



MANUFACTURING

[Articles](#) [Quality](#) [Production Technology](#) [Automation/Robotics](#) [Machinery](#)[Current Articles](#) | [Archives](#)

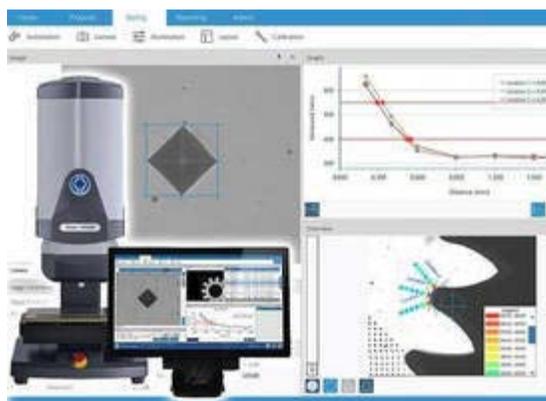
THIS WEEK IN QUALITY: Hardness Testing, Computer Tomographs and More

[The Engineer](#) posted on August 03, 2016 | [2 Comments](#) 2226 views

Buehler Hardness Testing Software

With an upgraded version of its DiaMet software, Buehler is now offering an internationally consistent solution for its Wilson hardness testing systems.

The new version contains features designed to facilitate and accelerate specific applications, such as the documentation of the hardness distribution in welds, or the depth of hardening in induction-hardened workpieces or objects treated with conventional hardening processes.



(Image courtesy of Buehler.)

DiaMet is designed for operation under Windows 10 and can interface with Office spreadsheet applications. It fulfills the requirements for industrial hardness measurement in a production-related environment – an application requiring precision along with automation in handling extensive test programs.

Designed for operation by mouse or touchscreen, the system offers expert users the flexibility and feature set for planning, running, analyzing, documenting and archiving of individual measurements and measurement series.

DiaMet is optimized for evaluating Macro-Vickers, Micro-Vickers, Knoop and Brinell indents according to ISO 6507, ISO 4545, ASTM E384, ISO 6506 and ASTM E10. It is designed to work with all models of the current Wilson VH and UH hardness tester series, as well as some legacy systems.

ADVERTISEMENT - Article continues below



As an international software package offered in multiple languages, the current Wilson DiaMet software is intended to address all relevant national and international hardness testing standards requirements.

Marcel van Banning, Product Manager Hardness, Buehler ITW Test & Measurement GmbH noted, "DiaMet users in global organizations can now share and compare results worldwide – regardless of where the measurements were made. With this new release, we are providing test engineers with a tool enabling them to supply detailed and reliable results, even when work assignments are time sensitive. In addition, the high degree of automation enables even less trained staff to conduct comprehensive test series and produce highly accurate results."

The new design of the DiaMet testing software facilitates the process of meeting ISO 9015 and ISO 15614 hardness testing of welds. The software guides the operator through the setup process by adapting a fixed test pattern to the sample in hand. The software produces a graphical image of the complete weld, including indent positions and associated measurement values, which can be used in a test report.

ISO 9015 and ISO 15614 describe the test loads, number of indents in the parent material, heat affected zone (HAZ), distances between each indent and the depth below the surface of the welded joint.

The DiaMet software can now recognize any sample that has been tested before and apply the indent rows in the order defined during the first measurement. DiaMet automatically corrects for alignment of the part, eliminating the need for the operator to use fixtures or to perfectly align the sample.

DiaMet allows the hardness resulting from conventional surface hardening processes to be determined through standard measuring sequences. The latest version of the software now offers the ability to respond quickly to changing requirements, allowing standard programs to be adapted to changing requirements—such as by adding additional indents and/or complete test rows in order to gain higher resolution or increase the reliability of measurements. Conversely, the number of test rows can be scaled down for instance when time is running short.

For more information, visit the Buehler [website](#).

Sakor Provides Dynamometers to Lockheed Martin Space Systems



(Image courtesy of Sakor Technologies.)

SAKOR Technologies, Inc. is providing two additional AccuDyne AC motoring dynamometers to Lockheed Martin Space Systems Company for use in the company's Materials Technology Laboratory. These dynamometers are designed to be used in the research, development, quality control and design validation of a variety of technologies for Lockheed Martin's advanced aerospace projects.

Sakor previously supplied two advanced dynamometer test systems to Lockheed Martin in 2012 for use testing the National Oceanic and Atmospheric Administration's (NOAA)

Geostationary Operational Environmental Satellite – R-Series (GOES-R).

The two new dynamometers feature updates and enhancements over the previous generation, including increased efficiency and ability to test a much broader range of devices due to their ability to directly control motors and drives with or without the use of the MIL-STD-1553 avionics bus.

“Lockheed Martin has a longstanding commitment to working with smaller US-based companies and Sakor is honored to be selected to provide our top-quality testing solutions for Lockheed Martin's critical aerospace projects,” said Randal Beattie, President of Sakor Technologies.

The systems are designed to be used with magneto-fluidic couplings, which allow for testing of products within a thermo-vacuum chamber while the dynamometer remains outside the chamber, a configuration ideal for testing components intended for deep space. The new dynamometers can be used as independent test systems or take advantage of networking to be used in groups of up to four dynamometers.

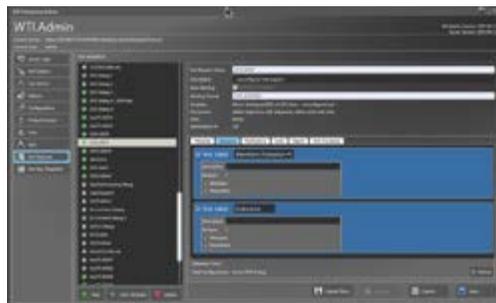
When grouped, the systems can be used to test multiple different components under the same conditions within the same thermo-vacuum chamber. Additionally, the new dynamometers are capable of achieving a wide range of torque and speed, including low-speed, high-torque rotation at as low as 3.0×10^{-6} RPM, or one full rotation every 231.5 days.

The Sakor AccuDyne dynamometers offer full 4-quadrant operation with seamless transition between loading and motoring modes. The new dynamometers feature Sakor's DynoLAB control system, which offers complete automation of all types of test cycles used in performance, durability, and quality control testing. DynoLAB will be used to fully integrate the entire test system for the flight drives.

For more information, visit the Sakor [website](#).

Wineman Test Lab Management Software

Wineman Technology, Inc., a test solutions company, recently announced its new TestTracker Data Management Software. The new software is a test lab management tool for managers, product engineers and test engineers who rely on efficient and accurate testing.



(Image courtesy of Wineman Technology.)

Lab managers must manage and prioritize incoming tests, assign tests to testers, assess various test versions, translate test data and disseminate results throughout their organization. Variations in this process can lead to inaccurate tests, inefficient use of testers, test backlog and mistakes in manual data transfer.

The new TestTracker Data Management Software manages and prioritizes incoming requests, assigns tests, delegates those tests to the appropriate testers, collects streamlined data and sends results to the necessary stakeholders—all from a central location. The software also integrates configuration management for both test sequences and test data to ensure traceability.

"Our solutions help companies test accurately, use resources efficiently and track data across their organization," said Matt Eurich, president of Wineman Technology. "TestTracker fills a void between corporate requirements, management tools and the test lab. It helps the lab maximize throughput and generate traceable data, while offering management insight into key test metrics."

TestTracker Data Management Software provides a dashboard where lab managers can see all tests in the

lab and assess efficiencies or uptime. With a similar dashboard, product engineers can track a particular test and review results. The system posts data to a server, where users can access all data and search for previous tests or results.

For more information, visit the Wineman Technology [website](#).

ZEISS Computer Tomographs



(Image courtesy of ZEISS.)

ZEISS will introduce two computer tomographs at IMTS 2016: the ZEISS METROTOM 800 with an extended performance spectrum and the new ZEISS METROTOM 1500.

In light of the ongoing development of new materials and the growth in the manufacture of hybrid workpieces made from very different materials, it has become increasingly difficult to clearly separate the application fields of computer tomographs.

"Thus companies need machines which can be used in as flexible a manner as possible – including larger and larger measuring ranges," explained Ralf Benninger, head of technical sales and product management for computer tomography at the ZEISS Industrial Metrology business group.

There is another trend that is driving the evolution of computer tomographs forward: production processes are speeding up and inspection technology needs to keep pace. Consequently, industry requires increasingly fast and flexible machines. This is where the ZEISS METROTOM 800 with its extended performance spectrum and the new ZEISS METROTOM 1500 come into play.

Effective immediately, companies can choose between a ZEISS METROTOM 800 with a tube voltage of 225 kV and a version with a tube voltage of 130 kV. The significant increase in power from 39 to 500 watts on the ZEISS METROTOM 800 with 225kV offers several advantages.

Metal components along with mixed materials, e.g. hybrid workpieces, can be scanned thanks to the enhanced performance. The optimized performance means that components are scanned significantly faster than with the ZEISS METROTOM 800/130 kV.

Operators will also receive information about the entire component with the recently developed ZEISS

METROTOM 1500/225 kV. "The innovation behind this machine will be of particular interest to manufacturers of die cast components," said Benninger.

Unlike the predecessor model, significantly larger components can be scanned using this machine thanks to the new measuring Z axis. The maximum height of the components used to be 300 mm (12"). Now it is 700 mm (28").

The larger operating volume is the result of two innovations. First, the workpiece can now be raised and lowered by 400 mm (16") instead of 150 mm (6"). Second, multiple scans can be merged into one volume model. Workpieces, such as steering columns and other larger castings can now be tested noninvasively by using the CT.

The corresponding visualization and evaluation software delivers 3D visualizations and section views based on the voxel data generated by ZEISS METROTOM OS. In addition to visualizations, the program also provides information on the shape, size and position of characteristics such as discontinuities and inclusions. Metrological evaluations can also be performed using ZEISS CALYPSO software.

Even though both new machines have a complete enclosure to protect the operator from X-rays, the interior can be viewed by standing in front of the computer tomograph or at a different workstation. For this purpose, ZEISS has installed a camera and a monitor in every machine.

The image from the camera can be displayed on the reconstruction computer to set up the measurement. When preparing the measurement at the workstation, the operator can make sure that there will not be a collision between the component and the detector or tube.

For more information, visit the ZEISS Industrial Metrology [website](#).

Follow @ENGcom_Quality on [Twitter](#)

Recommended For You

Sorry, the browser you are using is not currently supported. Disqus actively supports the following browsers:

- [Firefox](#)
- [Chrome](#)
- [Internet Explorer 11+](#)
- [Safari](#)



[jisoowu](#) • 7 months ago

the article can help us to know much about the hardness tesor.The hardness testers have light weight, and are easy to carry, therefore, they are usually used on site to test hardness of huge castings, forgings, heat treatment parts, steel plates, steel pipes, and moulds without taking samples. Besides, the testers can also test hardness of thin, small, long, and irregular parts, standard parts, hardware, and cutters.



[justinburger](#) • 7 months ago

The hardness testers have light weight, and are easy to carry, therefore, they are usually used on site to test hardness of huge castings, forgings, heat treatment parts, steel plates, steel pipes, and moulds without taking samples. Besides, the testers can also test hardness of thin, small, long, and irregular parts, standard parts, hardware, and cutters.

About ENGINEERING.com

ENGINEERING.com brings the most influential voices in engineering to a worldwide audience of engineers. Our stories are informative, inspiring and entertaining.



Copyright © 2017 ENGINEERING.com, Inc.

All rights reserved. Registration on or use of this site constitutes acceptance of our Privacy Policy.

Company

About Us
Our Team
Contact Us
Contributors

Follow

Mobile Apps
Podcasts
RSS
Newsletters
YouTube
Facebook
Twitter

Sections

3D Printing
CAD/CAE
Designer Edge
CAM
BIM
Education
Electronics
Games and
Puzzles
Jobs
Videos
Resources
Webinars

More

Resources
Calculators
Resources
Library
Directories
Blogs
Ask@
Showcase
Masters of
Engineering
Management

For

Advertisers
Advertise With
Us
Industry
Solutions
Digital Portfolio
Digital Marketing
Blog
Media Guide

For

Contributors
Apply Here
Contributor
Directory