



# Hartip – 3000

## Portable Hardness Tester

This state-of-the-art handheld Leeb's hardness tester enables the user to conveniently and accurately measure the surface hardness of a broad variety of metals and alloys in any position. After obtaining data at the test site, the Hartip 3000 can be connected to a mini-printer to obtain a printout or to a computer for analysing and printing data as desired. It's an ideal solution for metallic hardness measurements with conversion to Rockwell, Brinell, and Vickers.

### TYPICAL APPLICATIONS

- Testing of assembled components, without the need for disassembly
- Testing in difficult-to-access areas
- Material identification and sorting
- Can be used in any direction

### FEATURES

- Menu operation
- Large LCD display with backlight
- RS 232 interface for direct data transfer to PC or Printer
- Optional Micro printer
- Automatic mean value display, in addition to standard deviation, min and max, number of readings
- Automatic conversion to Brinell, Rockwell, Vickers, and Shore
- Storage capacity: 960 items in 8 memory sections
- Accomodation for all impact devices: D, DC, D + 15, G, C, E, DL
- Uses regular or rechargeable AA batteries
- Language selections
- Data management software
- High accuracy
- Very easy to use
- Competitive pricing

### OPERATION

- Operation of the Hartip 3000 is easy and test results can be obtained in just seconds. All you have to do is to load and lock the impact

body by pressing down the loading tube, hold the support firmly against the test surface and push the button to release impact body.

### STANDARD PACKAGE

- Processor
- Impact device: D
- Standard Test block
- Alkaline batteries (four 1.5 volt AA)
- Carrying case
- Cleaning brush
- Instruction manual
- Calibration Certificate

### OPTIONAL ACCESSORIES

- Micro printer
- Impact device: DC, D+15, G, C, E, or DL (See table below)
- Data management software
- Connection cable (to PC or printer)
- Special support rings
- Leather case

### MEASURING METHOD

- The Leeb hardness number is the quotient of the impact body's rebound velocity divided by its impact velocity. An impact body with a spherical test tip made of tungsten carbide is propelled against the test surface by a spring and then rebounds. When the permanent magnet inside the impact body passes through a coil, it induces an electric voltage, which is proportional to its velocity.

### SPECIFICATIONS

**Accuracy:** +/- 0.5% (referred to L = 800; repeated accuracy = +/- 4 L units)

**Measuring range:** 200 to 970HL

**Materials:** Wrought and cast steel; Alloy tool steel, Stainless steel, Gray cast iron, Nodular cast iron, Cast aluminum, Brass, Bronze, Wrought copper alloy

**Batteries:** four 1.2/1.5 VAA dry batteries or rechargeable batteries  
Operating temperature -10 to +45°C (14 to 113°F)

**Dimensions:** 195 x 84 x 38mm (7.7 x 3.3 x 1.5 in.)

**Weight:** Basic unit 550g (1.21 lbs)

### LIMITATIONS

**For D, DL, DC, D+15, and E Impact Devices:** a Minimum thickness of 10mm (3/8 inch) is required. The sample weight is required to be over 5kg (11 lbs), however for samples weighing less than (5 kg) 11lbs, you can couple the sample to a solid support weighing over 5kg (11lbs) to achieve accuracy. The maximum roughness of surface finish is 2µ Ra.

**For G Impact Device:** a Minimum thickness of 10mm is required. The sample weight should be over 15 kg, for weights less than 15kg, you can use the sample coupling method. The Maximum Roughness should be 7µ Ra.

**For C Impact Device:** a Minimum thickness of 1mm is required. The sample weight should be over 1.5 kg, however for weights less than 1.5 kg you can couple the sample to a solid support. The Maximum Roughness requirement is 0.5 µ Ra.