E.S.C. Resources, Inc.

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Non-Contact Coating Weight Gauge

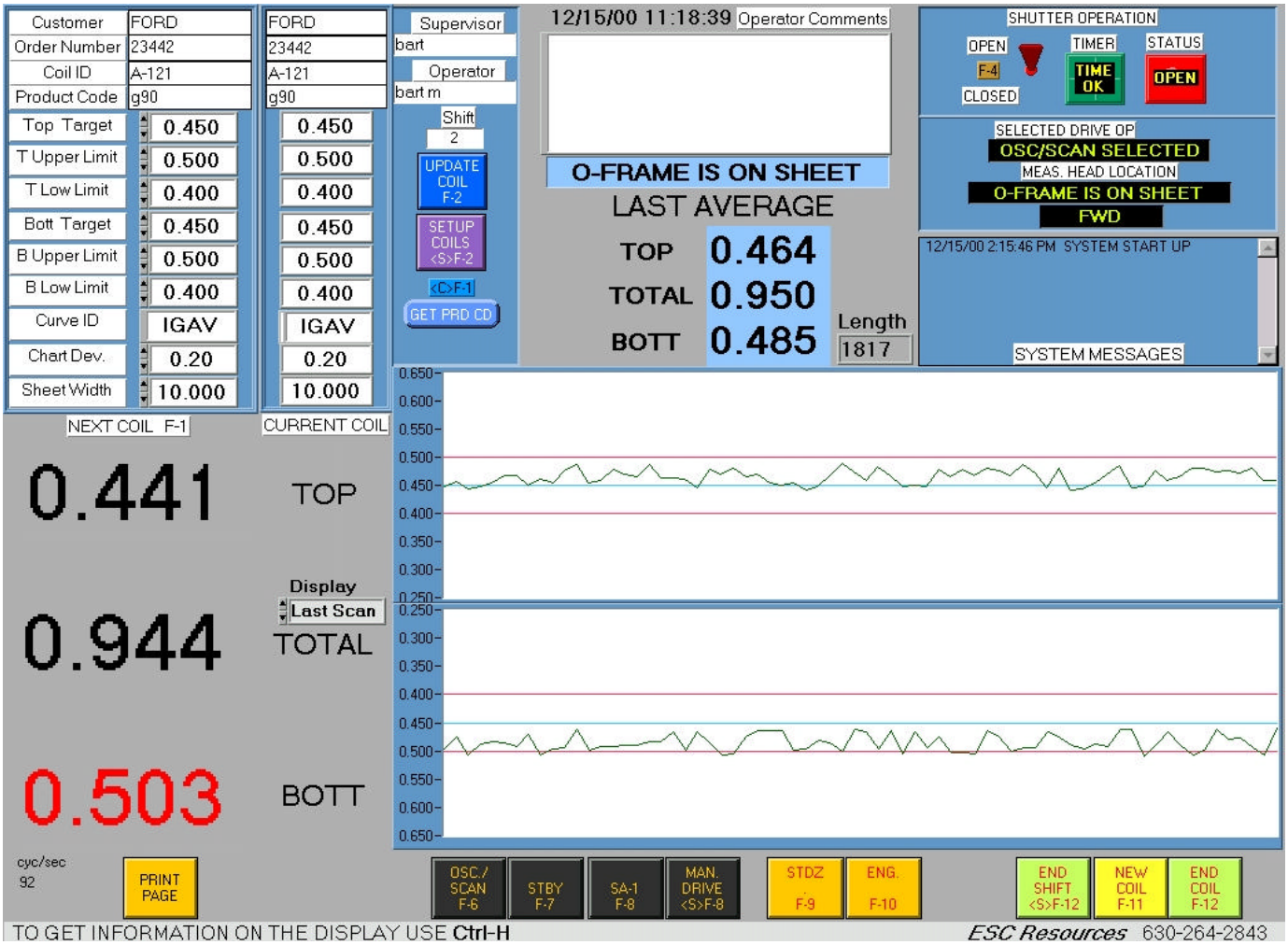
81k-broc

CWS-8001

Introduction - The E.S.C. non-contact coating gauge provides fast and reliable on line top, bottom and total coating measurements and SPC reporting for strip material. The direct benefits provided by this measurement are documented compliance with quality specifications, improved process control, and improved production. The standard system provides disk storage for the SPC information to eliminate the need to maintain large files of printer paper for long term record-keeping purposes.

Principle of Operation - X-ray Fluorescence, this uses the scientific principle that matter will generate unique energy levels in proportion to it's composition and coating. As the material passes under the x-ray source and detector, variations in coating cause measurable variations in the amount of x-ray energy returning to the detector. The gauge is calibrated based on these variations, and provides a continuous, non-contact, accurate, and reliable measurement of coating.

System Display - in it's normal mode of operation, the 17" full color monitor displays actual coating, deviation, upper and lower tolerance limits, shutter status, coil footage, and a graphic display of coating for the complete coil or cross sheet profile. The coating display changes to red if the coating goes out of tolerance. Additional display screens are provided for I/O status, and trouble shooting diagnostics.



Features ----------

1. **Easy installation -** no requirement for cooling. “O” frames typically mount on two pedestals and require a minimum of cabling.
2. **Accuracy -** state of the art high speed electronics and logarithmic linearization performed by the software assures highly accurate measurements of various materials while minimizing the hardware requirements.
3. **Reliability -** this system uses a modern personal computer, providing a software based measurement system that reduces the requirement for peripheral hardware. This arrangement provides a very reliable “platform” for coating measurement and SPC reporting.
4. **I/O Capabilities -** hardware is provided to enable communication with a host computer or process control unit.
5. **Automatic Standardization -** this provides a fast, accurate standardization cycle. Up to 100 calibration curves are available to permit measurement of a wide variety of material types.
6. **Diagnostics -** system faults are stored and displayed upon demand..
7. **Upgradeable -** this system is software-based, which enables future upgrades to be performed in the field, via software changes, by the customer.

SPC Reports ----------

1. **Coating Deviation Plot -** presents a graphic representation of strip coating over the coil length, in a strip chart fashion. Also indicates location of out of tolerance material.
2. **Coil Report -** presents a histogram of coating distribution, footage, average coating, UCL, LCL, X Double Bar, R Bar, and Cpk.
3. **Shift Summary Report -** presents a shift summary of production.

Note: No optional equipment is required for disk storage of the Coil report and Shift Summary Report.

Options ----------

1. **Remote Operator Stations -** allows for multiple coating weight displays.
2. **Other Options -** other options are available depending on your specific needs.

Specifications ----------

Coatings Measured	Galvanize, Galvalum, Galvanel, Aluminum, Tin and Terne and other specialty elements on a steel substrate.
Air Gap	1.25” to 1.75” depending on the product measured.
Response Time	0.5 second minimum.
Radiation Source	Am241 - 2 Curies.
Radiation Detector	Proportional Counter.

Modernization of Existing Equipment - if you have an existing measuring system that is outdated and difficult to service, you may want to consider an E.S.C. system modernization, which provides all the features of the CWS-5001 Coating Gauge.

SERVICE - QUALITY - VALUE