

# **ED-300XL MAGNETIC SORTING UNIT**

## **EQUIPMENT SPECIFICATION ES-100**

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### **1.0 Description**

- 1.1 The Model *ED-300XL* is an eddy current test device which will separate magnetic materials for such properties as hardness, alloy content, heat-treat condition, and metallurgical characteristics. This unit can also be used to measure the thickness on non-metallic coatings and case depth in certain applications. It has also separated gray iron from nodular iron.
- 1.2 The *ED-300XL* is particularly suitable for ferrous foundries, heat treat shops, steel warehouses and general manufacturing plants where accurate tests must be made quickly to segregate materials for metallurgical analysis and structure. Through-coils may be used to sort a variety of small parts such as nuts, bolts, bearing components, pins, etc.

### **2.0 Mechanical and Construction**

- 2.1 Dimensions: 4.75" (12 cm) x 9" (22.9 cm) x 6" (15.2 cm) deep (cover closed)
- 2.2 Weight: 6 lb. (2.72 kg)
- 2.3 Meter: Rectangular meter, 3.5" (8.9 cm) wide. Scale numbered from 0 to 500 in 50 divisions.
- 2.4 The *ED-300XL* is housed in an aluminum case fitted with a removable cover and positive-action latches. The cover contains an accessory storage pocket for quick storage of the line cord and probe. The probe tip consists of a replaceable steel bearing ball, to facilitate continuing use of the probe under severe wear conditions. Probe leads up to 50" length may be employed with no sacrifice in accuracy or sensitivity.

### **3.0 Electrical and Performance**

- 3.1 The *ED-300XL* is solid state construction throughout and utilizes integrated circuits.
- 3.2 Frequency: 360 Hz.

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**3.3** Power Requirements: The ED-300XL operates from 115v/220v, 60 Hz/50Hz single-phase AC. The instrument may be operated on batteries. Consult with the factory if the battery option is desirable.

### **4.0 Operation**

**4.1** Since this is a comparative device, known standards are generally used to set up the instrument. The sensing probe is placed on a known sample and adjustments are made for sensitivity, balance and lift-off compensation. The unit is able to accommodate variations in surface roughness (lift-off) to permit accurate probe readings through moderate coatings of rust, dirt, or scale. Variations in the property of interest will be shown by different needle deflections on a large front panel meter. The maximum eddy current penetration is approximately 1/8", depending upon the type and hardness of the material being tested. Once the instrument is properly set-up, testing may proceed manually or automatically.

**4.2** The internal electronic gate can be set to accept or reject test indications. An indicating LED and relay output are activated simultaneously when the meter needle triggers the threshold. The front panel connector allows for operation of external signaling circuits. Additional electronic switching and mechanical sorting devices can be provided for special applications and will be quoted upon request.

### **5.0 Order Reference**

**5.1** Model *ED-300XL* Magnetic Sorting Unit, including calibration samples, line cord, and General Purpose Probe, to operate on 115/220volts 50/60 Hz line power, **P/N 220200**

### **5.2 Standard Accessories**

**5.2.1** Calibration Samples: High, **P/N 203512**  
Low, **P/N 203513**

**5.2.2** Line Cord, **P/N 216214**

**5.2.3** General Purpose Probe, **P/N 200438**

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### **5.3 Addendum Accessories**

- 5.3.1** Through-type Sensing Coil with .500" ID, **P/N 206064**
- 5.3.2** Through-type Sensing Coil with 1.0" ID, **P/N 200439**
- 5.3.3** Through-type Sensing Coil with 2.0" ID, **P/N 200440**
- 5.3.4** Coil cable, 10' long, **P/N 200838** (required when using any of the above coils)
- 5.3.5** Extension Cable, 15' long **P/N 207040**

### **6.0 References**

- 6.1** Instruction Manual, Form No. 20100, effective Feb. 1, 1995
- 6.2** Price Pages EC-4