eagle Eye HM3100	MCA (Mono)	Hot Mill	HM-3100	Single camera for strip steering, crop optimization, thermal profiling
Eagle Eye HM3200	SCA (Stereo)	Hot Mill	HM-3200	Stereoscopic width gauge with 3D and thermal analysis
Eagle Eye CM3100	MCA (Mono)	Cold Mill	CM-3100	Single camera for cold mill edge detection and width measurement
Eagle Eye CM3200	SCA (Stereo)	Cold Mill	CM-3200	Stereoscopic cold mill configuration for precision width gauging
Eagle Eye SL3200	SCA (Stereo)	Slitting Line	SL-3200	Mult width measurement for post-slit coil verification

MCA = Mono-Camera Assembly (1 camera) | SCA = Stereoscopic-Camera Assembly (2 cameras)

Eagle Eye HM3100

Hot Mill Mono-Camera Assembly (MCA)

Thermal Gradient Imaging

Full 2D temperature mapping of transfer bars with +/- 2-3C accuracy using standard line-scan cameras

Crop Optimization

Real-time head/tail shape detection with optimized cut length calculation to maximize yield

Interstand Monitoring

Strip width, camber, centerline deviation, and cobble detection between finishing stands

Speed & Tracking

Strip presence, head/tail detection, and speed estimation via image correlation at each stand

Key Specifications

- Camera: Industrial GigE linescan
- Config: Single camera (MCA)
- Enclosure: Water-cooled, sealed optics
- Temperature: +/- 2-3C accuracy
- Width: Real-time edge detection
- Speed: Image correlation method
- Comms: OPC UA, Modbus TCP, EthernetIP
- Integration: L1/L2 direct interface
- Environment: Steam, water, scale dust rated

Eagle Eye HM3200

Hot Mill Stereoscopic Width Gauge (SCA)

Parameter	Specification
Type	Non-contact, stereoscopic vision
Width Accuracy	+/- 0.020" (+/- 0.50 mm)
Measurement Freq	100 Hz to 5,000 Hz
Camera	Dual GigE digital linescan
Enclosure	Sealed, water-cooled
Illumination	High-intensity LED backlight
Exposure	10 usec to 10 msec, Auto/Manual
Compensation	Temperature compensation included

Key Applications

- FM exit width gauge for L1/L2 feedback
- Precision width control to reduce overrolling
- Stereoscopic geometry compensates for strip height variation
- Continuous measurement independent of strip flatness
- Width deviation and centerline deviation output
- Historical data archiving per coil

Eagle Eye CM3100 & CM3200

Cold Mill Vision Systems

CM3100 | Mono-Camera Assembly

- Single industrial line-scan camera
- Edge detection and width measurement
- Pinhole detection for foil and thin gauge
- Edge crack detection and classification
- Real-time defect imaging and archiving
- Compact, air-cooled enclosure design

CM3200 | Stereoscopic Assembly

- Dual GigE cameras for stereoscopic geometry
- Precision width gauging at cold mill speeds
- Independent of strip height variation
- High-frequency measurement (up to 5 kHz)
- Edge crack and pinhole detection capable
- Integrated with Electronics Power Console

Eagle Eye SL3200

Slitting Line Mult Width Measurement System

Safety

Removes operators from manual measurement routines, distancing them from post-slit mults and moving machinery.

Quality

Provides reliable, repeatable mult width measurement with full-length coil width data for each post-slit coil.

Production

Eliminates ~5 min/coil of manual measurement downtime. Recovers up to 8 additional coils per day of capacity.

System Components

- Stereoscopic-Camera Assembly (SCA): Dual industrial line-scan cameras with overlapping field of view
- Electronics Power Console (EPC): PC for image processing, I/O, and communication modules
- External Illumination: Backlight source for accuracy and reliability in edge detection

Application Capabilities by Product

Capability	HM3100	HM3200	CM3100	CM3200	SL3200
Strip Width Measurement	✓	✓	✓	✓	✓
Centerline Deviation	✓	✓	✓	✓	
Thermal Gradient Imaging	✓	✓			
Crop Optimization	✓				
Stereoscopic Width Gauge		✓		✓	✓
Mult Width Measurement					✓
Edge Crack Detection			✓	✓	
Pinhole Detection			✓	✓	
Cobble / Anomaly Detection	✓	✓			
Camber Detection	✓	✓			

Software & Network Architecture

Centralized processing with multi-instance measurement and full L1/L2 integration

LineTrack Monitor Software

- Real-time width, speed, bar length, and live camera view
- Individual gauge instance monitoring across all stands
- Historical data archiving with coil-based retrieval
- Thermal profile viewer (PlanViewMap) for bar analysis
- CSV export for offline analysis and third-party tools
- Web-based remote access for engineering and management

Network Architecture

Camera Links

GigE Cat6A to junction boxes

Fiber Backbone

SM fiber optic trunk to server

Server

10G ETH (2-port), L1 and L2 NICs

L1 Interface

1 Gbps Copper to PLC/Drives

L2 Interface

1 Gbps Copper to Process Computer

Protocols

OPC UA, Modbus TCP, EthernetIP

Why Global Gauge Corporation

400+ installations worldwide across hot mills, cold mills, and process lines

Single-Source Integration

One vendor, one platform, one server for all vision and width measurement across the entire mill. Simplified procurement, training, spares, and long-term support.

Proven Mill Performance

Purpose-built for HSM and cold mill environments. Water-cooled, sealed optics, and ruggedized construction are standard features, not options.

Common Platform

HM3100, HM3200, CM3100, CM3200, and SL3200 share common hardware and software architecture. Common spare parts and streamlined maintenance training.

Measurable Yield Impact

Crop optimization delivers yield improvement within the first months. Width gauge feedback reduces overrolling and improves dimensional consistency.

GLOBAL GAUGE CORPORATION

Thank You

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