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Portable Hardness Tester

MODEL : PR-1 (Rockwell Method)

DT Portable Hardness Tester is developed to meet the demands of a light weight instrument which can be used to carry out tests by a universally recognised method of Hardness testing.

Rockwell Method : This hardness tester can be used in variety of applications and is radially adjustable to a wide range of sizes and shapes which are difficult to test in a standard table model hardness tester.

The machine is designed for carrying out Rockwell tests comparable to table model hardness tester because,

the basic things such as shape of penetrator, method of penetration, measurement and loads are same in both systems.

The photograph of backside gives the general arrangement of the hardness tester.

The system carries a weigh bar (8) pivoted at central point. When the load is applied by the loading screw (9) at one end of the weigh bar, it is deflected and the other end of this bar carrying penetrator forces down into the test specimen.

This deflection of weigh bar which is propotional to the applied load is indicated on the loading dial indicator (1). Besides this loading dial indicator, there is one penetration measuring indicator (14) which measures the actual penetration of the penetrator into the test specimen is read directly on this indicator.

The frame carries two adjusting screws and a gear train. By rotating the knurled knob the distance between the penetrator and the support-anvil can be adjusted.

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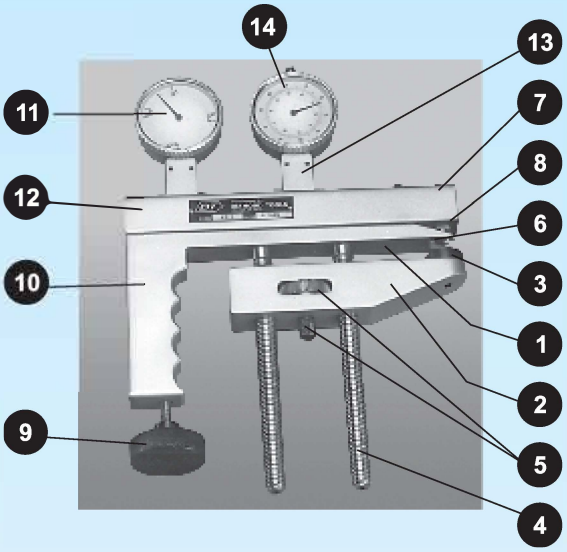
1) Upper Clamp
2) Lower Clamp
3) Support Anvil
4) Adjusting Screws
5) Knurled Knob
6) Penetrator
7) Penetrator tightening screw
8) Weigh Bar
9) Loading Screw
10) Handle
11) Loading Dial Indicator
12) Indicator Seat Support
13) Indicator Seat
14) Penetration measuring indicator



METHOD OF TEST

1) Select proper penetrator (6) depending upon the material to be tested.
2) Take precaution so that the penetrator does not project beyond the Upper clamp (1). For this, the loading screw (9) should be sufficiently taken back.
3) Place the test specimen securely on suitable anvil (3).
4) Clamp test specimen firmly between upper clamp (1) and support anvil (3) by rotating the knurled knob (5) on the lower clamp (2). DO NOT APPLY EXTRA PRESSURE.
5) CHECK ZERO SETTING OF LOAD INDICATOR (11). Rotate bezel to bring pointer over small black dot for zero load.
6) Apply 10 kgf (98.07 N) major load by rotating the load screw (9) in clockwise direction such that the pointer on the load indentor (11) comes on set position.
7) Check zero setting of penetrator indicator (14). Rotate bezel to bring pointer to 'O' on the black scale.
8) For 'C' scale use diamond penetrator against load of 150 kgf (1471 N) and for 'A' scale use same diamond penetrator against load of 60kgf (588.4 N). For 'B' scale use 1/16 ball penetrator against a load of 100 kgf (980.7 N).
9) Take off major load by turning the loading screw in anticlockwise direction such that only minor load of 10 kgf. (98.07) remains in action - (pointer back to 'set position').
10) Hardness value in Rockwell scale is directly indicated on the penetrator indicator (14).

    Read of number on black scale for diamond penetrator.
    Read offnumber on red scale for ball penetrator.
11) Release load completely by taking back the loading screw (9).
12) Turn the knurled knob (5) in anticlockwise direction to loosen clamp and thus the test specimen.

Maximum test height	110 mm
Throat capacity	55 mm

Flat Anvil	1 No.
"V" Anvil	1 No.
Test Blocks	2 Nos.
Diamond Penetrator	1 No.
1/16" Ball Penetrator	1 No.

DT Reserves the rights of change in the above specifications due to constant improvement in design.

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