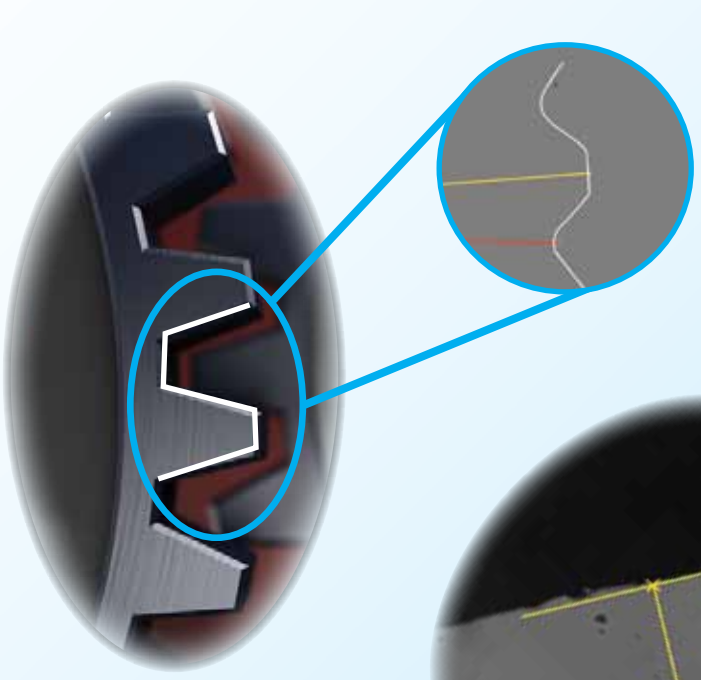
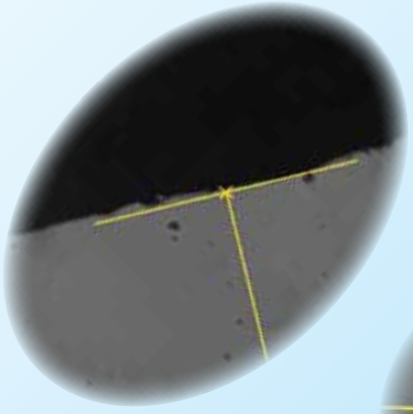
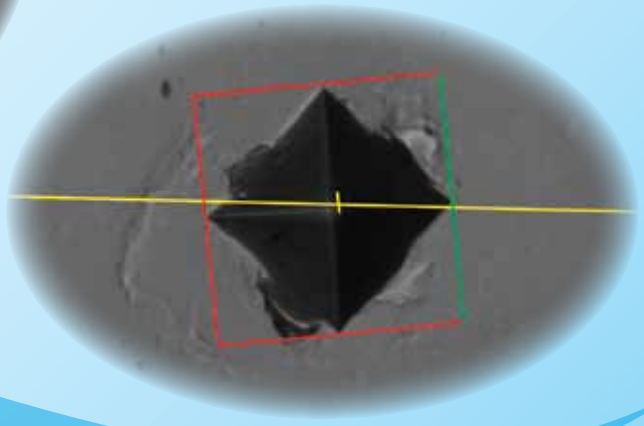
OmniMet® MHT

Automated Microindentation Hardness Testing Systems







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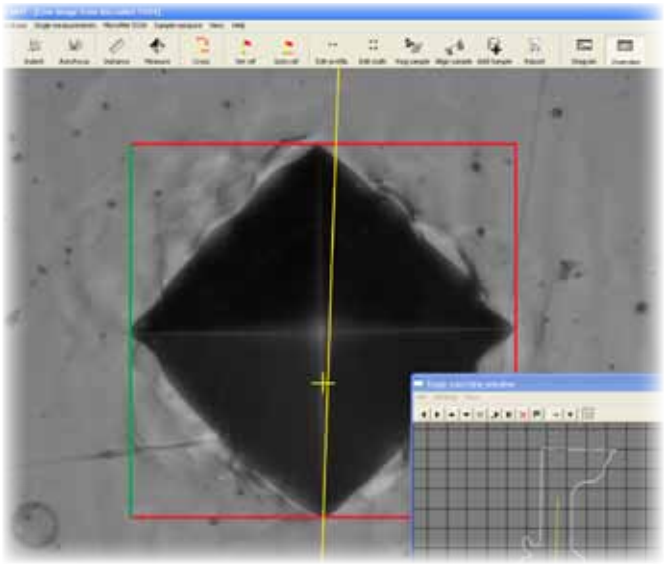
Excellent Results. Easily Repeatable.™

Microindentation Hardness Testing System Solutions



OmniMet® MHT software delivers Automated Microindentation Hardness Testing solutions. The package is a comprehensive, flexible, and customizable solution for hardness metrology. The amount of automation may be defined by the customer with standard options for manual, semi-automated and fully automated modes of operation. Providing intuitive push-button operation for measuring samples, defining measurement patterns, performing multiple trace measurements the product is simply easy-to-use delivering an unrivalled hardness testing user experience. Seamlessly integrating the hardness tester, automation accessories such as stages and focusing mechanisms, and analytic software tools the OmniMet® MHT system is a complete hardness testing package. From working with single indents, to tracing the outline of complex parts, to performing multi-indent measurements such as case depth hardening profiles, OmniMet® MHT handles all measurement processes with ease. The software has an integrated database to archive data for record keeping and allows push-button creation of automated reports.

OmniMet® MHT-F – Fully Automated Microindentation Hardness Testing

Fully automated hardness testing solution that integrates the motorized turret, XY Stage, Z-axis focusing, and analytical software tools to completely automate the hardness testing process. Multi-indent traces can be defined and measurements proceed in automatic mode without need for any further input the operator. System 88-1-0000. Software Only 88-1-0001.

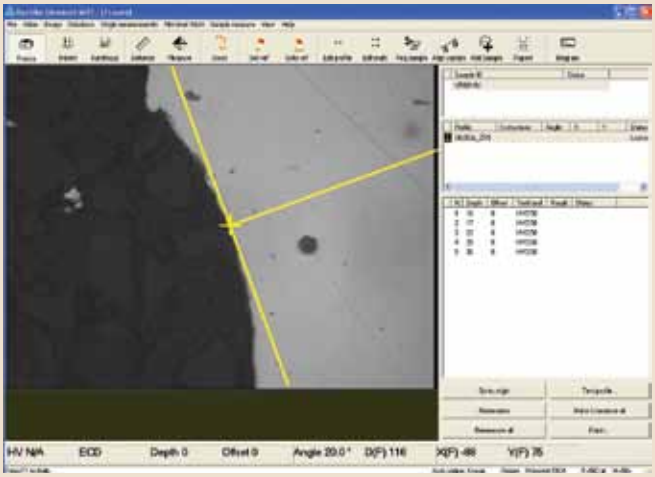
OmniMet MHT-S – Semi-Automated Microindentation Hardness Testing

A semi-automated hardness testing solution requires operator involvement to focus the optics during the measurement process. The software drives the motorized turret, and XY stage as required. System 88-1-0002. Software Only 88-1-0003.

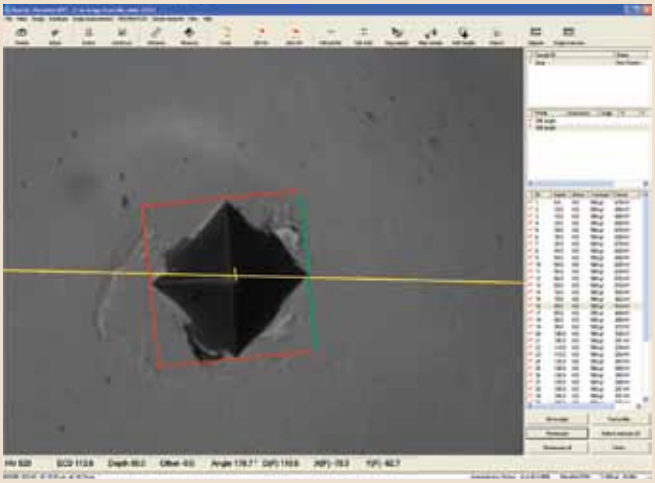
OmniMet MHT-M – Manual Microindentation Hardness Testing

Designed to enhance the capabilities of a standalone tester with manual XY stage and Z-axis control a manual hardness testing solution delivers automated indent detection, measurement, and archiving options. System 88-1-0004. Software Only 88-1-0005.

- MicroMet® 6020, 6030, and 6040 are compatible with OmniMet® MHT-F, MHT-S, and MHT-M.
- Systems include all hardware and software required for automating a MicroMet® 6000 series tester. Software only includes software, license and security devices only.

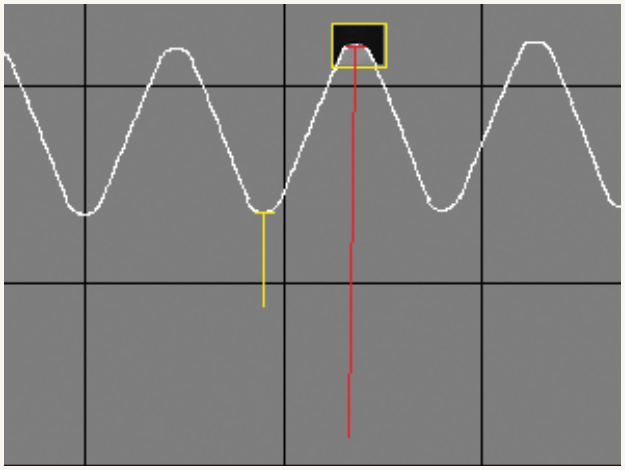


The OmniMet® MHT Graphical User Interface (GUI) is designed for ease-of-use - with good workflow using a few simple-to-understand icons to run the hardness test. Here the GUI is shown with the alignment tool for setting the direction of a profile perpendicular to the specimen surface.

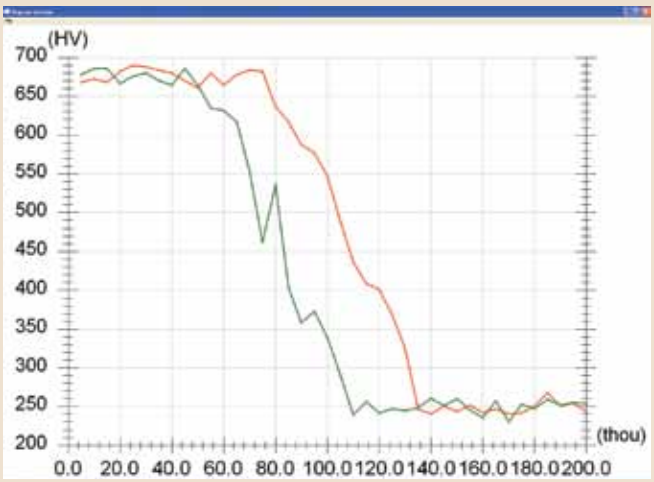


OmniMet® MHT's indent measurement algorithms detect indents and automatically measure the Vickers or Knoop hardness of the specimen. Additionally, conversions into Rockwell B or C scales is also supported. Measurement of a Vickers indent is depicted above.

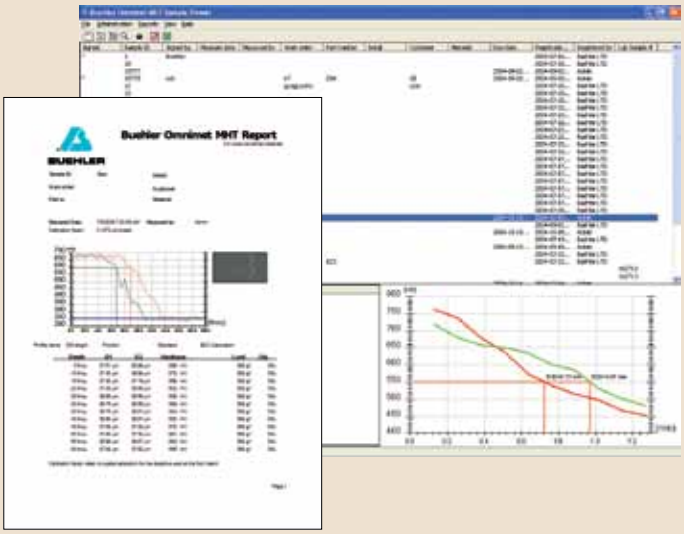
Image of a gear mechanism as viewed through the hardness tester. Tracing algorithms in OmniMet® MHT allow the operator to trace a line around the surface of the specimen to enable precise positioning of measurement locations or test profiles.



Once the outline of a specimen is traced it can be viewed in the Stage Overview window. This offers precision control of stage positioning to increases efficiency and productivity when identifying suitable measurement locations. The yellow and red lines in the window represent locations where multi-indent hardness profiles will be measured.



Hardness profiles may be measured and graphed. The hardness profile shown above is typical for case hardened specimens. As hardness is measured from the surface to the inner bulk of the material the hardness value reduces dramatically



OmniMet® MHT has an integrated database that archives all measurements. Data may be retrieved at any time, reviewed, or sent to automatically generated reports as shown above. Report templates are completely customizable by the operator to suit the measurements being undertaken.

MicroMet® 6000 Hardness Testers

Product	Part-Numer	Load	Turret Capacity	Indent. Incl.	Optics Incl.	XY Stage	Automation
MicroMet® 6020	1600-1-6020	0.01-1kg	3 (1I, 2O)	Vickers	10,50 (R)	Analog	Possible
MicroMet® 6020	1600-1-6021	0.01-1kg	3 (1I, 2O)	Knoop	10,50 (R)	Analog	Possible
MicroMet® 6030	1600-1-6030	0.01-1kg	4 (1I, 3O)	Vickers	5,10,50 (R)	Digital	Possible
MicroMet® 6030	1600-1-6031	0.01-1kg	4 (1I, 3O)	Knoop	5,10,50 (R)	Digital	Possible
MicroMet® 6030*	1600-1-6032	0.01-1kg	4 (1I, 3O)	Vickers	5,10,50 (R)	None	Possible
MicroMet® 6040	1600-1-6040	0.01-1kg	6 (2I, 4O)	V & K	5,10,50 (L)	Digital	Possible
MicroMet® 6040*	1600-1-6041	0.01-1kg	6 (2I, 4O)	V & K	5,10,50 (L)	None	Possible

** Packages do not have a manual stage*

Automation Kits

88-1-0000, OmniMet® MHT-F System Kit for Full Automation of MicroMet® 6000 Series Testers (Includes OmniMet® MHT-F Software, Workstation, Camera Adapter, Camera, Cables, Power Distribution, XY Stage, Z-Axis)

88-1-0002, OmniMet® MHT-S System Kit for Semi-Automation of MicroMet® 6000 Series Testers (Includes OmniMet® MHT-S Software, Workstation, Camera Adapter, Camera, Cables, Power Distribution, XY Stage)

88-1-0004, OmniMet® MHT-M System Kit Manual MicroMet® 6000 Series Testers (Includes OmniMet MHT-M Software, Workstation, Camera Adapter, Camera, Cables)

Automation Software

88-1-0001, OmniMet® MHT-F Software for Full Automation of MicroMet® 6000 Series Testers (Includes OmniMet MHT-F software, license, and security device)

88-1-0003, OmniMet® MHT-S Software for Semi-Automation of MicroMet® 6000 Series Testers (Includes OmniMet® MHT-S software, license, and security device)

88-1-0005, OmniMet® MHT-M Software Manual MicroMet® 6000 Series Testers (Includes OmniMet MHT-M software, license, and security device)

Automation Accessories

1600-1-0030, Camera Adapter
1600-1-0031, Automation RS232-DB9 Female Cable
1600-1-0032, Automation Power Distribution Kit
1600-1-0033, Motorized XY stage kit - 100 x 100 MM Travel
1600-1-0034, Z-Axis Installation Kit
86-1-0006, Digital Camera, UI 1545LE-M-HQIR, 1.3MP
86-1-0002, Workstation (Does not include monitor)

Hardness Testing Accessories

1600-1-0001, Vickers indenter 136°, incl ASTM & ISO certificate
1600-1-0002, Knoop indenter 172°, incl ASTM & ISO certificate
1600-1-0003, Vickers 136°, incl DKD certificate according to ISO standard (HV0,2-HV5)
1600-1-0004, Vickers 136°, incl DKD certificate according to ISO standard (HV0,01-HV0,2)
1600-1-0005, Knoop 172°, incl DKD certificate according to ISO standard

1600-2410, Standard self-leveling vise with 1", 1.25", and 2" rings
1600-2253, Universal Vise 2"(50mm)
1600-2251, Clamping Device for Thin Specimens
1600-1-0020, Universal Clamp And Leveling Device
1600-1-0028, Rotary Table, Microhardness Test
1600-1-0025, "V" Testing Cradle, Microhardness Test

1600-1-0008, 5X Long Working Distance objective
1600-1-0009, 10X Long Working Distance objective
1600-1-0010, 20X Long Working Distance objective
1600-1-0011, 40X Long Working Distance objective
1600-1-0012, 50X Long Working Distance objective
1600-1-0013, 100X Long Working Distance objective

For MicroMet® 6000 Series Testers

OmniMet® MHT-M requires 1600-1-0030 and 1600-1-0031

OmniMet® MHT-S requires 1600-1-0030, 1600-1-0031, 1600-1-0032 and 1600-1-0033

OmniMet® MHT-F requires 1600-1-0030, 1600-1-0031, 1600-1-0032, 1600-1-0033, 1600-1-0034

A complete automated testing solution consists of a MicroMet® 6000 Series Tester, Automation Kit, and any additional Hardness Testing accessories required.

Buehler continuously makes product improvements; therefore, technical specifications are subject to change without notice.
For a complete listing of Buehler equipment and consumables, please refer to our Buehler Consumables and Equipment Buyer's Guides.

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BUEHLER®, a division of Illinois Tool Works Inc. – Worldwide Headquarters
41 Waukegan Road
Lake Bluff, Illinois 60044-1699 USA
Tel: (847) 295-6500 • Fax: (847) 295-7979
Sales: 1-800-BUEHLER (1-800-283-4537)
www.buehler.com
Email: info@buehler.com

BUEHLER GmbH - European and MESA Headquarters
In der Steele 2 • 40599 Düsseldorf
Telefon: (49) 211 974100 • Telefax: (49) 211 9741079
www.buehler-met.de
Email: info@buehler-met.de

BUEHLER FRANCE
Téléphone: 0800 89 73 71
Télécopie: 0800 88 05 27
www.buehler.fr
Email: info@buehler.fr

BUEHLER UNITED KINGDOM
Telephone: 0800 707 6273
Fax: 0800 707 6274
www.buehler.co.uk
Email: sales@buehler.co.uk

BUEHLER CANADA
10 Carlow Court, Unit #2
Whitby, Ontario L1N 9T7
Telephone: (905) 430-4684
Fax: (905) 430-4647
Sales Telephone: 1-800-268-3593
Email: info@buehler.ca

BUEHLER, ASIA-PACIFIC
5/F Vogue Centre
696 Castle Peak Road
Lai Chi Kok, Kowloon
Hong Kong, SAR, China
Telephone: (852) 2307 0909
Fax: (852) 2307 0233

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