NDT Supply.com 7952 Nieman Road Lenexa, KS 66214-1560 USA



# NDT DLH-300 & DLH-330 Pen Type Hardness Testers



#### Features:

- Pen type design, self-contained (Impact device display integrated): no cables
- Unique 1.77" large-screen OLED color display
- Interchangeable D impact device (standard) / DL impact device (optional) can be used for a dual purpose unit; it can also be used in restricted area measurements.
- Highly accurate in any impact direction 360° and automatically identifies impact direction and gravity compensation.
- Easy to operate 4 soft keys above the screen achieve various functions.

	DLH-300	DLH-330
Display Type:	1.77"OLED Screen with 160 x 128 pixel resolution	
Hardness Scale:	HL, HB, HRB, HRC, HV, HS, Tensile Strength	
Measuring Range:	HLD (200-960), HRC (19.8 – 68.5), HB (30-651), HV (80-976), HS	
	(26.4 – 99.5), HRB (13.5 – 100), Tensile Strength (375 – 2639)	
Impact Device:	D Type Impact device	D Type Impact device
	(standard); Optional DL type	(standard); Interchangeable DL
	impact device	Probe
Accuracy:	±6HLD (HLD=800); Repeatability < 6HLD (HLD=800)	
Measuring Direction:	360° Automatic Position Correction	
Materials:	Steel & Cast Steel, Stainless Steel, Gray Cast Iron, Nodular Cast	
	Iron, Cast Aluminum Alloy, Sintered Metal, Copper-tin Alloy, Brass	

# Specifications:



	and		
	Forged Steel		
Resolution:	1HL, 1HV, 1HB, 0.1HRB, 0.1HRC, 0.1HS		
Calibration:	Automatic		
Languages:	English, Chinese, Spanish, Japanese		
Memory:	1,000 groups, each group includes 6 testing results and 1 average		
	value		
Communication:	USB Port, used for recharging and data transmission		
Software:	Optional VIEW Software for	LmView software measurement	
	transmission, storage and	data management, archiving,	
	printing	printing and other operations	
Power:	AAA Lithium Battery, Capacity of 600MA/H, 3.7V and low voltage		
	warning		
Instrument Shut-Off:	Automatically will shut off after 3 minutes of inactivity		
Temperature:	14° to 122°F (-10° to 50°C)		
Dimensions:	5.9" x 1.8" x 0.9" (150 x 46 x 23	8" x 1.8" x 0.9" (204 x 46 x 23	
	mm) – D Type Probe	mm) – DL Type Probe	
Weight:	0.24 lbs. (110g) with D type	0.27 lbs. (125g) with DL impact	
	impact device	device	
Standard:	GB/T 17394-1998, ASTM A956		

## How Does It Work?

A spring in the probe projects the tungsten carbide ball tipped indenter at the test piece. Impact velocity is measured immediately prior to impact and then on rebound. The quotient is computed and displayed as the Leeb Hardness Value. On hard materials, the rebound velocity will be higher than that from softer materials, which will absorb more of the impact energy.

#### For a correct and repeatable measurement, certain conditions must be met:

- The material must be smooth and free of paint, rust, oxide, etc...
- The grain size of the test part must be small in relation to the indentation size.
- The material cannot move or be deflected by the impact of the indenter.
- Correction factor must be applied for the material's elastic modulus.
- Correction for the effect of gravity must also be made.

#### Discussion

**Surface:** The test piece surface needs preparation by filing, sanding or grinding. As a general rule, if you drag your thumbnail across the surface and it drags, the surface is too rough.

**Grain Structure:** Materials such as cast iron, that have a coarse (large) grain structure, will cause inconsistent measurements. The use of a much larger indenter "G" probe will often correct for this condition.

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**Thickness & Mass:** Test parts that have a low mass or thickness need to be supported to prevent movement or deflection.

**Material:** Selection of the material corrects for material type. The following materials can be selected: Steel / Cast Steel, Gray Cast Iron, Nodular Cast Iron, Cast Aluminum, Brass, Bronze, Copper, Stainless Steel, Forged Steel and Tool Steel\*.

Probe Position: Set; Up, Down, Sideways, 45° up or 45° down

\*Leeb measurements are affected by the material elasticity. To a large degree this is taken care of by selecting the most similar material type from the Material list. If you find that your measurements are a bit high or low, it is because the built-in correction factor does not match your material. You can try a different material to see if this gets you closer to a correct measurement. You can also use a known hardness sample of your test material (having enough mass and thickness) to determine the +/- error and then adjust the reading to match using the Calibration facility.

#### DLH-300 & DLH330 Hardness Tester Kits Include:

- Instrument
- D Type Impact Device
- Test Block with HLD value
- Small supporting ring
- Charger
- Cleaning brush
- Instruction Manual
- Warranty Card
- Certificate of Conformity
- Instrument Case

## **DLH-330 Additional Accessories:**

- DL Impact device
- LmView Software
- USB Communication cable