

BENCH MODEL METAL HARDNESS TESTER

HARDNESS TESTER- ROCKDRILL & COMBINED ROCKWELL/BRINELL

MODELS : TRMAG, TRBM, TRBM - A1, TRBM - A2 & TRM - SF

The Rockwell Hardness tester was developed for use in measuring hardness of metals and alloys of all types, hard or soft, polished or unpolished, flat, round, tubular or irregular shape. It also covers testing the indentation hardness of plastics and related plastic electrical insulating materials.

The Brinell Test is usually applied to unfinished material generally such as rails, plates, springs, casting, forgings, structural materials and in general large parts-the large impression of the Brinell test is extremely important in that it averages out the smaller imperfections.

In Brinell testing the hardness number obtained relates to the size of the impression made by an indenter of specific size and shape under a known load.

After measuring the diameter of the ball impression by means of a microscope specially designed for the purpose the corresponding number is obtained from the Brinell table.

BSE microscope model MAC-30 has 7 mm graticule scale and is electrically illuminated. The measuring accuracy obtained is 2-3 microns.

DESCRIPTION

The mechanism is housed in a cast iron body to protect it from dust. The elevating screw is provided with protective bellow sleeves. Major loads of 60, 100 and 150 kgf are constructed so that these can be stacked only in proper progression. On one end of the load lever, the weight is applied gradually by means of a hydraulic dash pot. The force is transmitted by the load lever to the plunger and thereby to the test piece. The accuracy of the machine is guaranteed as per B.S. 891 : part I 2-1964.

MODELS

TRMAG: Manual weight selection with automatic zero adjustment of dial gauge.

TRBM: Manual weight selection with automatic zero setting dial gauge, and facility of Brinell testing.

TRBM-A1: Provided with automatic weight selection and automatic zero setting dial gauge, having 187.5 kgf weight for Brinell test.

TRBM-A2: With two additional weights of 187.5 kgf and 250 kgf for Brinell tests. A small pin having dia. 2mm can be tested as plunger is guided in a set of six bearings.

TRM-SF: Similar to TRBM-A2 in construction, but with manual weight selection. Useful for carrying Rockwell and Rockwell superficial Tests.

PRINCIPLE:

In Rockwell testing the hardness number obtained represents the additional depth to which a ball or sphero-conical diamond penetrator is driven by a heavy load beyond the depth of a previously applied light load.

The two sketches below show the "increment method" of hardness measurement, which is the basis of Rockwell test. The dial records the increment of depth, the difference between the major and minor load penetrations. The deeper the penetrations the lower the Rockwell number.

APPLICATIONS:

Production Departments, Incoming section Quality Control Department, Tool Rooms, Repair Facilities, Heat Treating Research Laboratories etc.

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STANDARD ACCESSORIES:

- Dash-pot oil bottle
- Allen spanner
- Instruction manual
- 1/16" steel ball penetrator
- Dead weights for applying 60 kgf, 100 kgf, 150kgf major load.
- Protective sleeve for elevating screw
- Dial gage 80 mm
- Diamond indenter 120°
- Test block for HRC, HRB (HB for TRBM)
- Brinell Microscope for TRBM
- 2.5 mm steel ball penetrator for TRBM
- Plain anvil V-groove anvil

We reserve the right to change any or all specifications without prior notice.

Model	TRMAG	TRBM - TRBM - A1	TRBM - A2	TRM - SF
Max. Load(Kgf)	150	187.5	250	150
Load range (Kgf)	60,100,150	60,100,150,187.5	60,100,150,187.5, 250	15, 30, 45, 60,100,150
Initial range Load (Kgf)	10	10	10	3, 10
Max. test height(mm)	216	216	290	290
Depth of throat (mm)	133	133	148	148
Size of base (mm)	171 x 445	171 X 445	210 X 510	210 X 510
Machine height (mm)	635	635	845	845
Nett weight (approx.) Kg	77	77	137	137