Sample Preparation Equipment
Metallography
Microscopes
Hardness Testers
Impact Testers
Resonant Fatigue Testers
Surface Roughness Testers
Thickness Gauges
Spectroscopy
XRF Analysis
Sheet Metal Testers
Automatic Strain Measurement

Qualitest Locations:
USA: Plantation, Florida
       Buffalo, New York
Canada: Richmond Hill, Ontario
Mexico: Mexico City
UAE: Dubai
Asia: Hong Kong
India: Mumbai

Qualitest North America
Toll free 1.877.884.8378
Fax: 954.697.8211
Email: info@qualitest-inc.com
www.WorldofTest.com
Advanced Metals Testing Technologies

Universal Testing Machines For Metals

Tensile testing is the most commonly used test to determine mechanical properties of metals. Electromechanical testing instruments are widely used throughout the metals industry for evaluating important properties such as Tensile strength, Young’s modulus of elasticity, yield strength, Poisson’s ratio, elastic and plastic deformation, and strain hardening behavior.

Also many components such as springs, pipes, containers, etc. rely on compression tests that provide data on force versus deformation. The mechanical requirements for many metals are typically specified as “tensile strength,” “yield point,” and “% elongation” in addition to other properties. Other methods for testing metals include shear, bend or flexure, impact, fracture toughness, fatigue and torsion to fully evaluate those properties. To evaluate thermal effects, metals testing is conducted at extreme temperatures from -196°C (-321°F) to +1000°C (+1800°F).

Common ASTM standard test methods for testing metals include: ASTM E8 Tensile Testing of Metals, ASTM E345 Tensile Testing of Metallic Foil, ASTM B399 Plane Strain Fracture Toughness, ASTM E517 Plastic Strain Ration (for Sheet Metal), ASTM E646 Tensile Strain Hardening Exponent (of Sheet Metal), ASTM B565 Shear Testing of Aluminum Rivets and Rods, ASTM E132 Poisson’s Ratio and ASTM E111 Young’s Modulus. In addition to ASTM standards there are many other International standards such as DIN, ISO, EN, JIS, etc. that can be fulfilled with universal testing machines.

Universal Testing Machine - Q-Series

Universal Testing Machine - QM-Series

Q-SOFT Control Software

QSOFT is the software used to control the Universal Testing Machine. The QM-Series unit and the software are designed to accommodate a wide variety of testing needs. The software has a variety of preset programmed test cycles for compression, tensile, and cyclical testing to meet a range of testing standards.

This software has the following capabilities:

- Selection of communication language
- Setting of test methods
- Test execution
- Analysis of the results
- Printing of the certificates
- Graphic post-analysis of the tests
- Statistical analysis of the tests

QT-HW2 Universal Testing Machine

This servo-hydraulic Universal Testing Machine is ideal for high-capacity tension, compression, bend/flex, and shear testing. It is in accordance with the EN, ISO, ASTM, JIS, GB and many other standards. These frames feature dual spaces so users can quickly change between tension and compression testing without having to remove heavy fixtures.

The QualiTest brand is being increasingly recognized as a standard for accuracy, dependability and versatility in servo-hydraulic universal testing machines.

Available in 600 KN, 1000KN, 2000KN and 3000KN capacities.

Specimen Grips / Test Fixtures

Qualitest offers a large range of mechanical, pneumatic, and hydraulic specimen grips for a wide variety of materials and shapes. The grips are easy to adapt to ours as well as other materials testing machines on the market. In addition, adaptations can be made using connecting pieces. Qualitest grips have force ranges up to 2 MN (400,000 lbf). A variety of jaw faces are available, permitting all kinds of materials to be held securely for testing.
Extensometers
www.WorldofTest.com/extensometers

Extension measurement is one of the areas that complements our range of UTM program. The result is a comprehensive range of high class variations. The product selection is arranged as follows:

- Non-contact extensometers with and without measurement marks.
- Contact extensometers: Sensor arm extensometers, incremental and analogue clip-on extensometers as well as extensometers for compression and flexure tests.

Environmental Test Chamber
www.WorldofTest.com/environmental-test-chamber

Qualitest Environmental Test Chambers are capable of simulating a wide range of temperature or temperature and humidity conditions.

QualiBend II
www.WorldofTest.com/cold-bend-testing-machine

The Cold Bend Testing Machine for Steel Reinforcement Bars, Rebars, ASTM A615 – QualiBend II is specially designed to test bend-resistance performance of reinforced rolling steel bars, building steel reinforcements and steel pipes which completely meet the requirements of ASTM A615 A615M, ISO 7438, as well as meeting North American and other international specifications.

Carbon steel bars for concrete reinforcement in cut lengths will withstand bending around the pin without cracking on the outside radius.

Tensile Sample Preparation Equipment

CNC Sample Preparation Machine - SpeciCut III

The SpeciCut III CNC sample preparation machine is cost effective in motion control application of up to 3 axes. The motion control is based on numerical control Technology. The machine adopts a simple connectivity and a single commercially available USB cable is used for communication between the PC and control board which can be placed as per user preference. In addition to the above, the machine is equipped with additional features like:

Mini NC Lathe - SpeciLathe I - Round or bar type samples

The Mini NC Lathe - SpeciLathe I is a Compact NC Lathe for various metals and non metals. The motion control is based on numerical control Technology, which is programmable for a range of specimens. The Turret head and the tail stock features in the lathe enable to operate the machine for various purposes and the Spindle speed can be reached at 4000 rpm. The in build cover prevents the operator from dust and noise. The user friendliness of the controller restricts the need for a highly qualified operator for the machine operation. Emergency switches are provided to stop the machines in case of any emergency.

Mini NC Lathe - SpeciLathe II

The Mini NC Lathe - SpeciLathe II is used for Sample preparation from various metals and non metals. The motion control is based on numerical control Technology, which is programmable for a range of specimens. It employs an integral microcomputer to prepare those specimens which we have programmed in accordance with the customer’s requirements. The Turret head and the tail stock features in the lathe enable to operate the machine for various purposes. The in build cover prevents the operator from dust and noise.

The user friendliness of the controller restricts the need for a highly qualified operator for the machine operation. Emergency switches are provided to stop the machines in case of any emergency.

Metal Hardness Testing
www.WorldofTest.com/hardness-testers

Qualitest offers more than 100 different models and configurations of hardness testers for virtually any application. Our extensive range includes portable and bench-top Rockwell, Brinell, Vickers, Knoop, Universal, Leeb's, Webster, and Barcol hardness testers as well as a wide range of accessories such as certified test blocks, indenters, Brinell scopes, and much more. To complement our line we also offer Automatic In-Line hardness testers for production lines as well as lower cost re-built solutions.
Metallography is the science of revealing and evaluating the internal structures of materials. It is one of the most important methods of materials research today, indispensable to the scientist as well as to the engineer. More recently, advanced materials such as high tech metal alloys, ceramics, composites and polymers have appeared which made metallography become an increasingly vital part of modern industry.

Through a process of cutting, mounting, grinding and polishing, a smooth surface is obtained to reach the materials true structure. In order to achieve high preparation quality and reproducible results; a combination of “Right equipment, Correct preparation method and Right consumables” which we call “Total Preparation Solution” is required.

**SECTIONING**

The first step in preparing a specimen for metallographic or microstructural analysis is to locate the area of interest. Sectioning or cutting is the most common technique for obtaining this area of interest. Proper sectioning guarantees minimal microstructural damage. Excessive subsurface damage and damage to secondary phases (e.g. graphite flakes, nodules or grain pull-out) should be avoided.

Sectioning can be categorized into two areas: Abrasive Cutting and Precision Wafer Cutting. Abrasive cutting is generally used for metal specimens and is accomplished with silicon carbide or alumina abrasives in resin or resin rubber bonds. Proper blade selection is required to minimize burning and heat generation during cutting which degrades both the specimen surface as well as the blade cutting efficiency. Precision wafer cutting is accomplished with thin diamond blades. Wafer cutting is especially useful for cutting ceramics and minerals as well as some metallic materials.

**MOUNTING**

After cutting the specimen, the next step is mounting. The aim of mounting is to handle small or odd shaped specimens and to protect fragile materials, thin layers or coating during preparation as well as to provide good edge retention. Mounting produces specimens with uniform size so that it is easier to handle in automatic holders for further preparation steps. Basically, two methods are available: Hot Mounting and Cold Mounting. In hot mounting, the specimen is mounted under heat and pressure with a hot mounting press. Cold mounting is preferred for samples which are sensitive to damage from heat and pressure (like coatings, PCB, etc.) Cold mounting resins are easy to use and require mixing which is then poured into a mould and allowed to set.

**GRINDING & POLISHING**

In order to obtain a highly reflective surface that is free from scratches and deformation, the specimens must be carefully ground and polished before they can be examined under the microscope. Qualitest offers high quality instruments and consumables for achieving this goal.

**CONSUMABLES**

High sample quality and reproducible results can only be achieved with high quality consumables. Selecting the right consumables for each specific application is not just a matter of preparation quality - it is also the best way to save time and money.

Our cutting, mounting, grinding & polishing consumables for microstructural analysis are produced to match to your specific requirements for high preparation quality. Chosen from a wide selection, designed and tested for use on Metkon metallographic equipments as well as on competitive units.

**SM 500 Metalloscope**

is a self-contained portable metallurgical microscope ideally used for metallographical inspection of metals in laboratory or in-situ. With fully handheld design and unique magnetic stand, SM 500 can be mounted directly against the surface of ferrous metals at any angles for non-destructive examination on flat, curved as well as other complicated surfaces. SM 500 also can be used with digital camera or CCD image processing system to download metallurgical image on to PC for data transfer, analysis, storage and printout.

**DG-3**

is the new generation of digital portable Microscopes, featuring large 3.5 inch LCD display, 2x digital zoom, and many more advanced functions. This user-friendly digital microscope with 2,300,000 pixels weighs under 500g (1 lb) and is powered by a Ion-Lithium battery. The LCD panel is equipped with a video output which allows transfer of the images to an external monitor, or TV. With the touch & view technology, you no longer need to bring the samples to your lab. Capture images on-site and maximize your efficiency. Data can also be stored on a CF card.

**XJP-6A**

is a Table-top inverted Metallurgical Microscope (Metallograph). This Modern design inverted metallographic bench microscope is the ideal and most accurate tool for measuring and viewing surfaces and studying materials, equipped with a polarised light set for crystallographic analysis. XJP-6A is an essential tool for any Metallography laboratory an provides an exceptional solution for daily laboratory requirements. This cost-effective instrument includes c-mount adapter and comes with many more advanced and user-friendly features.

**Profile Projectors / Optical Comparators**

Qualitest offers best selling and top quality profile projectors that are highly versatile and easy to operate. This popular series has large travel range, excellent quality and performance and is very reasonable priced.
Charpy/Izod Pendulum Impact Tester
With 300J, 450J, 600J, 800J Capacities for Charpy / Izod / Tensile Impact Tests

APPLICATION
Designed for determination of the impact energy (Charpy / Izod / Tensile Impact methods) according to ASTM E-23, ISO, DIN, EN, JIS standards

The IMPACT-Series units are high performance pendulum impact testers that precisely determine absorbed impact energy and resistance to breakage of metallic specimens. Innovative mechanical design features make these testing machines top contenders on the market with excellent price/quality ratio as well as high accuracy. Universities, Automotive companies, Research and R&D Labs, as well as steel plants are typical customers for these Impact Testing Systems.

Instrumented Pendulum Impact Testing Machine – Quali-Impact
Designed for determination of the impact energy (Charpy / Izod / Tensile Impact methods) according to ASTM
Instrumented pendulum impact tester is a high-tech product. This tester, which directly and vividly reflects the force and deformation of materials under shock loading and the relationship between force and deformation, provides reliable data for describing the whole fracture process of materials due to impact. The equipment is widely used for the development of products and safety assessment in such fields as metallurgical steel industry, machinery manufacturing, petroleum, shipbuilding, military industry and nuclear power. It is also the indispensable test instrument for institutions of higher learning and scientific research units when they are conducting new material researches. The tester, which is automatically controlled, is easy to operate, safe and reliable and is highly efficient. Technical parameters can be modified online; the recording system uses high-speed data acquisition card which can record the whole process of high-speed loading; mechanical curves of various materials can be drawn; and the test reports can be shown and printed.

Resonant Fatigue Testing Equipment
www.WorldofTest.com/resonant-fatigue-testing-machines

Resonant fatigue testing machines can stress specimens or structures with a dynamic load superimposed to a static load. The dynamic load is generated by an oscillating system (resonator) which runs in its natural frequency. The oscillating system consists of masses and springs whereas the structure or the specimen which has to be tested is also part of the system. The Resonant Fatigue Testing Machines get used to full resonance, i.e. the operating point is situated on the top of the resonance curve. The resonator is excited by an electromagnetic system.

Taking advantage of the resonant effect, the power consumption is very low (typical 20 to 500 Watts), with the operating frequency in the range of 50 to 300 cpm.

In combination with our Control and evaluation system and software, you can have an intelligent and easy to operate package for your fatigue testing requirements.

Creep and Stress Rupture Tester - QualiCreep Series

Qualitest Creep and Stress Rupture Tester - QualiCreep Series is mainly designed to perform Creep and Stress Rupture testing of a wide variety of materials to both standard and customized specifications such as ASTM E139, ISO 204, ISO/R 206 and similar international standards. These machines are capable of coping with the determination of the amount of deformation as a function of time (creep test) and the measurement of the time for fracture to occur when sufficient force is present (rupture test) for materials when under constant tensile forces at constant temperature. Qualitest offers three models electronic high temperature creep-testing machine with full closed-loop servo-control in capacities from 10kN to 500kN.
Charpy/Izod Impact Specimen Preparation Equipment and Broaching Machines


Charpy Notch Broaching Machine (Hand Operated)

This machine will cut Charpy V and U notches and Izod V notches in 10 mm square alloy steel specimens up to a hardness of 42 Rockwell C. Intended for bench mounting, this robustly constructed machine cuts the notches by means of a specially designed Multi Toothed Broach which is drawn across the specimen by rotating the spoked handwheel.

Motorized Charpy and IZOD Notch Cutting Machine

This machine will cut Charpy V and U notches and Izod V notches in 10 mm square alloy steel specimens up to a hardness of 42 Rockwell C. It is a free standing unit of simple, robust construction requiring only a single phase electrical supply for its operation. The cutting of notches is achieved by means of a specially designed Multi-Toothed Broach which is drawn across the specimen at the touch of a button. A simple Hand Vice for holding the specimen is built onto the machine top-plate and is complete with the adjusters and end stops necessary to ensure that notch depth and position are correctly set. Attachments are available to facilitate Izod single V notching in 0.45” dia. specimens and Izod multiple V notching in both 10mm square and 0.45” dia. specimens.

Variable Speed Motorised Notch Cutting Machine

Charpy Notch Broaching Machine, designed to correctly cut V or U notches in Charpy-Izod test specimens. Fast, accurate and reliable: Clamp your 10mm square Charpy or Izod test specimen in the adjustable base jaw, push the reverse starter button and wait just 10 seconds as a 17” long broaching tool with its 57 cutting teeth eases through your specimen. The final four teeth provide precision material removal of .0001” each to ensure optimum surface finish and dimensions of the notch as specified by ASTM standard designation E-23. The Vari Speed machine is made available to satisfy demand for broaching notches in material up to RC60. The slower cutting speed is also desirable to extend the life of the broaching tools between sharpenings when cutting these harder materials.

CNM Charpy Specimen Machine

The machine will produce 10mm square Charpy test specimens from rough cut samples of up to 15mm square. It is designed to enable laboratory personnel to produce their own Charpy test samples instead of waiting for machine shop time. The machine uses a 5 bladed cutter with easily replaceable inserts, used without any cutting lubricants. Up to 4 specimens can be machined at the same time and these are mounted in a rotating fixture.

Cooling Chambers for Impact Test Specimens

Qualitest offers choices of Automatic refrigerated circulator system for Charpy/Izod specimen cooling with Temperature range of: -50°/+200 °C, or a lower cost cooling chamber which uses dry ice for cooling down to -80°C.

Surface Roughness Testers

www.WorldofTest.com/surface-roughness-testers-profiliometers

“... new QualiSurf II surface roughness tester is suitable for the scientific labs, factory metrology rooms and working site. It can test the surface roughness of various machining components and allows for user selectable 45 roughness parameters such as Ra, Rz, etc. The testing results and surface profile can be stored in QualiSurf II unit and be output to PC with the included analytical software. The QualiSurf II features a touch screen LED display for ease of use.”


QualiSurf I portable surface roughness tester is a pocket-sized economically priced instrument for measuring surface texture conforming to traceable standards. It can be used on the shop floor in any position, horizontal, vertical or anywhere in between. The large OLED display shows four (4) roughness parameters Ra, Rz, etc. External calibration of roughness values is possible by means of a special CAL button, which makes adjustment of this instrument very easy. A beep signal informs the user of each individual measurement status when ready.

www.WorldofTest.com/portable-surface-roughness-tester-tr100

TR100 portable surface roughness tester is a pocket-sized economically priced instrument for measuring surface texture.


TR110 portable surface roughness tester is our newest model while maintaining an excelling price/quality ratio in a compact package.


TR200 is our advanced portable surface roughness tester with data output and a larger LCD display, and possibility of analyzing up to 13 different types of roughness parameters, and is available with optional DataView software, test stand and stylus nose extensions.


TR1900 is a simple and high quality universal roughness tester with excellent price/quality ratio.

www.WorldofTest.com/surface-roughness-tester-tr1900
Advanced Metals Testing Technologies

XRF Spectrometers and Metal Analyzers
Qualitest provides miners, jewelers, precious metal industries, research laboratories and quality control departments with a comprehensive range of XRF Spectrometers and Metal analyzers, offering excellent product quality, optimum price/performance ratio and back-up support. Our range of x-ray fluorescence spectrometers are widely used in fields such as plating thickness, precious metals (Au, Ag, Pt, Pd, etc), electronic and electric industries. They are also applied in commodity inspection, scientific study, and RoHS detection.

UV / VIS, FT-IR, OES, CSA, ONHA, OPA & Atomic Absorption Spectrophotometers
www.WorldofTest.com/analytical-testing-equipment
Qualitest provides a wide range of UV/VIS, FT-IR as well as Atomic Absorption Spectrophotometers, software, sampling accessories and services to help you improve product quality, productivity and analytical processes. Our Spectroscopy products with excellent price/quality ratio, and high level of performance and reliability are suitable for academic institutes, materials research and bio-research laboratories.

UV/VIS Spectrophotometers
www.WorldofTest.com/uvvis-spectrophotometer
Our UV/VIS systems increase productivity and generate high quality results at very competitive packages. These systems are easy to operate and deliver results you can trust with the minimum of operator training - it’s easy to develop simple, robust methods and ensure they’re followed without mistakes. The extensive range of our UV/VIS Spectrophotometers offer broad choices from basic low-cost series up to advanced models with highest performance.

FT-IR Spectrophotometers
www.WorldofTest.com/ft-ir-spectrophotometer
510/650 Series FT-IR Spectrophotometers are designed to meet the high validation standards set by QA/OC, method development and analytical service laboratories. All systems in the range offer fast throughput and rapid access to reliable and dependable FTIR results, day in and day out.

Atomic Absorption Spectrophotometers (AAS)
www.WorldofTest.com/atomic-absorption-spectrometer
Atomic absorption spectroscopy (AAS) determines the presence of metals in liquid samples. Metals include Fe, Cu, Al, Pb, Ca, Zn, Cd and many more. It also measures the concentrations of metals in the samples. Typical concentrations range in the low mg/L range. In their elemental form, metals will absorb ultraviolet light when they are excited by heat.

OES Optical Emission Spectrometer – QualiSpark 750/1000
Green background light quickens the response speed and improves short-term precision of the instrument. Copper-base spark table, enhances heat emission and firmness. Full digital solid-state spark source with adjustable spark power and frequency, widely used with a variety of materials. Variable delay integration technology debases the background interference.

Carbon Sulphur Analyzer - QualiCSA-3000
www.WorldofTest.com/carbon-sulphur-analyzer
The Carbon Sulphur Analyzer - QualiCSA-3000 combines the latest combustion technology, which can quickly analyze simultaneously steel, cast iron, copper, alloys, ores, cement, ceramics, carbon compounds, minerals, sand, glass and other solid materials of carbon and sulfur.

Oxygen Nitrogen & Hydrogen Analyzer - QualiONHA-3000
Oxygen Nitrogen & Hydrogen Analyzer - QualiONHA-3000 series is a new product, and it is used for Oxygen, Nitrogen and Hydrogen determination in ferrous and non-ferrous metals, rare earth materials, alloy, and some other inorganic materials.

Original Position Analyzer - QualiOPA
www.WorldofTest.com/original-position-analyzer
The Original Position Analyzer - QualiOPA, with the functions of analyzing the degree of segregation, distribution and quantity of inclusions, surface porosity and composition of metal, etc., can quickly analyze the elementary composition and state of a large area of the metallic materials. Compared with traditional technology, it is characterized with many advantages such as easy sample preparation, accurate quantitative determination and rapid analysis. It is widely applied in the fields like metallurgy. The instrument relates to a new analysis method to determine chemical compositions and states of metal materials.

Ultrasonic Thickness Gauge - QTG Series
www.WorldofTest.com/ultrasonic-thickness-gauge-qtg-series
Ultrasonic Thickness Gauge - QTG Series are economical, user-friendly, menu driven, and multi-functional units offering extensive features from basic measurements (model: QTG I) to extended memory (5000 reading storage) and USB output capabilities (model QTG II). The instrument can measure with very high resolution (0.01 mm or 0.001 inches) the thickness of metallic and non-metallic materials such as steel, aluminum, titanium, plastics, ceramics, glass and any other good ultrasonic wave conductor. The Ultrasonic Thickness Gauge - QTG Series accurately displays readings in either inches or millimeters and is equipped with special features like Automatic recognition of probes with different frequencies and Automatic zeroing of the unit.
Sheet Metal Testing Machines


Sheet Metal Cupping Test is a major and relatively simple method for evaluation of sheet metals. This test has been one of the very first methods for determining the quality grade of sheet and strip metal. This is a short introduction to our range of equipment, for assessing and measuring ductility, and formability of sheet metals. Whether the requirement is for quality control or research & development in industry, science, or education, we have testing equipment for every type of sheet metal forming.

Special Constructions

Customized sheet metal testing machines

We can also comply with a wide range of customer specifications. The related image corresponds to a 600kN sheet metal tester with proportional controlled speed of up to 3,000mm/min, digital displacement display (resolution of 0.01mm), temperature controlled oil cooling and triple pump with large scale displaced oil volume. This special model is in use for lubricant testing in compliance with ASTM. Over the years, we have been faced with numerous challenges of this kind, which we have been able to meet with special constructions now in use all over the world.

Let us know your requirements – our staff will be pleased to advise you.

Speed: max. 3,000mm/min

Oil cooling, triple pump, proportional technology, display of drawing speed

Model 161

Bulge / FLC Tester

www.WorldofTest.com/bulgeflc-tester-model-161

An electro hydraulic sheet metal testing machine designed to perform hydraulic cupping tests on all ferrous and nonferrous metals. Specimens up to a size of 400 x 650 mm can be tested. In addition to the actual hydraulic forming process the design of the machine also allows the use of ball punches (FLC) up to a diameter of 100 to 195mm.

Ear measuring instrument


Used to obtain a numerical value of the size of the ears resulting from anisotropy in the material of cylindrical deep-drawn cups (e.g. according to DIN 50 155). The average cup height, the height of the ears in percent and in mm can be read-off at the touch of a button and are shown on the digital display instrument. To enable additional data processing, the test instrument can be equipped with interfaces, such as BCD or RS 232C outputs, and linked to a printer.

Model 190 Sheetmetal marking instrument

www.WorldofTest.com/sheet-metal-marking-device-model-190

Enables the electro-chemical application of measuring grids using appropriate marking templates which are available with circle diameters from 2mm upward. Sheetmetal markings provide information about the behaviour of sheet metal during forming. The degree of strain due to elongation or compression is clearly recognizable in direction and size on the basis of the deformation of the applied measuring grid.

Marking templates with circular measuring grids between 2and 8mm and a marking line thickness of 0.1mm

AutoGrid Fully Integrated Sheet Metal Testing System with Automatic Strain Measurement


The integration of the Sheet Metal Testing Machine with the 3D Camera System allows the drawing processes to be directly observed through the opening of the test head. Thus enabling to combine and analyse the data results from both systems. For this reason, at any point during testing, not only is the 3D Camera System data available, but also the corresponding Sheet Metal Testing Machine data, i.e. drawing stroke, drawing force and sheet holder force. This procedure simplifies considerably the choice of correct image sequences and additionally assists in the interpretation of individual test results. As an additional feature, the data evaluation software of the Sheet Metal Testing Machine displays additional information.

AutoGrid Vario


The advanced AutoGrid Vario provides the highest flexibility for component analysis and in-process materials testing and allows convenient strain analysis on samples and components in the sheet metal industry. The new AutoGrid® vario has been designed to meet our customers needs for highest flexibility in the optical setup, measurement volume and local resolution. The direct, fast, and accurate measurement is based upon the automatic evaluation of grid patterns that consist of electrochemically-marked orthogonal lines spaced 1-5 mm. The system is able to determine a field of strain values in the range of 0.5 % to more than 100 % without any unambiguity. The AutoGrid® systems have proven well suited for a variety of applications in deep drawing and hydroforming as well as for different materials including aluminium alloys, stainless steel and fibre reinforced composites.