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Microvickers Hardness Tester

GENESS ENGINEERS

Model - MV 1-TS



Description :

'FIE' Microvickers Hardness Tester with touch screen is a simple and accurate means to produce and automatically measure the diamond indentation to give micro hardness numbers directly.

These testers are suitable for measuring the hardness of precision metallic parts with wide testing range - from soft to hard, and their accurate results are widely acclaimed.

These testers strictly confirm to -

IS:1501(Part 2) : 2013 and ISO 6507-2:2005.

Construction :

The machine frame is designed to accommodate the high precision loading system. Specimen is clamped by vice or supported by proper fixtures.

The test cycle is fully automatic. The accurate load is applied on a diamond indenter by means of dead weights.

After a lapse of time, the load is removed automatically. The image is digitalized using a HD Camera fitted on the machine and is captured by the Touch Screen.

The diagonals of the indentation are measured by the Touch Screen and the Micro Hardness number is displayed directly on screen.

Built-in Touch Screen Control Panel :

- Micro Processor based Micro Hardness Tester.
- Direct and accurate measurement of micro hardness number using "State of the art" image processing technology.
- Wide testing range - from soft metal such as lead up to hardest, like hardened steel.
- High accuracy and repeatability of measurement at all loads.
- Small size of indentation makes it a non destructive testing on finished components.

Technical Data	
Test Loads	10, 20, 50, 100, 200, 300, 500 gf
Maximum Test Height	30 mm with clamping vice 50 mm without clamping vice
Sample Stage (XY Stage) with micrometer heads of 0.01 LC	10 mm movement in each axis
Clamping vice capacity	40 mm max.
Scale least count	0.0001 mm
Machine dimension	L 450 x W 275 x H 560 mm (approx.)
Weight (approx.)	50 kg.
Measuring range	0.01 to 0.2 mm

* Optional Test load : 1000 gf.

Features :

- Load selection by external knob.
- Motorized loading and unloading cycle.
- Small loads allow testing of thin sheet metals.
- Latest GUI features with user friendly software :
- On-line indentation setting and focusing on Touch Screen.

Advanced image processing :

Algorithms implemented for precise calculations of hardness numbers with various options to cover all ranges of specimen.

Batch file processing :

Option for Data/storage and reports generation for case depth analysis etc.

Statistical evaluation :

Software for calculating standard deviation, mean, medium, frequency distribution graph, variation graph etc.

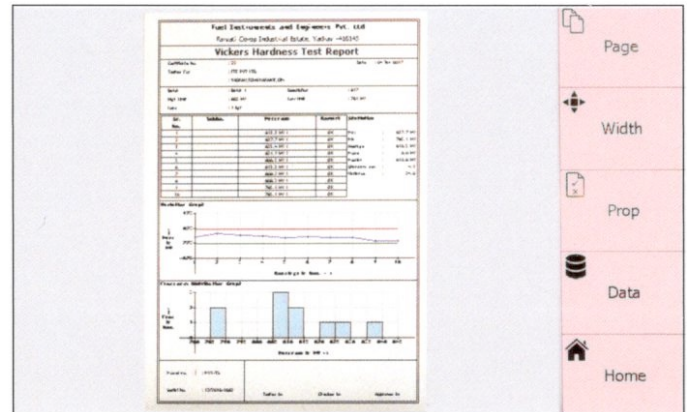
Scope of supply :

Basic machine with HD camera, optics with illumination system.

Standard Accessories	
Vickers Diamond Indentor 136° pyramid	1 No.
Standard Test Block	1 No.
Spanners	1 Set
Supply Cord	1 No.
Instruction Manual	1 No.

Control Panel Screens

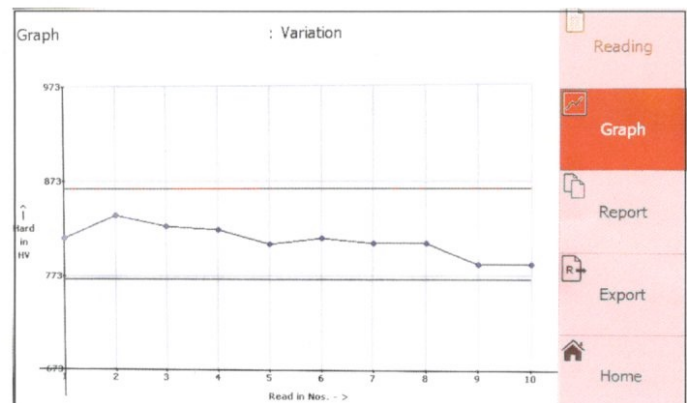
	Hardness	Load	Scale	
1	813.3	1	HV	Result
2	837.68	1	HV	Up
3	825.35	1	HV	Down
4	821.88	1	HV	Delete
5	827.1	1	HV	Back
6	806.53	1	HV	
7	813.3	1	HV	
8	808.21	1	HV	



Home Screen

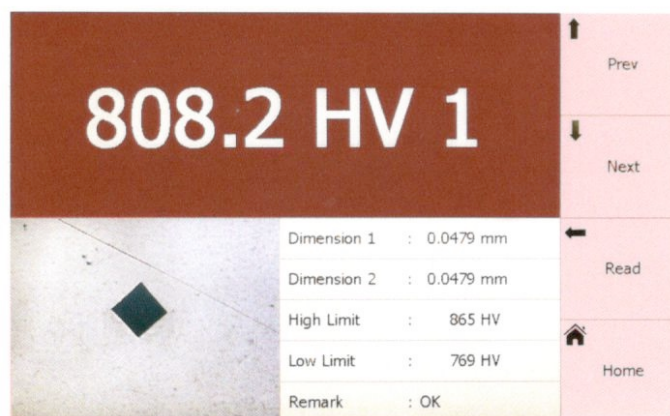
Test Report

Fuel Instruments and Engineers Pvt. Ltd Parvati Co-op Industrial Estate, Yadav -416145			
Vickers Hardness Test Report			
Certificate No.	: 22	Date	: 04 Jan 0017
Tested For	: FIE PVT LTD.		
Batch	: Batch 1	Description	: 817
High Limit	: 865 HV	Low Limit	: 769 HV
Load	: 1 kgf		
Measure Mode	: Manual	Hardness	: 813.3 HV 1
Load	: 1 kgf	Dimension 1	: 0.0484 mm
Dimension 1	: 0.0474 mm	Dimension 2	: 0.0471 mm
Measure Mode	: Manual	Hardness	: 837.7 HV 1
Load	: 1 kgf	Dimension 1	: 0.0474 mm
Dimension 1	: 0.0477 mm	Dimension 2	: 0.0467 mm
Measure Mode	: Manual	Hardness	: 825.4 HV 1
Load	: 1 kgf	Dimension 1	: 0.0477 mm
Dimension 1	: 0.0482 mm	Dimension 2	: 0.0466 mm
Measure Mode	: Manual	Hardness	: 821.9 HV 1
Load	: 1 kgf	Dimension 1	: 0.0482 mm
Dimension 1	: 0.0482 mm	Dimension 2	: 0.0466 mm
Measure Mode	: Manual	Hardness	: 806.5 HV 1
Load	: 1 kgf	Dimension 1	: 0.0482 mm
Dimension 1	: 0.0482 mm	Dimension 2	: 0.0466 mm



Batch Report

Test Result Graph



Result on Screen