

# ED-510XL

## Hand Held Flaw Detector



## Special Features

The ED-510XL is a hand-held eddy current instrument which accurately detects flaws in metal parts and can sort metals by alloy type. In addition to the versatility of being hand-held, the ED-510XL also features:

- Simplicity of operation, for quick scanning
- Solid state design, with integrated circuitry for reliable detection
- Variable frequency range of 140KHz to 200KHz
- Superior flaw detection in magnetic and non-magnetic materials
- Power is provided by a single 9-volt alkaline battery (battery life is 4 to 8 hours depending on use)
- Interchangeable probes including absolute probes from the ED-520 and ED-530, or special probes designed for your application
- A sensitivity standard with 0.008", 0.020", and 0.040" milled slots

## Applications

The ED-510XL is a hand-held, portable unit which offers high sensitivity, versatility and simplicity in operation. It will locate surface and near-surface flaws in non-magnetic materials as well as surface defects in magnetic materials where permeability is relatively constant throughout the test area. The ED-510XL will sort materials according to such properties as hardness, alloy type, carbon content, heat treat condition, tensile strength and grain structure based on changes in magnetic and electrical characteristics.

The ED-510XL is ideal in testing for defects in airframe and engine components, welding inspection, and various sorting applications. In addition, the ED-510XL can compare the relative coating thickness and relative conductivity to a known test standard.

## Operation

The ED-510XL instrument accurately measures the changes in chemical make-up of the test part when the eddy currents induced through the probe are affected by changes in the test part characteristics. When the probe passes over a variation in the metal, (a crack, thickness or density variation,) it creates an eddy current imbalance in the coil of the probe, and sends a signal to the front panel meter. The meter gives a visual interpretation of the flaw.

## Description

The instrument comes with a medium frequency, short pencil probe and an aluminum flaw sensitivity test block. The front panel of the instrument includes an easily read meter and the following controls and components:

- **"Lift-off"** control is a single-turn potentiometer providing a continuously variable frequency range of 140KHz to 200KHz to select the proper operating frequency for lift-off compensation.
- **"Balance"** control is a single-turn potentiometer. It adapts the probe used to the bridge circuit and is used to position the pointer on the meter.
- **"Power"** switch provides power to the instrument. Access to the battery is on the back of the instrument.
- **"Sensitivity"** control is a single-turn potentiometer used to set the sensitivity level of the instrument. Maximum sensitivity is obtained with this control set fully up.

## Specifications

**Dimensions:** Hand-held unit 3.5" wide x 7.1" long x 1.9" deep (Carrying Case 8" x 8" x 3.5")

**Weight:** Hand-held unit 0.8 lb (0.04kg) w/Carrying Case 2.2 lbs (1kg)

**Frequency Range:** 140KHz to 200KHz

**Power Requirements:** One 9-volt alkaline battery (included)

**Readout:** Square meter, 2.5" wide; scale numbered from 0 to 500 in 50 divisions.