GlobalGauge CORPORATION

PERFECTA-300-S X-Series

THICKNESS GAUGE

★ MADE IN AMERICA, RESPECTED WORLDWIDE ★

X-RAY NON-CONTACT MEASUREMENT | PLC-BASED ELECTRONICS

EVERYONE KNOWS WE BUILD THE BEST NON-CONTACT MEASUREMENT SYSTEMS

With our partners in Europe and Asia, we have a worldwide reach. We provide the complete system engineering, design, fabrication, and installation, along with knowledgeable service and availability when you need us, regardless of your spot on the globe. Let us show you how we can help with your gauge needs.

320 kV	**< 2 ms**	**± 0.1%**
X-Ray Generator	Response Time	Accuracy (2σ)

GlobalGauge CORPORATION

THE **PERFECTA-300-S X-SERIES** GAUGE

THE INDUSTRY STANDARD IN PLC-BASED GAUGING

- **FAST**
- **ACCURATE**
- **DEPENDABLE**
- **COST-EFFECTIVE**

The Perfecta-300-S X-Series was born from an industry request to create a cost-effective, high-speed, non-contact X-ray gauge system based on off-the-shelf industrial PLC technology. From the first installation, the Perfecta has exceeded customer expectations. The system maximizes the use of top quality, off-the-shelf components, including a robust industrial PLC. The gauge software was specifically developed by GGC engineers to take advantage of high-speed processors available in today's industrial PLCs. The resultant gauge system is extremely fast, well beyond the requirements of most closed-loop mill control systems. Perfecta X-Series gauges are installed worldwide on rolling mills and process lines measuring the thickness of ferrous and non-ferrous metals, plastics, ceramics, and many other materials.

- **INDUSTRIAL PC-BASED DESIGN**
- **RITTAL CABINET**
- **KEYBOARD OR TOUCHSCREEN**
- **320 kV X-RAY GENERATOR**
- **LND ION CHAMBER DETECTOR**
- **GGC GHF CONTROL ELECTRONICS**

GAUGE SPECIFICATIONS

• MEAN **RESPONSE TIME**

The mean time after a step variation in the measured quantity until the output signal reaches a specified percentage of its final mean value. For this standard, 63.2% of the step change shall be the specified percentage. (IEC 1336, 1.3.24.1)

Response Time: <2 mS per Test Point A (IEC 1336, 1.3.7.1)

• STATISTICAL **NOISE**

Variation of the output signal under reference conditions, while all influence quantities are held constant and the detector is in an irradiated condition. (IEC 1336, 1.3.22)

Statistical Noise: @10 mS the 2σ variation = ± 0.12%

• ACCURACY

Degree of conformity of an indicated value to a recognized standard value, or ideal value. (IEC 1336, 1.3.14) In the case of Thickness Gauges, the standard value is usually a precision master (internal or external) on which the gauge has been standardized. Accuracy is expressed as a percentage of the nominal thickness being measured.

Accuracy 2σ = ± 0.1%, not better than ± 0.2µm

• DRIFT

Drift is expressed as a percentage of the nominal thickness being measured.

Short Term ~1 hour: ≤ ± 0.05% from set thickness, not better than ± 1µm
Long Term ~8 hours: ≤ ± 0.1% from set thickness, not better than ± 2µm

• REPRODUCIBILITY

Closeness of agreement among a number of consecutive measurements of the gauge output signal for the same input and under the same operating conditions. (IEC 1336, 1.3.15)

Reproducibility: ≤ ± 0.1% from set thickness, not better than ± 5µm
Repeatability: ≤ ± 0.05% from set thickness, not better than ± 1µm

• LINEARITY

The closeness to which the actual calibration curve approximates a straight line. (IEC 1336, 1.3.26)

Linearity: ≤ ± 0.05% from set thickness, not better than ± 1µm

X-RAY SYSTEM CONFIGURATION

X-Ray Generator	320 kV Low Profile Generator
Maximum Performance	280 kV, 2 mA, single phase
X-Ray Tube	Varex, 320 kV, 5.6 mA, 1800 W
Radiation Direction	Upward path, Bottom to Top
Detector	LND Ion Chamber (P/N 51004327)
Collimator	Lead Aperture (P/N 50005867)
Shutter	Lead 7.87 mm master (P/N 50011023)
X-Ray Control	Spellman XRV HV Power Supply Pair
Interlocks	(1) Shutter lockout
Emergency Stop	(2) Panel and Mill
Warning System	(2) 3-Light system (Red/Green/Yellow), Panel and Mill
Safety	(1) Lockable switch and software
Dimensions (Generator)	184 mm W × 960 mm L × 177 mm H
Weight (Generator)	91 kg