

Universal Instruments & Engineering
Precision Leadership



Over **60** years of
consistent excellence

Universal Load Cell Based Hardness Testing Machine

Model : Uni Indent



Fully Computerized PC based
Universal Hardness Tester



High accuracy & repeatability of
measurement at all loads



Wide Testing Range from
Soft metal up to hardest



Load cell based close-looped control





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Universal Load Cell Based Hardness Testing Machine Model : Uni Indent

Features :

- Load cell based close-looped control.
- Brinell, Rockwell, Vickers three testing methods.
- Selection of plastic Rockwell scales (specific demands are supplied depending on the contract).
- Hints for indentors when the scales are selected.
- Automatically apply major load and minor load.
- On screen conversion of hardness scales.
- Result can be exported in "Excel" using flash drive.

Description :

FIE make a universal hardness testing machine i.e. "UNI-INDENT".

It is fully automatic load cell based machine. This hardness tester we can cover all types of hardness like Rockwell, Brinell and Vickers.

This hardness tester contain high quality mechanical components and it's working is based on load cell, closed loop force feed back system.

Optical lens with 0.7 to 4.5X objective with built in camera can measure accurate image of indentations of various ranges

Technical Specifications :

Rockwell Scales	HRA, HRB, HRC, HRD, HRE, HRF, HRG, HRH, HRK, HRL, HRM, HRP, HRR, HRS, HRV
Vickers Scales	HV5, HV10, HV20, HV30, HV40, HV50, HV60, HV80, HV100, HV120 (10 Grades forces for choose).
Brinell Scales	HBW 1/5, HBW 2.5/62.5, HBW 1/10, HBW 2.5/15.625, HBW 1/30, HBW 2.5/31.25, HBW 2.5/62.5, HBW 5/125, HBW 2.5/187.5, HBW 5/250
Scale Resolution	0.1 HR
Dwell Time	0 to 60 Sec.
Max. Test Height	250 mm
Depth of Throat	170 mm
Hardness Test Range	Brinell 8-650 HBW Rockwell 20-100 HR Vickers 8-1800 HV
Objective	0.7X to 4.5X
Power Supply	AC220V, 50-60 Hz
Total Size	500mm x 240xx x 760mm
Total Weight	110 kg.

Standard Accessories :

Standard Test Block	1 No. each (Rockwell, Vickers, Brinell)
Diamond indenter	1 No. (Rockwell, Vickers, Brinell)
Test Table with Slide Ø50 mm	1 No.
Spanners	1 Set
Electric Cord & PC interface cord.	1 No. each
USB Device for Video	1 No.
Image Analysis software CD	1 No.
Telescopic Cover	1 Set
Instruction Manual	1 Book

* PC & Printer is not in our standard scope of supply.

ROCKWELL HARDNESS TEST

SELECT SCALE

HRA ☐ HRB ☐ HRC ☒

15N ☐ 30N ☐ 45N ☐

15T ☐ 30T ☐ 45T ☐

TEST SELECTION SETTING NEXT

Rockwell Scale Selection

VICKER SCALE SELECTION

HV5 ☐ HV10 ☐ HV20 ☐

HV30 ☐ HV40 ☐ HV50 ☐

TEST SELECTION LOAD CALIBRATION NEXT

Voickers Scale Selection

SELECTED ROCKWELL SCALE

HARDNESS TYPE : HRC
LOAD : 150 kgf
INDENTER : DIAMOND

☒ Tolerance

Minimum : 86.2 HRC
Maximum : 87.5 HRC

BACK NEXT

Selected Scale Display

ROCKWELL HARDNES TEST

RESULT

HARDNESS TYPE : 15T
LOAD : 15 kgf
INDENTER : 1/16" BALL
HARDNESS : 78.5 15T

Last 10 Reading

1	78.5	15T	☒
2	75.9	15T	☒
3	79.6	15T	☒
4	78.6	15T	☒
5	76.0	30T	☐
6	76.2	30T	☐
7	75.4	30T	☐
8	86.0	HRB	☐
9	86.3	HRB	☐
10	81.9	HRB	☐

Calculate AVG

77.2 15T

BACK REPORT

Test Result

FIE Fuel Instruments & Engineers Pvt. Ltd.
Precision Indentation

11/01/2019 HARDNESS TEST REPORT 09:20:01

File Name : SAROJ
Machine Model : RVB-L250 Sr. No. : 06/2018-3700

Tested For : FIE
Address : YADRAV

Sample Details
Sample ID : TPNY12
Job Index : 1

Test Results:
Scale : 15T
Load : 15 kgf
Indenter : 1/16" BALL
Hardness : 78.5 15T
High : 79.5 15T
Low : 77.5 15T

Tested By Verified By

Test Report Page 1

FIE Fuel Instruments & Engineers Pvt. Ltd.
Precision Indentation

11/01/2019 HARDNESS TEST REPORT 09:19:55

File Name : SAROJ
Machine Model : RVB-L250 Sr. No. : 06/2018-3700

Tested For : FIE
Address : YADRAV

Sample Details
Sample ID : TPNY12
Job Index : 1

Test Results:
Scale : 15T
Load : 15 kgf
Indenter : 1/16" BALL
Hardness : 78.5

High : 79.5 Low : 77.5

Hardness Scale

1	78.5	15T
2	75.9	15T
3	79.6	15T
4	78.6	15T
5	76.0	15T
6	76.2	15T
7	75.4	15T
8	86.0	15T
9	86.3	15T
10	81.9	15T

BACK REPORT REMOVE USB

Test Report Page 2



Over 60 years of consistent excellence

Universal Load Cell Based Hardness Testing Machine Model : Uni Indent

UNISYS Fuel Instruments & Engineers Pvt. Ltd. Precision Leadership

Certificate No. HSM
Supplier Name FIE
Sample Name Test Block

Measurement: Load (kgf) 1.00 kg
Indentation Size
Hardness
Job No
Remark
Date

Control: Xr 100mm Xp 100mm
Status: AT HOME
STOP

Machine Setting: Lub On Time 3.0 Sec, Lub On Interval 60 min, Dwell Time 100 Sec

Home Screen

UNISYS Fuel Instruments & Engineers Pvt. Ltd. Precision Leadership

New Certificate

Certificate No. SAROJ25
Certificate Date 13/01/2019
Certificate Time 04:12 PM
Supplier Name SAROJ ENGINEERING
Sample Name
Steel Grade
Address
City
Email
Phone

Load (kgf) 3000.00
Ball Dia (mm) 10.00
Measurement Type
Indentation Size
Hardness
Job No
Remark
Date

Machine Setting: Lub On Time 3.0 Sec, Lub On Interval 60 min, Dwell Time 100 Sec

SOFT LIMIT: +Ve Limit (mm) 500.000, -Ve Limit (mm) 500.000

New File Creation

UNISYS Fuel Instruments & Engineers Pvt. Ltd. Precision Leadership

Certificate No. SPM352
Supplier Name FIE
Sample Name

Measurement: Load (kgf) 3000
Ball Dia (mm) 10.00
Measurement Type Automatic
Indentation Size 2.73 mm
Hardness 504.49 HBW 10.00/3000
Job No
Remark High
Date 1/13/2019 11:00:23 PM

Current Position: X (mm) 0.106, Y (mm) 80.332, Z (mm) 720.260

Status: Loading

Machine Setting: Lub On Time 3.0 Sec, Lub On Interval 60 min, Dwell Time 100 Sec

Loading Screen

UNISYS Fuel Instruments & Engineers Pvt. Ltd. Precision Leadership

Certificate No. SPM354
Supplier Name FIE
Sample Name

Measurement: Load (kgf) 3000.00
Ball Dia (mm) 10.00
Measurement Type
Indentation Size
Hardness
Job No
Remark
Date

Current Position: X (mm) 0.106, Y (mm) 71.775, Z (mm) 719.061

Status: Unloading

Machine Setting: Lub On Time 3.0 Sec, Lub On Interval 60 min, Dwell Time 100 Sec

Unloading Screen

UNISYS Fuel Instruments & Engineers Pvt. Ltd. Precision Leadership

Default Setting

Camera Selection: AllMedia USB Polaris Analog
Default Camera: AllMedia USB Polaris Analog Camera

Camera: Refresh, Start Camera, Stop Camera, Set Default

Certificate No. SAROJ25
Supplier Name SAROJ ENGINEERING
Sample Name

Measurement: Load (kgf) 3000.00
Ball Dia (mm) 10.00
Measurement Type
Indentation Size 2.80 mm
Hardness 477.12 HBW 10.00/3000.00
Job No
Remark High
Date 1/13/2019 11:16:42 PM

Current Position: X (mm) 0.106, Y (mm) 71.775, Z (mm) 722.903

Status: Cycle Completed

Machine Setting: Lub On Time 3.0 Sec, Lub On Interval 60 min, Dwell Time 100 Sec

Default Setting

UNISYS Fuel Instruments & Engineers Pvt. Ltd. Precision Leadership

Certificate No. SPM354
Supplier Name FIE
Sample Name

Measurement: Load (kgf) 3000.00
Ball Dia (mm) 10.00
Measurement Type Semi
Indentation Size 2.80 mm
Hardness 477.12 HBW 10.00/3000.00
Job No
Remark High
Date 1/13/2019 11:16:42 PM

Current Position: X (mm) 0.106, Y (mm) 71.775, Z (mm) 722.903

Status: Cycle Completed

Machine Setting: Lub On Time 3.0 Sec, Lub On Interval 60 min, Dwell Time 100 Sec

Final Result