



CHROMA SYSTEMS

Enhanced features. New look.



MICRO HARDNESS TESTERS



Micro Hardness Testers

Chroma Systems are pioneers of Computer controlled opto-mechanical Solutions in India. We are the first and only Indian company to indigenously develop Micro Hardness Testers, both manual and computer controlled.

Chroma Systems offers a wide range of Micro Hardness solutions, ranging from Vickers and Knoop options to automatic Traverse and Auto loading Micro Hardness Testers. All software is compliant with standards like ASTM E 384 etc.

We have already installed many semi automatic and fully automatic micro hardness testers in India. Due to increasing demand of the Indian customer to use world class products (working & well as appearance) we have redesigned our MHT with enhanced features, new looks and very attractive prices.



We can also upgrade your existing manual imported MHT with an imaging attachment, software as per ASTM E384, motorized stage etc. to automate the procedure for generating reports etc. Some of our customers using out MHTs are Metals India, Fairfield Atlas, JK Engineers, Spark Heat Treat, TC Springs etc.

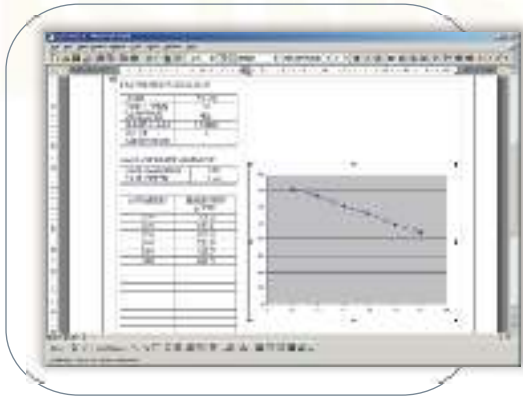
Chroma Systems are also the sole developers of Image Processing Workstations and Visual Inspection Systems in India.

Customers have a choice of three different models

	Entry level Semi automatic model, Hardness value from look up table [DH 50]	Semi Automatic model with Micro Hardness result Digital Display on the instrument [DHR 1000]	Fully Automatic, motorized X-Y stage, computer interface for auto measurement and reporting [DHV 3000]
Optics	10x, 40x	10x, 40x	10x, 40x, 20x optional
Loading Range	50 -1000 gms	50 (20 optional) 2000 gms	20 (5 optional)-3000 gms
Filar Eyepiece Micrometer	Regular	Regular	Digital
X-Y Stage Micrometer	Thimble	Thimble / Digital	Thimble / Digital
Loading (Indenting)	Motorised	Motorised	Motorised
Weight Changing	Manual knob	Manual knob	Manual knob / automatic
Indexing (Turret)	Manual	Manual / Auto	Manual / Auto
Indentor Type	Vickers	Vickers	Vickers / Knoop
Hardness Display	LUT	LCD	LCD+ CCD
Upgrade to DHV 3000	-	Yes	Yes
Auto focus	-	-	Optional extra
Imaging	-	-	Yes
Test Block	-	-	One test block
Computer + Printer	-	-	Yes
Image Analysis compatible A/D card	-	-	Yes
Image Analysis library	-	-	Yes

DHV 3000

The DHV 3000, a high end instrument in the DH series, encompasses a Micro Hardness Tester with features like automated computer controlled X-Y stage, automated indentations and measurements.

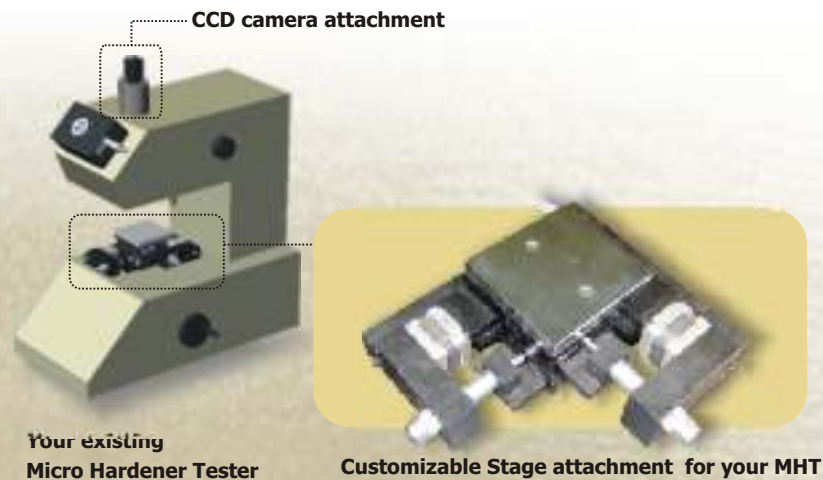


This allows the user to do fast case depth analysis, with automatic reporting in MS Word. The software exports the hardness variation graph, indentation locations & hardness, case hardness, case depth etc. to a word file, which the user can print, email or save for future reference.

The DHV 3000 has features like automatic or manual on-screen measurement of diagonal and options for manual or motorized X/Y tables and automatic focus. Such features not only improve productivity and reduce operator influence but also increase speed and efficiency of analysis.

Micro Hardness Tester Upgradation Kit

Now, automate your existing Microhardness Tester by adding a motorised stage and imaging facility for automatic Case Depth calculation.



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.

Automovement 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.

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





Alloys



Phase Analysis



Graphite Flakes



Delta Ferrite



Plating



Carbides

Image Analysis System

Our range of Image analysis systems provide a single fully integrated analytical tool for study and documentation of microstructures using fast and automatic image processing techniques.

We have various options in Image Analysis hardware and software, right from basic image printing systems to high end Image Analysis Workstations, to suit the analysis requirements and budgets of a wide range of users.

Salient points about **MVIG 2005**

- 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.
- Facility for interfacing motorized stage for the micro Hardness Tester, microscope etc.
- Other optical instruments, like Stereo Microscope, SEM, Video Zoom Microscope etc. can be connected to this system simultaneously, to get a very powerful and integrated reporting station.



Analysis Modules available in **MVIG 2005**

- Grain Size Analysis based on ASTM E1382-91 / ASTM E112 (Intercept Methods)
- Inclusion Rating in Steels based on ASTM E45 / E1122 , JIS G0555, DIN K4
- 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
- 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 (Re approved 1990)

These and many more modules are available / can be developed as per requirement.

We have installed the largest number of Image Analysers in India. Some of customers are :

Automobile Sector

Mahindra Tractors, Eicher Tractors, Carraro India, Hero Honda Motors, Honda Motor Cycle & Scooters, Hero Honda R&D Division, TVS Motor Company etc.

Steel Mills

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

Auto Component Manufacturers

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

Forging Industry

Bharat Forge, Guru Nanak Auto, Automotive Axles etc.

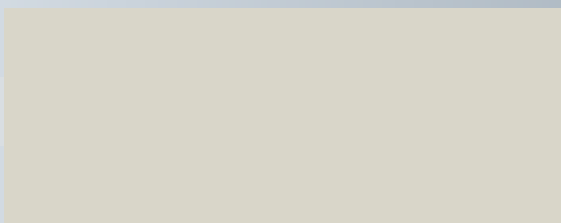
Foundries

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.

Authorised Representative



CHROMA SYSTEMS



397/6-7, Senapati Bapat Road, Shah Hospital Compound,
Pune 411 016. Maharashtra, India.
Tel.: 91-20-25659413 Fax: 91-20-25650564.
E-mail: chroma_systems@vsnl.com

Visit us at www.chromasystems.com for updated information on Products and Clients.