

DYNAMIC HARDNESS TESTER

Model : DHT-6



SOLD / SERVICE / CALIBRATED BY

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Mastering the fine art of testing

DYNAMIC HARDNESS TESTER

MEASURING PRINCIPLE








Dynamic Hardness Tester is an extremely light weight, portable, fast & reliable hardness tester based on a novel, dynamic & Rapid test procedure with widest measuring ranges for metals.

A carbide tipped shuttle with a definite kinetic energy is impacted on the specimen. A part of this energy absorbed by the specimen and is a function of the hardness of the specimen. A tubular device housing electrodynamic energy measuring device carries out the impacting of the shuttle. A measuring instrument receives the signal, equivalent to absorbed energy through a cable and displays with instant calculations. This displays Dynamic hardness (D) a three digit figure, which is proportional to the hardness of the specimen. The machine has built in conversion facility for given material to convert 'D' value to Vickers, Rockwell, Brinell scales which can be selected by pressing   keys.

APPLICATION

- In stores for Material identification.
- Measurement of Hardness in confined spaces.
- Variation in hardness over large work piece.
- Large & heavy components.
- Permanently installed parts.
- Surface hardened component or hardness on coatings.

SALIENT FEATURES

- Sleek and handy design, comes in a slim briefcase, for carrying the machine.
- Alpha numeric display which indicates selected material & scale combination & hardness value.
- Average key to select average of 2 to 10 readings.
- Machine is having improved electronics with micro controller circuitry & user friendly software.
- 30 Hardness scales for different probes selectable by feather touch keys (Pls. ref. the table).
- Auto detection of probe facility is given.
- Automatic shut down facility is provided when machine is not in use for continuously 10 minutes.
- This model operates on 2 numbers of pencil cells.
- Printing is possible with all types of ports i.e. Dot matrix (Centronic parallel port).
- Up to 999 readings can be stored in memory of the machine for printing purpose (This facility is useful when operating the machine at site).
- Low test expenditure.
- Five numbers of probes can be given in different combinations. For eg. • D1, D2, G1, G2 & C • D1, D2, D3, D4 & D5 • D1, D2, G1, SH & C
- Conversion of UTS facility is available on display by using side keys (). This is applicable for only BHN scale for the range 226 to 634 BHN (hard steel & hard alloys only).
- Display last result (For eg. From Sr. No. 20 onward) facility is given by using upper arrow key () & down arrow key (). Also we can scroll through stored readings.
- The ON/OFF switch is provided with feather touch keyboard on front side.
- In this model both serial & printer interfaces are available on single port (serial interface is an extra accessory).
- Automatic calibration facility of probe is available through keyboard.
- Serial interface is possible with RS 232.
- Date entry & datewise printout facility is available.
- We can recall the readings one by one by using arrow keys () () on display, in display result mode.
- Backlight ON / OFF facility is given by using arrow key () () through keyboard.

OPTIONAL FEATURES

- Different types of probes are available
 - Short (Suitable for checking hardness in holes, cylinders, etc.)
 - Extended (Suitable for checking hardness in grooves, & recesses)
 - Low Energy (Suitable for Surface Hardened Components, Coatings & Impact Sensitive Components)
 - Standard (Suitable for general application)
 - Heavy (Suitable for Castings & Forgings)Special conversion scales can be offered to suit different material.
- Machine can be connected to computer for data loading using our serial interface card which is an extra accessory.



MODEL : DHT - 6

MEASURING RANGES

- For Standard Probe (D) / Short Probe (SH) / Extended Probe (EX) Scales (as follows) -

Material	Hardness Range				
	Brinell	Vickers	Rockwell-C	Rockwell-B	Shore D
Steel and Cast Steel unalloyed / Low alloyed	80 - 647 ST / BHN	80 - 940 ST / VPN	20 - 68 ST / HRC	38.4 - 99.5 ST / HRB	32.5 - 99.5 ST / HSD
High Carbon, High Chromium (12% & above) Cold Work tool steel	-	80 - 898 HC / VPN	20.4 - 67.1 HC / HRC	-	-
S. G. Iron (CI with spheroided and nodular graphite) (GG-40-80)	131 - 387 SG / BHN	-	-	-	-
Grey Cast Iron Grade 15-40 (GG)	93 - 334 CI / BHN	-	-	-	-
Cast Al. Alloys non heat treated and quenched & tempered condition	30 - 159 AL / BHN	-	-	-	-
Copper Zinc Alloys (Brass)	40 - 173 BS / BHN	-	-	13.5 - 95.3 BS/HRB	-
Copper Al. and Copper Tin alloy (Bronze)	60 - 290 BZ / BHN	-	-	-	-
Wrought Copper Alloys (Low alloyed)	45 - 315 Cu / BHN	-	-	-	-
Stainless Steel & high temp. resistant Steel.	85 - 655 SS / BHN	85 - 800 SS / VPN	19.6 - 62.4 SS / HRC	46.5 - 101.7 SS / HRB	-
Titanium	60 - 290 Ti / BHN	-	-	-	-

MEASURING ACCURACY

Average Measuring deviation $\pm 1\%$ referred to D=800 on 'D' scale standard test block at a particular test location.

OPERATING TEMP. RANGE

0°C to 50°C

WEIGHT (Approx.)

Probe (Standard) - 150 gms.
Display Unit - 325 gms.
Standard Test Block - 3000 gms.
Total Weight of Machine - 7 kg.
(with all standard accessories & carry case).

- For Heavy Probe (G) scales (as follows) -

Material	Hardness Range	
	Brinell	Rockwell-B
Steel & Cast Steel/Unalloyed and Low alloyed	90-640 ST/BHN	47-99 ST/HRB
Grey Cast Iron Grade 15-40 (GG)	90-315 CI/BHN	-
S.G. Iron (CI with spheroided and nodular graphite) (G.G.-40-80)	125-350 SG/BHN	-

- For Low Energy Probe (C) scales (as follows) -

Material	Hardness Range			
	Brinell	Vickers	Rockwell-C	Shore-D
Steel & Cast Steel/Unalloyed & Low Alloyed	80 - 683 ST / BHN	80 - 996 ST / VPN	20 - 69.5 ST / HRC	31.9 - 99.6 ST / HSD

DIMENSIONS (Approx.)

Probes - Standard (D) - Dia. 25 x 150 mm long
Short (SH) - Dia. 25 x 100 mm long
Extended (EX) - Dia. 25 x 150 mm long
Heavy (G) - Dia. 30 x 255 mm long
Low energy (C) - Dia. 25 x 145 mm long

Digital Display Unit - 188(L) X 105(W) X 64(H) mm

FIELD OF APPLICATION

Field	For D/SH/EX Probe	For G Probe	For C Probe
Preparation of the surface to be tested	N7 (▼▼)	N9	N5
Max. roughness depth RL	10 microns	30 microns	2.5 microns
Av. roughness depth Ra=Cla=AA	2 microns	7 microns	0.4 microns
Min. weight of the test piece			
- of compact shape	5 kg.	15 kg.	1.5 kg.
- on solid support	2.5 kg.	5-15 kg.	0.5-1.5 kg.
- coupled	0.1 to 2 kg.	0.5-5 kg.	0.02-0.5 kg.
Min. thickness of test piece coupled	5 mm	15 mm	2 mm
Min. thickness of layer with surface hardening	0.8 mm	-	0.2 mm
Indentation of the test tip with 300 HB specimen hardness -			
Diameter	0.6 mm	-	-
Depth	13 micron	-	-
Min. bore dia. of the specimen (only for short probe)	100 mm	-	-

With standard support ring machine can work on a minimum radius of 60 mm convex or concave. For lesser job dia. suitable additional support rings can be provided. (Ref. Extra accessories).

DYNAMIC HARDNESS TESTER

● POWER SUPPLY CONDITIONS

- Model : DHT- 6 Dry cell batteries (1.5 VDC x 2 Nos.)
Size - AA, Type - R6.

● STANDARD ACCESSORIES

- Probe (Normally 'D', if specified - 1 No.
other Probe can be supplied in place of 'D')
- Digital display unit - 1 No.
- Standard test block calibrated in ' D ' Scale - 1 No.
- Brush for cleaning probe - 1 No.
- Carry case for Machine - 1 No.
- Instruction manual - 1 No.
- Printer interface cable - 1 No.



● EXTRA (OPTIONAL) ACCESSORIES

- Standard Test Block of any hardness.
- Support rings for smaller radius for -



- (SR 1) Convex, Concave, Cylindrical, Spherical radius 30 to 60 mm
 - (SR 2) Convex cylindrical radius 14.5 to 30 mm
 - (SR 3) Convex cylindrical radius 10 to 15 mm
 - (SR 4) Concave cylindrical radius 16.5 to 30 mm
 - (SR 5) Concave cylindrical radius 12.5 to 17 mm
 - (SR 6) Concave cylindrical radius 11 to 13 mm.
- Serial Interface (Windows 98 Based).
 - 80 Col. Dot Matrix Printer.
 - Different types of Probes -
 1. Standard (D)
 2. Short (SH)
 3. Extended (EX)
 4. Heavy (G)
 5. Low Energy (C)



* FASNE * reserves the right to change above specifications without any notice due to constant improvements in design.