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THIS WEEK IN QUALITY: Hardness Testing, Surface Profiling and More

[The Engineer](#) posted on May 12, 2016 | [Comment](#) 2531 views

Buehler Hardness Testing Machines

Buehler, an ITW Company, is introducing the Wilson VH1102 and VH1202 micro hardness testers. The instruments feature deadweight loads from 10 g up to 2 kg and nine different, automatically selectable loading stages.



The Wilson VH1202 universal hardness tester.

The Wilson VH1102 and VH1202 universal hardness testers offer Knoop and Vickers micro-hardness testing in accordance with ISO 6507, 9385 and 4546 or ASTM E384 and E92.

Both models feature an adjustable 7" color touchscreen for test method selection and data collection. The wide load range with test scales from HV/HK0.01 to HV/HK2 is the same for both models. The usual knob for manual selection of test weights has been replaced by a software-controlled electric motor to automatically change test weights.

The two testers differ with regard to the electrically driven turret. The VH1102 model is equipped with a turret providing four positions, including an indenter for Knoop or Vickers and two standard objectives for 10x and 50x magnification at normal working distance.



The Wilson VH1102 universal hardness tester.

The VH1202 model is equipped with a six-position turret, including two indenters for both Knoop and Vickers, and an additional objective with 5x magnification at long working distance.

The Wilson hardness testers can be configured to meet a wide range of requirements, from a stand-alone version for use in laboratories with a relatively low sample volume up to a fully equipped system catering for high sample volumes in an industrial environment.

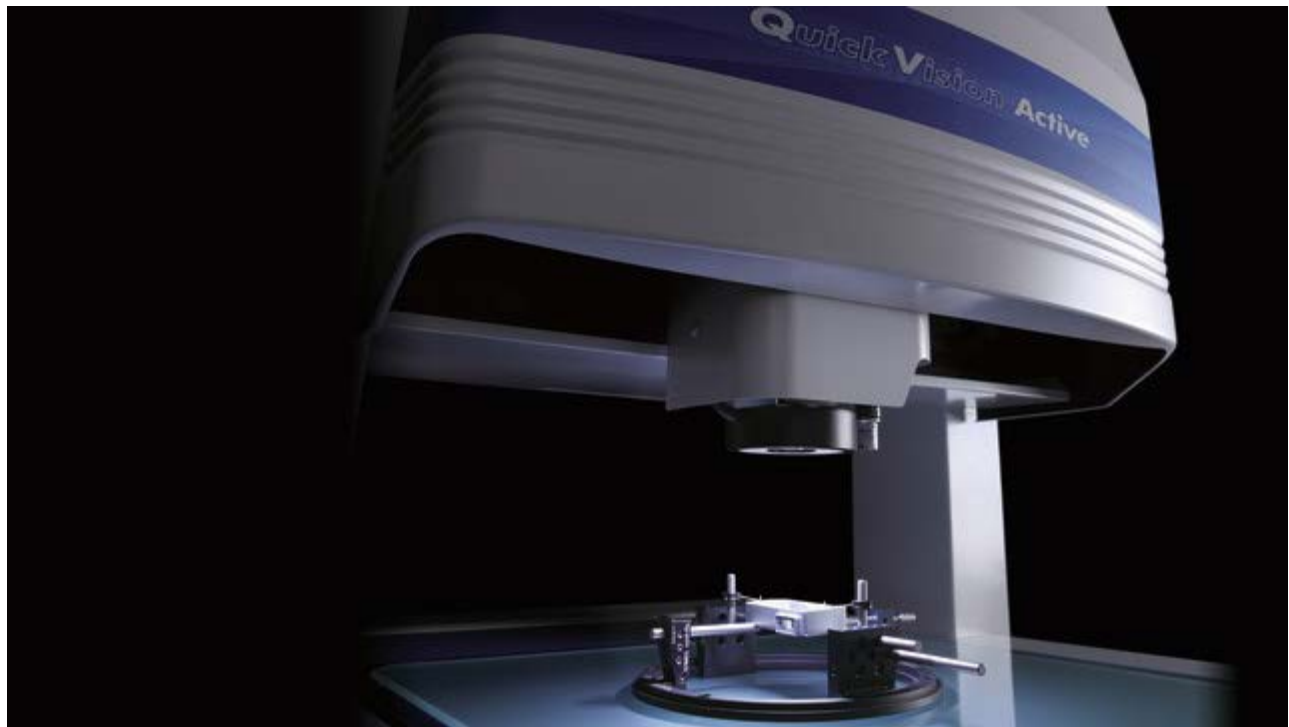
- The standard model includes a digital eyepiece for manual indent measurement, including camera connection capability and a USB port that enable data to be exported for further processing with a standard spreadsheet program.
- The semi-automatic version supports presetting of simple traverses for determining the hardening depth on surface-hardened components (CHD) and eliminates the 'human factor' by automatically measuring the indents.
- The fully featured version includes, in addition to a high-resolution camera, a 3-axial sample stage and autofocus, along with Buehler's DiaMet hardness testing software.

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

Mitutoyo CNC Vision Measuring System



The Quick Vision Active vision measurement system.

Mitutoyo recently introduced the Quick Vision Active series to its line-up of vision measurement systems. This CNC Vision Measuring system is designed to be easy to operate and space saving.

The Quick Vision Active offers a wide view field with interchangeable objective zoom lens. A large working distance of 74mm (using the 1X objective) helps to minimize the risk of damaging the objective or workpiece by accidental collision. The platform includes a one-click high-accuracy measurement option for beginners

as well as support for handling complicated measuring items by automatic measurement. Quick Vision Active is available with measuring ranges of 250mm x 200mm x 150mm or 400mm x 400mm x 200mm (X,Y,Z), with or without a touch-probe measuring option.

Other features include:

- 3 white LED light sources
- 8 position zoom options
- High-definition color camera
- Mitutoyo's QVPAK software

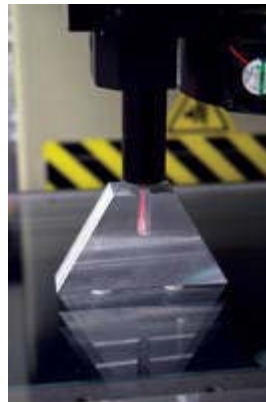
For more information, visit the Mitutoyo [website](#).

OGP Surface Profiling Sensor

OGP (Optical Gaging Products), a division of Quality Vision International (QVI), recently introduced its TeleStar Probe high-resolution surface profiling sensor.

TeleStar Probe is a self-contained off-axis partial coherence interferometric range sensor for surface contour measurement. It offers measured point resolution in the sub-micron (< 0.1 micron) range and functions on both specular and light-scattering diffuse surfaces.

The probe can scan up to 500 data points per second with 1.0 micron accuracy and 0.1 micron repeatability. TeleStar Probe features a 25 mm constant working distance, and its shallow return angle allows measurement deep inside bores and blind holes. TeleStar Probe is mounted in a mechanical deployment mechanism that retracts it out of the way when not in use.



The TeleStar Probe surface profiling sensor. (Image courtesy of OGP.)

TeleStar Probe is compatible with QVI ZONE3, MeasureMind 3D MultiSensor and VMS metrology software platforms. ZONE3, QVI's CAD-based 3D metrology software, uses a kinematic model to simulate the machine, part, fixtures and measuring sensor, all updated in real time.

More information about TeleStar Probe is available at the OGP [website](#).

TigerStop Calipers



The TigerSPC caliper set. (Image courtesy of TigerStop.)

TigerStop has introduced TigerSPC, a configurable caliper set designed for quality control measurements for parts as long as 16' (4.88m). TigerSPC is accurate to $\pm .006$ in (.15 mm) and has snap-on jaws to accommodate end to end, miter to miter, hole to hole, hole to center and hole to end measurements without having to recalibrate.

TigerSPC is also available with an optional TigerStop table system for mounting the TigerSPC in various sizes, from a working length of 4' (1.22m) up to 16' (4.88m), and the calipers can be equipped with a selection of both standard and custom attachments that allow it to be specifically configured for each manufacturer's quality control measurements.

TigerSPC Calipers features and options include:

- **Attachments** - Snap-in jaws for standard end to end, miter jaws for miter to end, extension face blocks for half lap to tenon end and hole pins, optional swivel block attachment combines the ability to measure from hole center to hole center and swivels to allow operators to attach other jaw accessories without losing the reference point
- **TigerSPC Software** Optional TigerSPC software logs measurement data from TigerSPC and allows

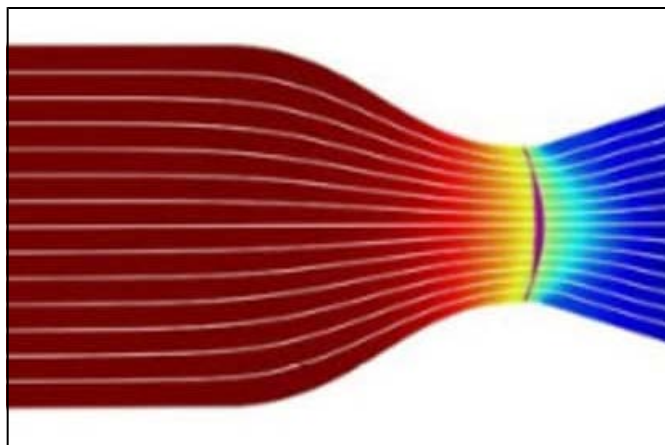
users to export as a .csv file to be imported to other statistical process control programs

- **Tablet Package** The tablet package runs the software on a Surface Pro which can be wirelessly connected to a network, enabling log measurement data to be displayed as it is collected

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

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