

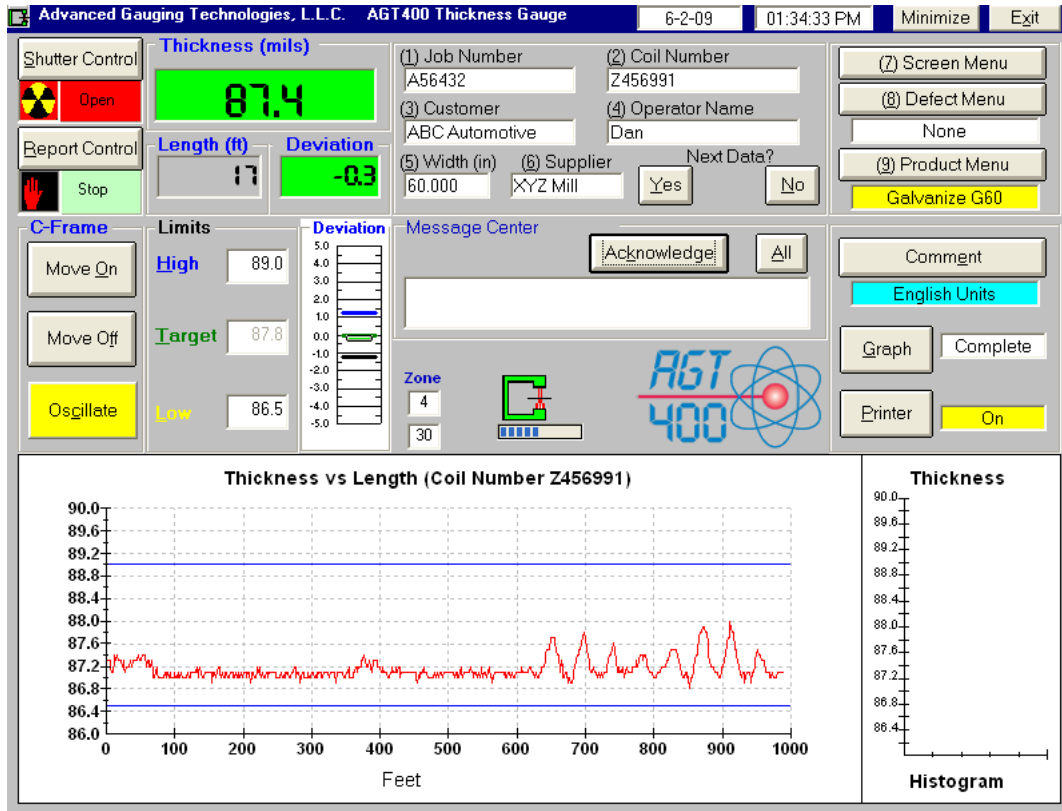
AGT400 Thickness Measurement and S.P.C. Reporting System

Introduction

The AGT400 Thickness Measurement and S.P.C. Reporting System is designed specifically for the metals industry. It provides fast and reliable thickness measurements and S.P.C. reporting for strip and sheet material, using the latest in computer technology. Direct benefits realized through these measurements include documented compliance with ISO9002, QS9000, and other quality specifications, improved process control, increased productivity, and scrap reduction. The standard system also provides disk storage and easy recall of all coil S.P.C. information, which eliminates your need to maintain large files of printer paper for long-term record-keeping purposes.

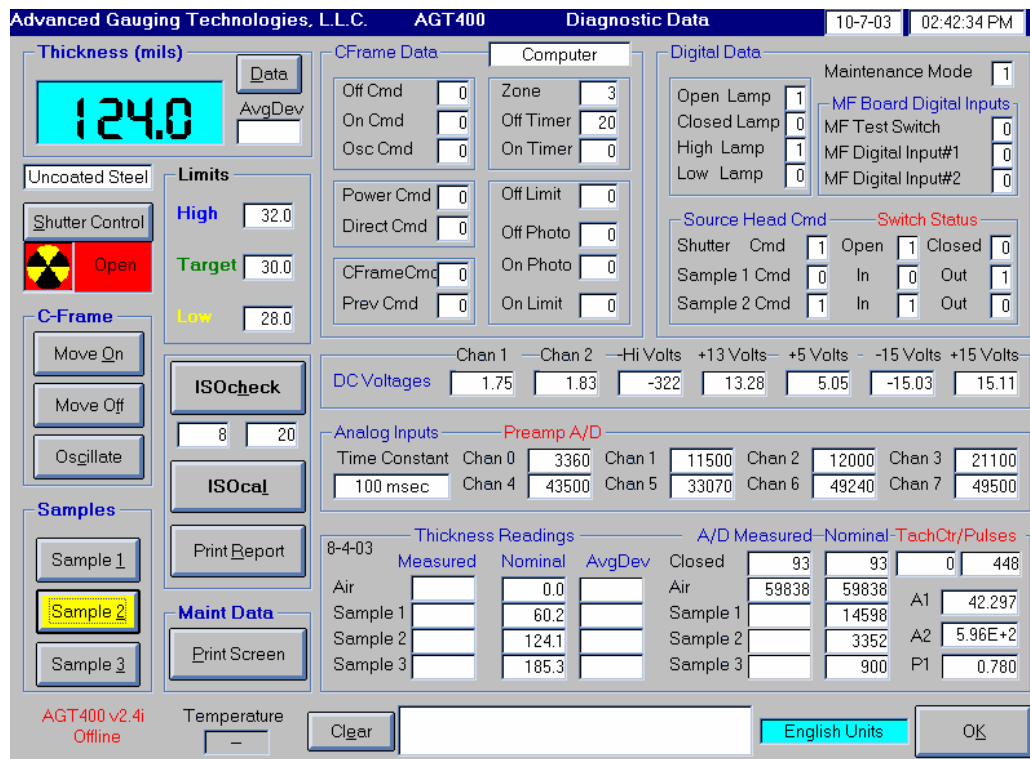
Principle of Operation

This equipment operates according to the scientific principle that a low power radiation beam is absorbed by matter at a rate varying with its composition and thickness. As the material passes between the radiation source and detector, thickness variations cause measurable changes in the amount of radiation reaching the detector head. The system is calibrated based on these variations, allowing it to provide continuous, high speed, non-contact, accurate and reliable thickness measurements.



Features

1. **Easy Installation** - no requirement for air or water. C-frames typically mount on two pedestals.
2. **Accuracy** - state of the art high-speed electronics and logarithmic linearization assure highly accurate readings of various materials while minimizing the hardware requirements. This translates to consistent and stable thickness measurements.
3. **Reliability** - simplified hardware configuration increases the reliability of this gauge. The measurement system utilizes the latest in technology, reducing the requirement for peripheral hardware. The system configuration provides a very reliable platform for thickness measurement and S.P.C. reporting.
4. **Automatic Calibration** - our system features a fast and accurate calibration cycle, called ISOcal™. Alloy specific calibration curves, coupled with our AutoComp feature, permit extremely accurate measurements of a wide variety of material compositions and coatings.
5. **Automatic Reporting** - the system automatically generates several reports, providing all the information you need in user friendly formats.
6. **Data Storage** - all coil data is automatically stored to disk. Any desired information can be easily and conveniently accessed at any point in the future, and the respective reports reprinted with relative ease.
7. **Diagnostics** - all digital inputs and outputs, analog inputs, and power supplies can be monitored simultaneously in real-time on a single screen. This feature provides for a means of greatly simplified troubleshooting.
8. **Upgradeability** - our unique system design enables future upgrades to be performed in the field, in a matter of minutes.



S.P.C. Reports

- Coil Report** - presents a graphic representation of strip thickness over the coil length, in strip chart fashion, and indicates location of out of tolerance material. In addition, this report presents a histogram of thickness distribution, footage, weight, average thickness, UCL, LCL, UTL, LTL, X Double Bar, R Bar, Cp, Cpk, and CR. This entire report is automatically scaled to fit on a single page, allowing for much neater record-keeping.
- Defect Summary Report** - presents a useable summary of each defect type, along with its respective location in the coil.
- Shift Summary Report** - presents a period summary of production, available automatically at regularly scheduled times, or on demand.
- ISOcheck™ Report** - a single button can be clicked, causing the gauge to check its own calibration (based on internal samples), and power supply voltages. Clicking a second button sends this report to the system printer, allowing for regular system performance checks, and the related documentation to keep you in compliance with quality requirements.
- Diagnostic Data Report** - this report is actually a printout of the Diagnostic Data screen. It shows the real-time statue of all digital and analog I/O, nominal and actual internal sample readings, pre-amp and power supply voltages, and much more. Most of the major test points in the system are displayed simultaneously, making troubleshooting a very straightforward process. This page can easily be printed and faxed to Advanced Gauging Technologies for troubleshooting assistance.
- System Setup Report** - this report shows all setup parameters for a specific gauging system, listed on a single page.

System Display

During normal operation, an interactive display shows real-time graphical representations of measured thickness, deviation, and a histogram of thickness values for the current coil. Also displayed are thickness, target, upper and lower tolerance limits, job number, coil number, shutter status, coil footage, coil width, defects if selected, product, and much more. Additional display screens are provided for next coil data, strip profile (thickness versus width), product setup, defect setup, report setup, calibration, diagnostics, message review, and data recall.

| Defect Menu | | Length (ft) |
|-----------------------------------------------------------|--|-------------|
| Total Length Affected | | 570 |
| <input type="checkbox"/> 1 Rust | | 275 |
| <input checked="" type="checkbox"/> 2 Scratches | | 325 |
| <input type="checkbox"/> 3 Pin Holes | | 157 |
| <input type="checkbox"/> 4 Skid Marks | | 147 |
| <input type="checkbox"/> 5 Wavy Edges | | 0 |
| <input type="checkbox"/> 6 Laminations | | 202 |
| <input type="checkbox"/> 7 Slivers | | 0 |
| <input type="checkbox"/> 8 Poor Coating | | 0 |
| <input type="checkbox"/> 9 Coil Breaks | | 319 |
| <input checked="" type="checkbox"/> a Any Defect You Want | | 115 |

OK

The Defect Menu pops up on the AGT400 Main Screen, making it easy for Operators to toggle any defects they may want to track.

Options -----

1. **C-frames** - available in manual configuration, where the operator manually positions C-frame on sheet. Optional electric drive motor allows the operator to position the C-frame from the operator's station. Optional oscillating configuration equipped with additional logic and control circuits enable the gauge to automatically sense strip width and scan from one edge to the other. In this configuration, the Profile Display Screen and Reports are enabled, which actually show a strip cross-section of thickness versus width.
2. **Coil Mapping** – allows inspectors a convenient method of logging strip defects as they are spotted. Available in single or dual handheld keypad configurations, for one or two-sided inspection lines.
3. **Video Monitors** - standard system includes a 17" LCD flat screen. Optional monitors include a 17" remote flat screen unit, and a touchscreen.
4. **Remote Operator Control Station** - includes an additional remote monitor, keyboard, and touchpad mouse.
5. **Remote System Printer** - to replace the standard system local printer.
6. **N.I.S.T. Traceable Samples** - external calibration sample plates, which have their thicknesses certified as traceable to N.I.S.T.

Conversion/Upgrade of Existing Measuring Equipment -----

If you have an existing measuring system that is outdated and/or difficult to service and support, you may want to consider an A.G.T. system upgrade, which can provide all the features of the AGT400 Thickness Gauge.

Technical Specifications -----

| | |
|--------------------------------|-------------------------------------------------------------------------------------------------------------------|
| Thickness Range | .007" - .250" steel, .088" - .400" aluminum, .005" - .165" copper, brass, nickel, .019" - .400" titanium |
| Air Gap | 2" - 8" (7" nominal) |
| Response Time | 10 – 1,000 milliseconds (250 nominal) |
| Calibration Accuracy | ± 0.20% or ± 0.0005" (whichever is greater) over .007" - .250" (steel) |
| Radiation Source | Am241 - 1 Curie |
| Radiation Detector | Ionization Chamber - 3" diameter (4" optional) |
| Central Processing Unit | Intel Pentium IV or equivalent |
| Software | Visual Basic operating in Windows® XP Professional |

Manufactured, Sold, and Serviced By:

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