SENCON
SENSING • TESTING • GAUGING

Master Series™

Automatic Enamel Rater

A highly flexible and cost effective solution for automatic enamel rating (metal exposure) testing

The Master Series™ Automatic Enamel Rater is a durable gauging system that tests for lacquer integrity in a precise and repeatable way without operator bias or error. Reliable metal exposure information is continually available with immediate on-screen warnings of any potential problems enabling prompt action to be taken.



- **Constant self monitoring for maximum reliability**
- **Accepts virtually any 2-piece beverage can without change parts**
- **Standard or surfactant based electrolyte without modification**
- **Electrolyte filling with no motors or pumps reduces maintenance**
- **Data can be viewed on screen and linked into the production facility's process management system**
- **Fully automatic can height adjustment**

MASTER SERIES

COMPREHENSIVE AUTOMATIC SELF MONITORING:

- Electrolyte condition check
- Test head confirmation check with built-in test resistors
- Can contact and electrolyte level check
- Test voltage monitoring and compensation

REDUCE SPOILAGE: By relating sampling rates to production levels and previous results, enamel rating test frequencies can be set to match optimum output efficiency. Lacquer integrity checks are always made on time with immediate action, thus reducing the potential for manufacturing out-of-specification cans.

IMPROVE QUALITY: The Automatic Enamel Rater tests each can for lacquer integrity in a precise and repeatable way without operator bias or error. Reliable metal exposure information is continually available with immediate on-screen warnings of potential problems, so prompt action can be taken. Data can also be linked into the production facility's process management system.

INCREASED EFFICIENCY: A fully automatic enamel rater relieves operators of the labor intensive manual coating porosity test, allowing more profitable use of time.







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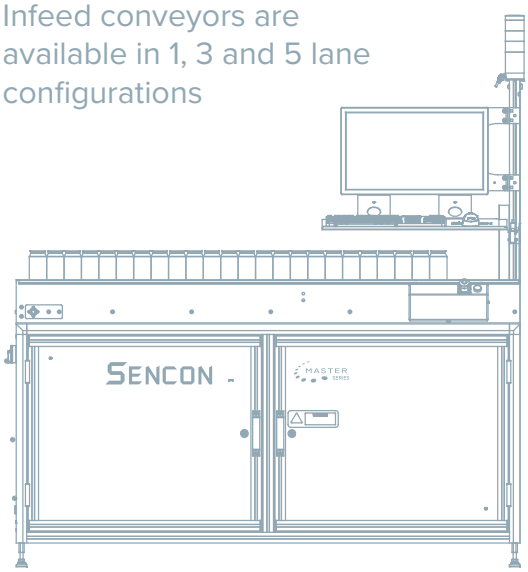
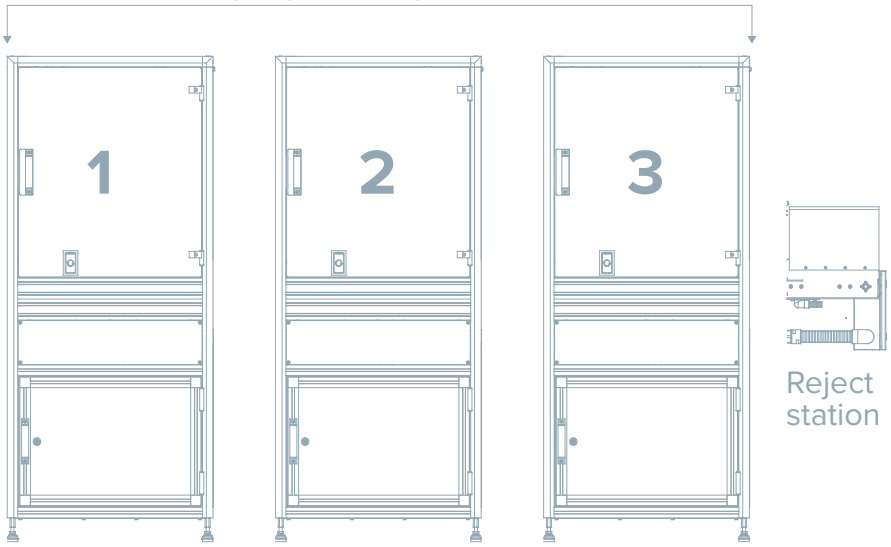
CREATE YOUR PERFECT GAUGING SUITE

Infeed conveyors are available in 1, 3 and 5 lane configurations



Up to 3 gauges configured in parallel



Reject station

Minimum configuration (plus reject station)

TYPCAL SYSTEM CONFIGURATIONS

Back End Suite: Back End + Axial Load + Buckle

Coatings Suite: Film-Scan™ + Enamel Rater

Ordering Information

DESCRIPTION	CAN SIZE	NECK	HEIGHT
Master Series™ Enamel Rater: Standard	202 (54mm) to 211 (68mm) automatic adjustment	200	70mm to 210mm automatic adjustment
Master Series™ Enamel Rater: Large can variant	300 (73mm) single size	206	70mm to 210mm automatic adjustment
Master Series™ Enamel Rater: Super Size can variant	307 (83mm) single size	209	70mm to 210mm automatic adjustment

*To accommodate a full batch of cans the super size variant requires a multi-lane conveyor.

Core Module & Conveyor Options

CODE	DESCRIPTION
210-22215-00	Master Series™ Core Module with Single Lane Conveyor
210-22240-00	Master Series™ Core Module with 3 Lane Conveyor
210-22250-00	Master Series™ Core Module with 5 Lane Conveyor

Each lane has a capacity of 24 cans (211 diameter). Automatic in-line feed is possible as special option on all lanes. Conveyor extensions are also possible.

Options & Accessories

CODE	ITEM	DESCRIPTION
395-16151-00	Bodymaker ID Camera	Optional ID camera for identifying the Bodymaker mark on the can. This is typically installed on the first Master Series™ module of a multi-gauge system.
096-24090-00E	Spray ID Camera	Optional ID camera for identifying the Spray Machine mark on the can. This is typically installed on the first Master Series™ module of a multi-gauge system.
OPC	OPC-UA Plug-in	Adds OPC-UA fuctionallity to Process Master ™ gauge software for machine-to-machine (M2M) communication within the Industry 4.0 digital factory.

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TECHNICAL SPECIFICATIONS

MEASUREMENT CAPABILITIES	
Can Material:	Aluminium and Steel
Cans Accepted:	Standard Variant: 202 (54mm) to 211 (68mm) automatic adjustment Large Can Variant: 214/'300' (73mm) single size Super Size Can Variant: 307 (84mm) single size
Maximum Batch Size:	255 cans (auto fed), 24 cans (manual fed)
Measurement Features:	Large number of measurement combinations and pass / warning / fail thresholds can be defined and stored using programmable measurement procedures and tests, allowing different parameters to be set easily for different can types or sizes, different customers or different measurement purposes (production, recheck, setup, etc.) Factory line and machine nos. can be entered (manually or by association with procedure) for measurement traceability
Accuracy:	±1% of reading ±1 L.S.D
Rating Duration:	Preset at 4 seconds

CONTROL	
Controller:	Process Master™ gauge software running on an integrated PC within the Conveyor module
Measurement Reporting:	Batch results displayed on PC screen and optionally sent as report to network storage or network printer. Result report format customised as agreed at time of customer order No. of batch results stored: user-definable in software (default = 100)

OPERATING PARAMETERS	
Temperature Range:	5°C to 50°C (41°F to 122°F)
Relative Humidity:	0% to 80% non-condensing
Ingress Protection:	IP20
Dimensions	Gauge cabinet (including rear chute) **Width:** 900 mm (30.75") **Depth:** 780 mm (41.5") **Height:** 2130 mm (86.5") For full system, add the following to the width: **Reject station:** 375 mm / 15.0" **Single Lane Conveyor:** 1715 mm (67.75") **3 or 5 Lane Conveyor:** 2540 mm (100.0")

DESIGN STANDARDS AND SAFETY	
Maintenance:	Routine cleaning & maintenance: see manual Scheduled servicing interval: 6 months / 600 000 cans
Calibration:	Electronics module is calibrated to traceable standards Annual recalibration / re-validation of gauge accuracy is strongly recommended
Compliance:	**CE:** Complies with relevant EU product directives UKCA: UK Conformity Assessed
Safety:	Red, amber and green beacons to indicate system status from a distance Relay outputs for flexible triggering of external (customer) warning systems

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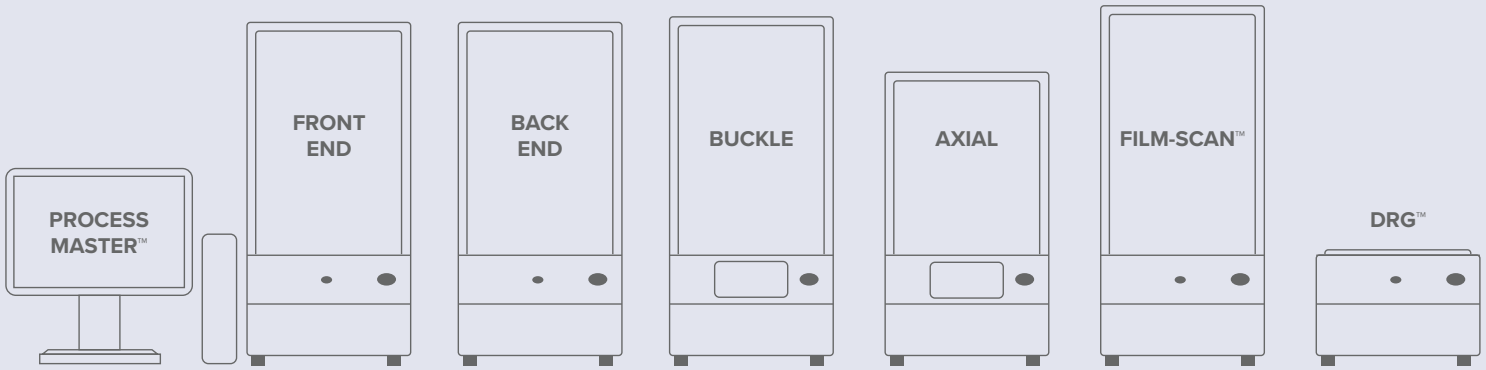
BENEFITS OF MASTER SERIES™

The modular design of our highly flexible and fully automatic Master Series™ gauges allows you to create the best combination of gauges to suit your individual requirements. This cost effective solution is the optimum fit for the modern can plant, saving time and floor space.

MULTI-SIZE CAPABILITY AS STANDARD: The gauges can handling system has been designed to accept standard beverage can sizes without change parts.

MODULAR SYSTEM: Allows gauges to be purchased individually or as integrated groups. Individual gauges can be added at a later date to increase throughput or add test features.

- Fully automatic, operator-free measurement
- Sampling on time or production basis
- Fully self-checking
- Data available on screen and exchanged via local area network
- Uses well-proven measurement techniques
- Modular design for cost effective expansion
- Future-proofed for changing requirements – easily update and reconfigure at any time
- Multi-lane capability – universal infeed conveyor



BIG ON CAPABILITY, SMALL ON SIZE

The Benchmark™ range of semi automatic benchtop gauges for the modern can plant

WORLDWIDE SUPPORT YOU CAN TRUST

We are committed to providing the best customer support worldwide with service engineers based in North and South America, Europe and Asia backed up with technical support from experienced industry specialists based at three technical support centers – you can trust Sencon.

Technical support is easily accessible through our 'Quick Assist' QR codes which offer support via WhatsApp*, email, web chat and telephone. Additionally, our online knowledge base provides support resources for all Sencon products.

*only available in Europe, Asia, Africa and Oceania



Industry specialists since 1976

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