

MICRO HARDNESS TESTERS AND OTHER RELATED PRODUCTS

Chroma systems are also the only developers of Micro Hardness Testers in India. Customers have a choice of three different models:

- Entry level Semi Automatic model, hardness value from look up table
- Semi Automatic model with Micro Hardness result Digital Display on the instrument
- Fully Automatic, motorized X-Y stage, computer interface for auto measurement and reporting

Some of our customers using out MHTs are Metals India, Fairfield Atlas, JK Engineers, Spark Heat Treat, TC Springs etc.

Due to our experience in the development of Micro Hardness Testers, **we have recently upgraded imported MHTs with our motorized stage and imaging attachments.**

This has been very well accepted by the industry for the following benefits :

Auto Measure : A CCD camera is used to transfer the image of the indenting from the MHT to the computer. The software is able to measure the diagonals very accurately.

Auto movement of Stage : The motorized stage provides a very good positioning accuracy and repeatability.

Comprehensive reporting : A MS Word report is generated by the software, which contains the traverse information, along with respective hardness, hardness variation graph, and case depth calculation.

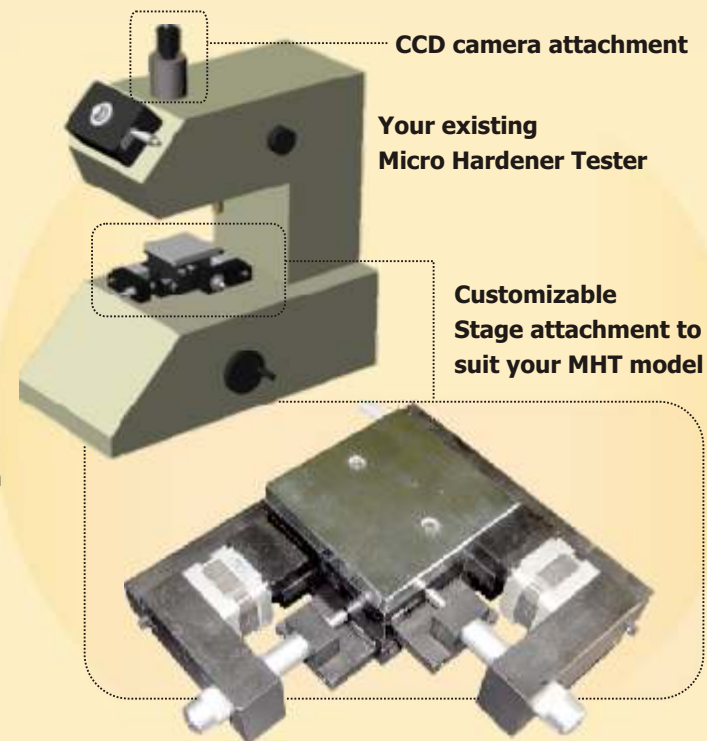
Please write to us for a separate brochure of our range of Micro Hardness Testers

We can add either of the following to your existing MHT:

- CCD camera, Frame grabber card, software to help automate the process of Micro Hardness testing.
- A Motorised stage (replace the existing stage)

Some of the customers where we have carried out such up-gradations are Sona Okigawa, GKN Driveline, Delphi TVS, Hitech Gears, Hero Honda etc.

Contact us with the make and model number of your Tester and we can discuss the up-gradation in detail.



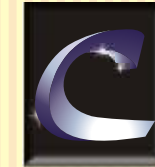
Developed by



CHROMA SYSTEMS

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CHROMA SYSTEMS

IMAGE ANALYSIS SYSTEMS AND MICRO HARDNESS TESTERS

Chroma Systems are pioneers in Image Processing Solutions in India.

We have applied advanced computing technologies to metallography making our Image Analysers the best answer to the specific needs of quality conscious organisations.

The MVIG 2005 is at the cutting edge of technology and is more specific and easy to use than any generic imaging solution.

Chroma Systems are the only developers of Image Processing Workstations in India and are backed by the largest installed base.

We are also the sole manufacturers of Micro Hardness Testers and Visual Inspection Systems in India.



TOTAL IMAGING SOLUTIONS

CUSTOMISED IMAGE ANALYSIS SYSTEM MVIC 2005

The MVIG 2005 is the most widely used Image Analysis System in India. This system has all the features of the MVIG 1005 and many more.

Some of the salient points about this system are:

- Direct reporting in Word / MS Excel
- No previous knowledge of computers / Image Analysis is required to use this system.
- Report formats customized to be in tune with the current reporting style of the customer. Reports will have customers logo, letterhead header etc.
- Operation of the modules can be redesigned to suit specific analysis needs of individual companies. This is important when you are dealing with a wide variety of components / vendors / suppliers.
- All software developments are carried out in Pune. Modifications/customizations in the software are done free of cost, even after installation. No other company customizes software according to users requirement.
- Free lifetime software upgrades
- Facility for interfacing motorized stage for the micro Hardness Tester, microscope etc.
- Four optical instruments, like microscope, Micro Hardness Tester, Stereo Microscope, SEM etc. can be connected to this system simultaneously, to get a very powerful and integrated reporting station.

We have installed the largest number of Image Analysers in India. Our systems are being used by a wide range of customers. Mentioned below are categories of customers along with their names :

4 Wheeler Mfgs.

Mahindra Tractors, Eicher Tractors, Carraro India, Bharat Earth Movers etc.

2 Wheeler Mfgs.

Hero Honda Motors (both plants), TVS Motor Company (both plants), Hero Honda R&D Division etc.

Steel Mills

Sunflag Iron & Steel, Jindal Steel, Star Wire, EBG India etc.

Auto Component Mfgs.

Tata Cummins, Hi Tech Gears, Delphi TVS, Sundaram Fastners etc.

Forging Companies

Bharat Forge, Guru Nanak Auto, Automotive Axles etc.

Foundry

Shriram Pistons (Ring Foundry), Indian Smelting & Refining, Perfect Circle Ltd. etc.

R&D, commercial labs etc.

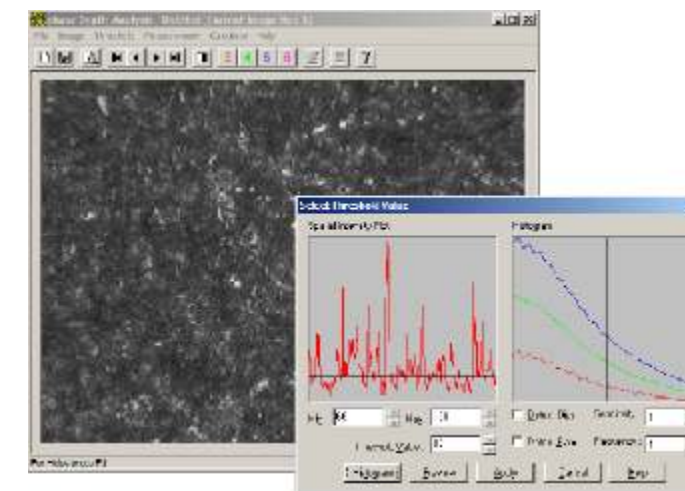
Metals India, Elca Labs, IIT, Microtek Forgings, Cummins etc.

BASIC IMAGE ANALYSIS SYSTEM MVIC 1005

This system contains all the hardware and software of our Basic Image Analysis and Documentation system. In addition to that there are analysis modules for:

- Grain size analysis based on ASTM E1382-91 / ASTM E112 (Intercept methods)
- Inclusion rating in steels based on ASTM E45 (METHOD A) / E1122
- Inclusion rating in steels as per JIS G0555, DIN K4 etc.
- Percentage, volume and area fraction and distribution of Phase(s) as per ASTM E 562
- Nodularity of nodules in C. I. as per ASTM E 247, size and nodule count
- Porosity in terms of size and distribution analysis with particle size and distribution analysis
- Measurement of banding with avg., max, min bandwidth and length as per ASTM E 1268
- Graphite Flake length and percentage as per ASTM A-247-67

Many more modules are available and can be provided as part of this system.



Some important features of the MVIG 1005 are :

- The results, micro structure images, graphs etc. are directly exported to MS Word by the software, thereby giving a fully filled up Word file, which can be printed, saved, sent by e-mail etc.
- All software modules comply with standards like ASTM, JIS, DIN etc. This is a very cost effective solution for companies who do not require the software to be customized.
- Technical backup is available, as the software is developed in India.

IMAGE DOCUMENTATION SYSTEM

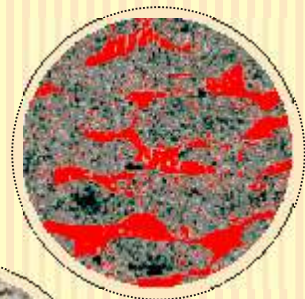
This system comprises of a microscope, a high-resolution CCD camera , a scientific grade frame grabber card and image capturing and documentation software. Users' existing microscope and computer can be used.

The micro structure can be seen as live video on the computer monitor. This enables the metallurgist to discuss the micro structure with his vendors/suppliers and also compare with standard micro structure charts.

The image can be modified, stored, printed and sent by e-mail to any other interested parties.

Some important features of this Image Comparison and Documentation system are:

- Report generation in MS Word
- A library of more than 100 micro structure and failure analysis photos etc. for comparison studies
- 1x and 2x viewer utilities, to get the same image magnification on the monitor, same as that seen through the microscope. This enables the user to get a live image exactly at 100x on the monitor and compare it with a scanned photo / book etc.
- Easily Up-gradable to the MVIG 1005 / MVIG 2005



Delta Ferrite



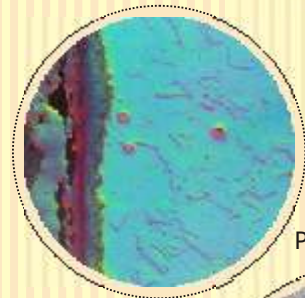
Phase Analysis



Alloys



Graphite Flakes



Plating



Carbides