

testing equipment for quality management

MATERIALS TESTING

Tensile and Pressure
Testing Machines
Measuring Devices
Display Devices



Sheet metal testing



Surface testing



Corrosion testing



Materials testing



ERICHSEN -

The absolute reliability of your test results is our top priority. All our research, planning, development, construction and production is geared to achieving this objective – not only in the past, but today and in the future.



Björn Erichsen
Björn Erichsen

1910

1920

1930

1940

1950

1910

It was probably true Viking spirit and the urge for discovery that impelled the engineer A.M. Erichsen from Porsgrunn/Norway to settle and set up business in Berlin-Reinickendorf. His first invention, a water-cooled ingot mould which to this day constitutes one of the most frequently used casting processes for semi-finished products in the foundry industry, enabled him to secure the financial position of his company. A.M. Erichsen's next invention, the cupping test – was just as significant. This was the very first test method for determining the quality grade of sheet and strip metal.

This test procedure was initially patented, but has since been adopted by all industrial countries within the framework of the International Standards Organisation (ISO). Just as temperatures are measured throughout the world in Celsius or Fahrenheit, the standard for sheet metal quality is the ERICHSEN deep-drawing index.

1928

A.M. Erichsen set up his first small factory in Teltow near Berlin. Research and experiments led to many further inventions.

1930

the German State Chemico-Technical Institute successfully applied the ERICHSEN deep-drawing method to measure the elasticity and adhesive properties of paints and lacquers. The results were so convincing that the procedure has since been adopted by the paint industry all over the world.

1932

the inventive Norseman A.M. Erichsen introduced tools for cupping test dies to the market, without which the batch production of deep-drawn parts made of sheet metal would hardly have been possible. Numerous innovations and improvements followed. A.M. Erichsen not only possessed a forward-looking inventive urge, he was also talented in commercial matters and soon enjoyed international renown. Satisfied customers were evidence of the quality of his products.



the name means commitment.

As the world's leading manufacturer of well-known and proven testing machines and instruments, we ensure that our experience and knowledge is incorporated into the development of our products.

This results in perfect and innovative high quality products with excellent long term stability which only needs a minimum of maintenance. These products meet global requirements on testing tech-

nology and exceed international demands on accuracy. The ERICHSEN Reference Class is our answer to the control of measuring and test equipment described in the QM standards.

The characteristics concerning the quality are determined by means of high precision measuring instruments calibrated with the help of measuring equipment calibrated and certified by DKD. This guarantees the supply of a precision

measuring instrument in compliance with highest demands. An incoming inspection is no longer necessary – which means a reduction in costs for your company.

We are also in a position, upon request, to calibrate and certify your ERICHSEN test instruments already in use. We would be delighted to welcome you in our show-rooms, where we can convince you of our competence. Please con-

sult us in all aspects concerning your testing problems – especially in the event of customised solutions.

We will be glad to pass on our experience and our knowledge!



1960 1970 1980 1990 2000 2016

1949

Following the turmoils of the war and the loss of his company, A.M. Erichsen resolved to start up again in the west of Germany. His best partner – his son, Dr.-Ing. Per F. Erichsen – had studied mechanical engineering in Hanover, graduated at the Metallurgical Institute of the Technical High School in Aachen, and did his doctorate at the Coal Research Institute of Dortmund. Establishing the new company proved difficult – without machines, tools, or construction drawings – in a factory kitchen of the ironworks in Sundwig. Ideas and determination were the order of the day – initially the parts were made externally and assembled by themselves. The modern factory we operate today is located not far away.

1975

Björn Erichsen joined the company after completing his technical and business management studies at the Polytechnic in Munich and at the George Washington University in the U.S.A.. After taking over from his father – who entered well-earned retirement from the active management of the business in 1977 and died in 1988 – he is now the third generation to lead this company which has long since gained international renown. Under his management the range of instruments has been expanded, primarily by the addition of modern, non-destructive measuring devices for surface engineering applications.

1998

The decision was made to incorporate tensile and pressure testing machines, hydraulic and electronic load and pressure cells, as well as calibration equipment with extreme measuring accuracy into the production programme – reverting to the field of mechanical metrology earlier controlled by the company. Support was provided by a group of competent former employees from ERICHSEN Wuppertal whose knowledge and experience in conjunction with great insight into the latest in the field of hardware and software has resulted in a wide range of modern products.

2016

In the course of 100 years the extensive Erichsen product range has been built up based on the technical fields of metrology and test engineering. ERICHSEN pays stringent attention that their machines and equipment comply both with the testing regulations of national and international standards and with the acceptance terms of the industrial sector. These provide the basis for global understanding between the manufacturer and the user wherever the quality of raw materials, semi-finished and finished products is concerned. Design precision, perfect function and absolute fulfilment of purpose: these attributes have top priority at ERICHSEN.

UNIMAT® 050/052-Basic



050 – 3 kN

052 – 5 kN

Tensile and Pressure Testing Machines UNIMAT® Basic

The compact material testing machines of the UNIMAT® Basic serie have been specifically designed to facilitate goods acceptance inspections and quality checks simply and fast. Their robust construc-

tion also makes them suitable for in-process controls. The universal tensile and pressure testing machines UNIMAT® 050/052 Basic, are equipped with one column and an integrated controlpanel.

UNIMAT® 050-Basic

Two versions of the Universal Testing Machine 050-Basic are available:

- Testing force 3 kN
- Travelling distance 500/1200 mm
- Crosshead speed: 0.1 up to 1000 mm/min

UNIMAT® 052-Basic

Two versions of the Universal Testing Machine 052-Basic are available:

- Testing force 5 kN
- Verfahrweg 500/1200 mm
- crosshead speed: 0.1 up to 700 mm/min

UNIMAT® 054-Basic



Tensile and Pressure Testing Machines UNIMAT® Basic

The compact material testing machines of the UNIMAT® Basic serie have been specifically designed to facilitate goods acceptance inspections and quality checks simply and fast. Their robust construction also makes them suitable for in-process controls. The universal tensile and pressure testing machine UNIMAT® 054-Basic, is equipped with two columns and a separate control panel for lateral attachment or to use as remote control.

UNIMAT® 054-Basic

Six versions of the Universal Testing Machine 054-Basic are available:

- Testing force 10 kN
- Clearance 700/1200 mm
- Travelling distance 400/600/800 mm
- Crosshead speed: 0.1 up to 600 mm/min

UNIMAT® 056-Basic



Tensile and Pressure Testing Machines UNIMAT® Basic

The compact material testing machines of the UNIMAT® Basic serie have been specifically designed to facilitate goods acceptance inspections and quality checks simply and fast. Their robust construction also makes them suitable for in-process controls. The universal tensile and pressure testing machine UNIMAT® 056-Basic, is equipped with two columns and a separate control panel for lateral attachment or to use as remote control.

UNIMAT® 056-Basic

Two versions of the Universal Testing Machine 056-Basic are available:

- Testing force 20 kN
- Clearance 700/1200 mm
- Travelling distance 425 mm
- Crosshead speed: 0.1 up to 1600 mm/min



UNIMAT® 054/056-ADVANCED



Tensile and Pressure Testing Machines UNIMAT® ADVANCED

The compact and robust materials testing machines UNIMAT® 056/058-Advanced series are designed for demanding measurement and inspection.

The extremely robust frame and the mechanical drive are made for tests with stiff test articles or determination of moduli. The large space facilitates the introduction of thermal chambers or allowed the sensible operation of camera and lighting systems (eg for noncontact moduli determination or measurement of local strain).

The UNIMAT® 054/056-Advanced, with two columns, has a separate control panel for lateral attachment or as a remote control available.

The motor including controls as well as the measurement and con-

trol system are integrated into the desktop housing. The operation is via a side-mounted "Doli" control unit with control panel (keypad), on which is also the emergency stop switch integrated.

To the force transducer (attached to the underside of the moving cross-head) and on the base plate, there is a possibility for adaptation several standard grips (please refer to our corresponding selection table and price list).

Application Software UNIMAT® ADVANCED is used for establishing test runs, recording measured data, presenting measuring results, for statistic functions and printing of evaluation listings.

As optional accessory we provide our Video-Extensometer FOV50, FOV100 or FOV150 – a camera system for non-contacting measurement of elongation directly at the specimen.

The system consists of: matrix camera, LED illumination, evaluation software, calibration tiles and mounting fixture (for further information please see our price list).

UNIMAT® 054-ADVANCED

Four versions of the Universal Testing Machine 054-ADVANCED are available:

- Testing force 10 kN
- Clearance 500/750 mm
- Travelling distance 1200/1600 mm
- Crosshead speed: 0.1 up to 1000 mm/min

UNIMAT® 056-ADVANCED

Four versions of the Universal Testing Machine 056-ADVANCED are available:

- Testing force 25 kN
- Clearance 500/750 mm
- Travelling distance 1200/1600 mm
- Crosshead speed: 0.1 up to 400 mm/min



Mechanical Grips

Mechanical Grips

ERICHSEN offers a great variety of mechanical grips for testing a great number of materials and shapes of specimens. The grips fit easily to all ERICHSEN testing machines because

of the simple plug-in system. ERICHSEN grips cover a force range up to 25 kN. A wide choice of jaws ensuring a safe fixing of most different materials, is available.



PHYSIMETER® 906 USB



Multi-Measuring System PHYSIMETER® 906 USB

The measuring system PHYSIMETER® 906 USB has been designed for the acquisition of mechanical quantities using strain gauge sensors. This version can be supplied with integrated force transducer (measuring ranges from 20 N to 1,000 N are available). Alternatively, this instrument can be supplied as a display unit only that can be connected to external sensors.

The PHYSIMETER® 906 USB is equipped with a USB port. The appropriate measuring and evaluation software is available as download free

of charge. The measuring instrument is easy to handle and includes the functions On/Off, reset and peak value display. Depending of the positioning of the instrument the indication on the display can be shown in an inverted way (by 180°).

The tension and compression measuring instrument 906 USB is suitable for mobile applications (battery operation) as well as for stationary use (power pack operation). Also in this case, the high-strength aluminium housing guarantees a long life, compared with plastic housings.

Force Transducer Model 906

Electric Force Transducer

The sensors of the model 906 have been developed specifically for the PHYSIMETER® 906 USB. All sensors are provided with an identification chip and thus be automatically identified by an attached indicator.

The 906 Series includes:

- Force transducers,
- Torque transducers,
- Displacement transducer and
- Pressure transducers.



Special Measuring Device



Special Measuring Device

Some measuring tasks cannot be realized using the standard measuring devices. However, multiple experience in the field of metrology

enables us to offer special solutions for our customers (e.g. the semi-automatic measuring device for screw-type caps).



Load Cell Model 922



Electric Load Cells

Electric load cells from ERICHSEN reflect state of the art sensor technology. At the same time they are easy to handle and capable of meeting a wide range of customer requirements. These force transducers are applicable wherever tensile and pressure forces need to be measured with a high degree of accuracy, e. g. in material testing, in reference measuring systems as well as in the

field of research and development. In addition, these force transducers are also suitable for industrial purposes in the fields of automation, controlling of press-in processes and in joining technology. An extensive accessories programme is available. A connection to the Measuring and Display Instrument 975 AP as well as to the PHYSIMETER® 906 USB, 906 MC-E or 906 MC-S is also possible.

Model 975 AP



Display Instrument

The display instrument, model 975 AP, has been designed for convenient measurement and display of forces in connection with ERICHSEN force transducers on wire strain gauge basis. It is suitable for applications in all areas where forces need to be measured without bother and within the shortest possible time. Ease of operation makes the display instrument useful for a wide range of measurements. The measuring and

display electronics are provided for mains operation and installed in a sturdy housing. The LED digital display on the front panel is easily identifiable even from a distance. A peak value memory is included in the standard version of model 975 AP. Minimum and maximum readings can be fetched by means of key operation. Measured values can be compared with a given specification to make a go/no-go statement.

Model 830 / 833 / 844



Hydraulic Load Cells

ERICHSEN hydraulic load cells provide a simple and economical method of measuring forces. The technique is based on the hydraulic transmission of forces which act on the piston of the force transducer. This hydraulic pressure is immediately indicated on a display unit with a scale in Newton. Load cells are ideal for maintenance and adjustment work as well as for the use in plants, machines and systems of all kinds. Their compact dimensions make these instruments extremely versatile. A transmission of the measured data to the PHYSIMETER® 906 MC USB by means of a pressure transducer is possible.

ERICHSEN worldwide. We are represented in the following countries:

Albania	Egypt	Kazakhstan	Norway	Sudan
Algeria	Estonia	Kuwait	Oman	South Korea
Argentina	Finland	Laos	Qatar	Sweden
Australia	France	Latvia	Pakistan	Switzerland
Austria	Germany	Lebanon	Peru	Syria
Bahrain	Great Britain	Libya	Philippines	Taiwan
Belarus	Greece	Liechtenstein	Poland	Thailand
Belgium	Hungary	Lithuania	Portugal	Tunesia
Bosnia Herzegovina	Iceland	Luxembourg	Republic of China	Turkey
Brazil	India	Madagascar	Romania	Ukraine
Bulgaria	Indonesia	Malaysia	Russia	United Arab Emirates
Cambodia	Iraq	Mauritius	Saudi Arabia	United States
Canada	Iran	Macedonia	Serbia	of America
Chile	Ireland	Mexico	Singapore	Uruguay
Colombia	Israel	Morocco	Slovakia	Uzbekistan
Croatia	Italy	Montenegro	Slovenia	Venezuela
Czech Republic	Japan	Myanmar	Spain	Vietnam
Denmark	Jordan	Netherlands	South Africa	Yemen

Visit our website: www.erichsen.de

... to see our solutions in testing technology.

We are in the position to develop and fulfil your special measuring and testing requirements to secure your demands for a high level of quality in manufacturing.

... to find the ERICHSEN representative that is responsible for your country.

www.erichsen.de/service-2/distribution_partners

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Note this product!



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