

DEFECTOMAT® EZ 2.828

An innovative, easy-to-use eddy current test instrument for detecting surface defects in a variety of applications

- The DEFECTOMAT EZ is an innovative addition to Foerster's line of eddy current testing instruments. The DEFECTOMAT EZ is used in conjunction with the appropriate test coil system to detect surface defects in:
 - Ferrous and nonferrous bar, wire and tubing in the diameter range of 0.010" - 7.000"
 - Mass produced parts with simple or complex geometries
 - In-service structures and equipment



The DEFECTOMAT EZ can be installed in the production line or in an off-line application for determination of product surface quality. Examples of typical in-line applications include drawing and rolling lines, welded tube lines, hot wire and rod mills, finishing lines and grinding lines. Examples of off-line applications include inspection lines, research and development, and maintenance inspection.

Test results are clearly presented on the DEFECTOMAT EZ display for analysis.

• Benefits

- Improved quality assurance through 100% continuous automatic inspection
- Highly reliable and repeatable inspection results by eliminating the subjectivity of visual inspection techniques
- Reduced scrap and reject levels and on time deliveries of customer orders through early detection of surface defects
- Optimized production through improved process control and high throughput speeds
- Simplified operator setup and standardization procedures

• Features

- Wide test frequency range permits accurate testing of products in various sizes, shapes and materials
- Compatible with test coil systems designed for the DEFECTOMAT family
- Automatic monitoring of the test coil
- High flaw resolution
- Optional speed matching filter card
- Optional card to transfer defect counts to a remote PC
- Built in signal generator for troubleshooting and instrument verification
- Two paint marking outputs
- Sorting into three classes via an optional remote PLC
- Raw analog and pulse-expanded outputs available for strip chart recording
- Program memory for easily reproducible test settings
- Optional analog CRT for signal display
- Multiple channel capability; common analog CRT
- Optional flaw signal processing
- Automatic test coil balancing

DEFECTOMAT EZ 2.828 Eddy Current Testing Instrument

• Technical Data

Coil Systems LMD encircling and segmental coils; HD and HMD encircling coils; transformer, bridge and parameter type probes (adapter may be required); rotating probes Ro50, HRo and StaRo.

Optional Cards Data collection card to transfer defect count data to a PC; Autofilter card to automatically vary filter setting as a function of testing speed.

Transceiver 1/3/10/30/100/300/1000/3000 Khz switchable.

Phase Selector 0-360 degrees in 1 degree steps.

Filtering Separate LP and HP filter settings in 16 steps. Manual adjustment standard; automatic adjustment via optional card.

Sensitivity Setting 0-69.5 dB in 0.5 dB steps.

Y-Enhancement For phase dependent evaluation, Y (vertical) gain adjustable 0,6,12,18 dB.

X-Attenuation For phase dependent evaluation, attenuation of X signal adjustable 0, -6, -12, -18 dB.

Oscilloscope Display Analog CRT; Phase-amplitude (flying dot) or Y/t for eddy current signal display.

Settings Display Back lit LCD display.



Operator Interface Sealed front panel keyboard, EZ Knob to change variable settings.

Evaluation Modes Phase dependent $\frac{1}{2}Y\frac{1}{2}$ or $\frac{1}{2}Y\frac{1}{2}^2$, phase dependent $\frac{1}{2}V\frac{1}{2}$.

Flaw Thresholds Three independent thresholds, S, M and L adjustable in 5% steps.

System Monitoring Automatic monitoring of test coil and instrument.

Storage Medium Internal RAM, battery buffered; 10 stored settings possible.

Test Speed Range 0-120 m/s (0-24,000 FPM).

Inputs Test ON/OFF; external motion clock; external motion clock freeze; rotary synchronization.

Interface RS232 interface for control by a host computer.

Outputs Three instantaneous flaw outputs (S, M and L); two independent marking outputs (M and L); interface for sorting via optional PLC; analog outputs X,Y,V and $\frac{1}{2}Y\frac{1}{2}^2$; line speed clock output; Test ON/OFF output.

Dimensions HxWxD: 7.75" x 17.75" x 26.75"
Foldable front legs.

Weight 50 lbs.

Operating Temperature 32° - 105° F

Storage Temperature 0° - 120° F

• Available Test Coil Systems

H40/H90

Testing of 0.3-100 mm diameter cold ferrous and nonferrous bar, wire and tubing (to 180° F) without magnetic solution.

H40/H90 PM

Testing of 0.3-100 mm diameter cold ferrous and nonferrous bar, wire and tubing (to 180° F) with saturation magnetization by permanent magnet.

H40-H90 PMT

Water cooled version of H40/H90 PM for testing of materials at elevated temperatures.

M40/90/170

Testing of 0.3-180 mm diameter cold ferrous and nonferrous bar, wire and tubing (to 180° F) with saturation magnetization by electromagnet.

Transmitter T

Testing of 5-125 mm diameter hot ferrous and nonferrous bar, wire and tubing (to 2200° F).

HRo

Testing of ferrous and nonferrous materials with a hand held rotating probe scanner.

StaRo

Testing of ferrous and nonferrous materials with an automated rotating probe scanner.

Probes

Testing of ferrous and nonferrous materials using hand held or automated probe systems.