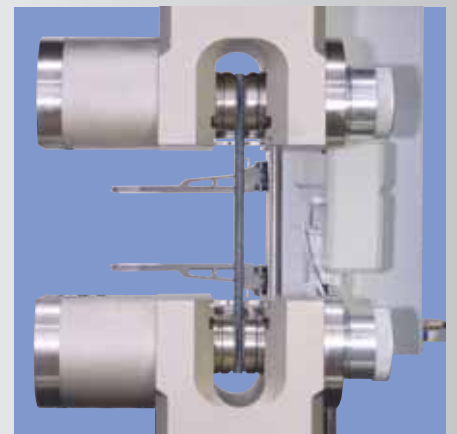
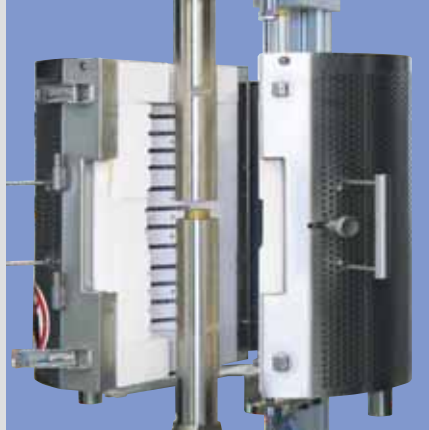
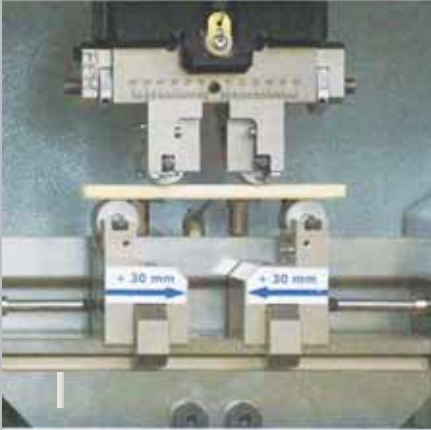


Universal Testing Machines



Premium flexible solutions



Hegewald & Peschke
Meß- und Prüftechnik GmbH



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Universal Testing Machines that Deserve Their Name

Is a testing machine that can perform tensile tests, compression tests, torsional creep tests and bending tests also a “universal testing machine”?

Not really, if it only tests standardised specimen under normal conditions.

A universal testing machine must be able to integrate reality into the testing laboratory. This is what the engineers at **Hegewald & Peschke Meß- und Prüftechnik GmbH** thought when they started to develop **INSPEKT**, a series of universal testing machines that deserve to be called such.

INSPEKT universal testing machines can be converted into absolute specialists with a low amount of effort. They can test food, packaging, furniture, machines and bearing surfaces, and of course also all kinds of standard specimens of a large variety of materials, be it under temperature, pressure or media influence.

INSPEKT's versatility has not been designed at the cost of precision and ease of use. This is ensured by the perfectly coordinated combination of precision mechanics, measuring and automatic control technology as well as the operating software **LABMASTER**. Everything has been designed so that it can be easily and flexibly customised without any of the difficulties that are often found in multifunctional devices.

Hegewald & Peschke Meß- und Prüftechnik GmbH, an owner-operated German engineering company, has been designing the highest quality testing technology for standardised as well as for individual customer requirements since 1990. Leading engineering companies and research centres trust this innovative technology and rely on the first-class service that accompanies these high-tech universal testing machines.

Which **INSPEKT** machine could be the right one for you?

Strong with a Great Amount of Scientific Curiosity

INSPEKT testing machines fulfil the highest requirements in measuring precision and versatility. They are ideal for the most demanding measurements in industry and research. With load frame versions that go well into the high-load area, these machines are suitable for testing even high-strength materials and large components. Additional guide pillars make the machine's construction extremely solid.

The purely electromechanical drive – from incrementally adjustable alternating current precision motors up to power transmissions through a high precision ball-roller transmission with a spindle nut adjusted without play – all this ensures a highly dynamic power transmission. It guarantees absolutely reproducible test results even with the smallest traverse rates and forces.

INSPEKT testing machines are delivered with freely selectable traverse path and adjustable power and strain regulations. This ensures a continuous fulfilment of the metal tensile test standard DIN EN ISO 6892-1. The force is measured through a wire strain gauge force transducer. It is highly precise and also conforms to the requirements of either DIN EN ISO 7500, class 0.5 or 1.

The control system **ELECTRONIC DRIVE 5** that has been specially designed for the universal testing machines ensures the synchronous recording of the results of all measuring channels with a highest resolution and measuring frequencies of up to 5 kHz.

The company's own **LABMASTER** operating software ensures a simple testing operation and documentation of the measured values even with very special types of machinery and demanding test procedures.

All load frames can be supplied with variable configurations enabling special specimens and components to be tested in series under the influence of different temperatures and media. This not only relates to the height but also, as an optional feature, to the width and depth. Several test rooms can also be set up alongside each other.

Easily exchangeable clamping tools for various specimen forms can of course also be selected from an extensive range of implements.

INSPEKT testing machines are also supplied with a keyboard for an optional manual operation. With this screen keyboard the machine can be operated during simple testing jobs without the use of a personal computer and test software.

Series	INSPEKT 100	INSPEKT 150	INSPEKT 250	INSPEKT 300	INSPEKT 400	INSPEKT 600	INSPEKT 1000	INSPEKT 1200	INSPEKT 1500
Max. test force (kN)	100	150	250	300	400	600	1.000	1.200	1.500
Test space width (mm)	610	610	610	610	750	750	850	850	850
Test stroke (mm)	1.090	1.090	1.070	1.070	1.320	1.320	1.320	1.460	1.410
Max. test speed (mm/min.)	1.000	500	460	250	250	200	200	250	250

Option: All load frames can be supplied in either a longer or a wider version.

Universal Testing Machines



INSPEKT 300
Universal Testing Machine with hydraulic clamping devices, safety door and fully automatic extensometer.



Electronic and manual safety end-of-travel switches.



Mechanical structure of the INSPEKT series with four guide pillars and two recirculating ball screws.



Hand-operated with a power-path display for manual positioning and standalone operation without a PC.

Reliably Manages Medium Loads

The **INSPEKT table** series has been designed for testing materials and components in a medium load range that conform with standards. It is therefore ideal for testing materials such as plastics and non-iron metals. It is also ideally suitable for testing smaller equipment components.

INSPEKT table is available in six different load frame versions. The electromechanical drive using an alternating current motor and a power transmission through a pre-stressed ball-roller transmission with a spindle nut adjusted free of play guarantees the highest precision.

Depending on the desired operating comfort, the machine can be optionally delivered in a standalone or a table version. The load frame with its profiled aluminium covering has been constructed to allow additional testing and measuring devices to be easily attached.

All **INSPEKT table** machines feature an optional traverse path as well as a power and extension regulation. This ensures a compliance with the new metal tensile testing standard DIN EN ISO 6892-1. The highly exact force measurement using wire resistance strain gauge force transducers satisfies the requirements of DIN EN ISO 7500, classes 0.5 or 1.

The **ELECTRONIC DRIVE 2** control system ensures a synchronous recording of the measured values of all measuring channels with a maximum resolution.

The **LABMASTER** operating software which has been specially developed for use with materials and components testing guarantees an optimal testing and recording of the measured data.

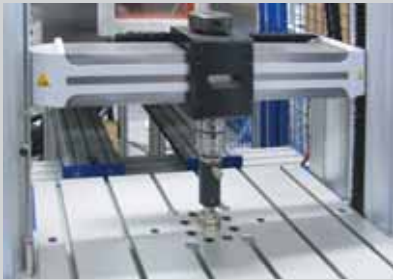
If required, **INSPEKT table** can be fitted with a second test room. This allows various testing work to be carried out at the same time without changing the tools. This saves valuable test and retooling time.

INSPEKT table machines with a load range from 10 kN to 50 kN are available either with 300 Watt or 900 Watt drives. This enables an optimal adaptation of the test speed to the test jobs which in turn helps to save costs.

If required, **INSPEKT table** can be equipped with a keyboard for manual operations.

Series	INSPEKT table 5	INSPEKT table 10		INSPEKT table 20		INSPEKT table 50		INSPEKT table 100	INSPEKT table 250
Max. test force (kN)	5	10	10	20	20	50	50	100	250
Test space width (mm)	420	420	420	420	420	420	420	510	510
Test stroke (mm)	1.025	1.025	1.025	1.005	1.005	995	995	1.065	1.030
Max. test speed									
Driving power (w)	300	300	900	300	900	300	900	900	900
(mm/min.)	2.000	1.200	2.000	600	2.000	250	800	400	175
Option: All load frames can be supplied in either a longer or a wider version.									

Universal Testing Machines



Sliding force measuring unit for machines of the INSPEKT and INSPEKT table series for placing eccentric loads.



INSPEKT table 250
Universal testing machine with wedge-type clamping implement and insertion extensometer.



INSPEKT table 10
INSPEKT table testing machines are available as table or standalone versions with adjustable feet.



INSPEKT table 50 kN with opened safety door. All INSPEKT universal testing machines can be fitted with electrically monitored safety doors.



The aluminium spindle cover with its special profiling allows a quick and safe attachment of additional components such as extensometers, ovens, safety doors, etc.

INSPEKT table-Controller 900



Small, but Universally Applicable

The **INSPEKT table blue** and **INSPEKT mini** series have been designed for highly efficient material and component tests that conform to standards in the small load range.

As table devices with a small mass and a high flexural strength, they are well suited as a cost-effective alternative for testing small specimens and components in series due to their construction and their ergonomic design. Four different load frame types are available.

INSPEKT table blue und **INSPEKT mini** have been fitted with electromechanical co-current flow drives and freely selectable traverse route and power and extension controls.

The highly exact force measurement is performed by wire resistance strain gauges force transducers and ensures a measuring exactness of class 1 (optional 0) according to DIN EN ISO 7500 in the range from 0.8 to 100 % rate load.

The control system **ELECTRONIC DRIVE blue** ensures a synchronous recording of the measured values of all measuring channels with a high resolution.

The company's own **LABMASTER** software guarantees a simple test procedure and recording of the measured data as required by an efficient test in the production process.

The universal testing machines of the **INSPEKT table blue** and **INSPEKT mini** series can also be operated in simple tests without software. The parameterisation and the display of the measured results is then carried out by the display of the control system.

The success of a test then depends on the selection of the right clamping implement. This is why we offer an extensive range of such tools for the most diverse materials and configurations.

Series	INSPEKT mini	INSPEKT table blue 5	INSPEKT table blue 10	INSPEKT table blue 20
Max. test force (kN)	3	5	10	20
Test space width (mm)	–	420	420	420
Test stroke (mm)	850	1.025	1.025	1.005
Max. test speed (mm/min.)	1.300	1.000	500	250

Universal Testing Machines



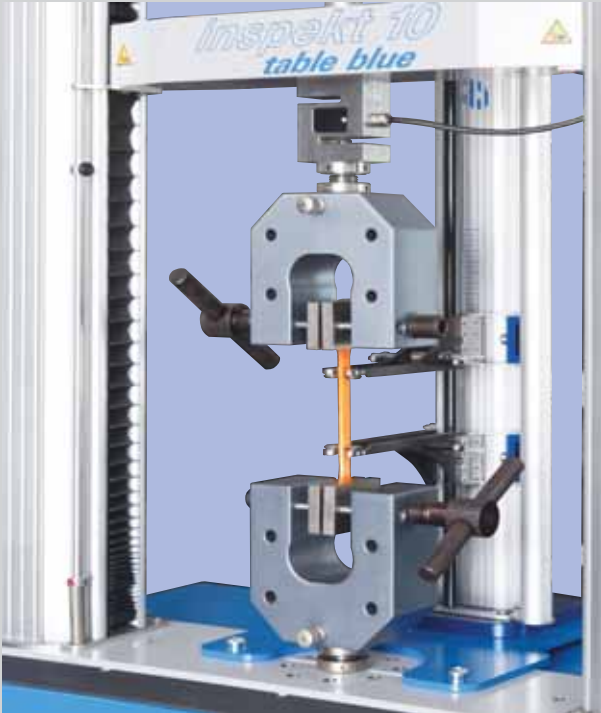
INSPEKT table blue 10 kN
Universal testing machine with bending device.



INSPEKT mini 3 kN
Universal Testing Machine



Electronic Drive blue control system for standalone operation – the machine can be configured direct at the control system. The measured results appear on the display.



Test room of a universal testing machine INSPEKT table blue 10
Expansion bellows protect the recirculating ball screw from soiling.

From Polar Air to Furnaces

The normal conditions in a laboratory do not always reflect the use of materials and components in reality. It can therefore become necessary to simulate this reality in a confined space direct at the testing machine.

Here Hegewald & Peschke Meß- und Prüftechnik GmbH provides environmental simulators that have been specially adapted to the individual series of **INSPEKT** testing machines. Such as for example climate chambers, temperature chambers or high temperature furnaces that can be quickly and easily changed.

The corresponding holding devices and also, if required, special clamping implements for specimens and components are of course also a part of the supply range.

Apropos clamping implements! Non-standard specimens as well as complex components can either not be tested at all with conventional clamping implements or only with great difficulty. For example, how would you clamp tensile specimens at a temperature of 1200°C?

Hegewald & Peschke Meß- und Prüftechnik GmbH has the know-how for this job.

We can provide you with the equipment you need. We also develop solutions specifically suited for your individual test requirements.

INSPEKT 300 kN

Universal testing machine with a flanking test room 150 kN. The testing system is equipped with a temperature chamber with a range from -60°C – +180°C and a high temperature furnace of up to 900°C.



Universal Testing Machines



INSPEKT 250 kN

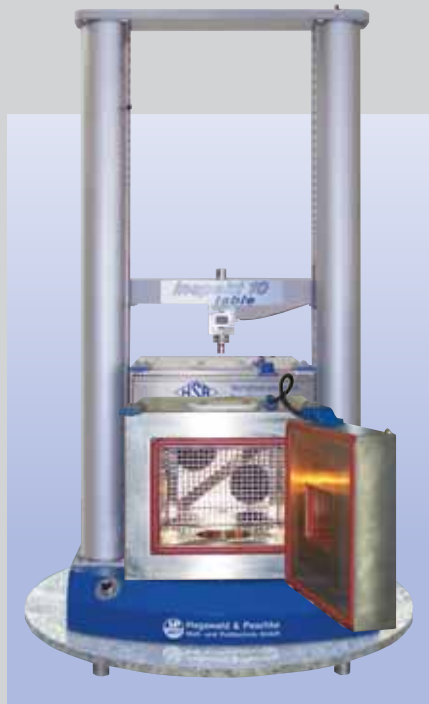
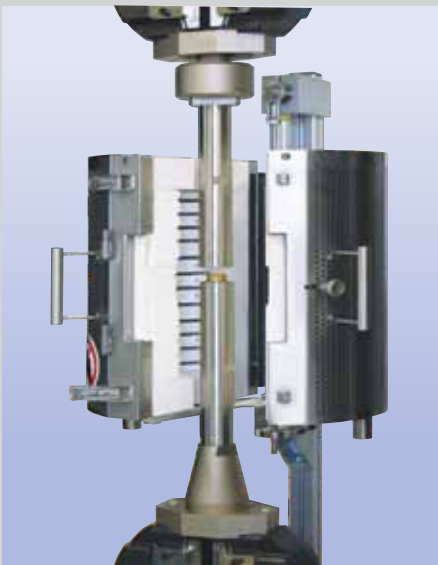
Universal testing machine for warm tensile tests. The machine is equipped with two retractable furnaces of up to 900°C and a high temperature extensometer. To achieve a higher specimen throughput, the specimens can be heated outside the test room and then cooled down.



INSPEKT 100

Testing machine with a flanking test room and temperature chamber. The temperature chamber operates in the range from -60°C to +200 °C and has retractable insertions. This allows the chamber to be introduced or removed without the testing implements having to be disassembled. The strain control is carried out contactless through an optical system at the front panel of the chamber.

900° high temperature furnace with specimen acceptance for threaded specimens. This collapsible furnace has three separately adjustable heating zones. This ensures that the temperature is exactly distributed at the specimen. The temperature is regulated by the thermo elements direct at the specimen surface.



INSPEKT table with climate chambers

The humidity can also be adjusted in addition to the temperature in the climate chambers. This allows as highly realistic climate simulation to be carried out on the components or the specimens.

The temperature devices can be easily introduced or removed using a rail system. The testing implements no longer have to be disassembled.



Made-to-Measure for Unusual Test Specimens

How universal testing machines really are becomes evident when you use them for highly specialised tests.

Standard testing machines are often insufficient for testing complicated components or finished products. Special test jobs can either not be carried out at all or they can only be carried out with great difficulty.

Hegewald & Peschke Meß- und Prüftechnik GmbH designs and constructs completely individual **INSPEKT** special solutions for the respective testing job in these demanding fields.

These customised solutions not only possess significant technical advantages. Because of their efficiency they are also more economical and therefore much more than just an alternative to conventional testing technology.

With the development of special solutions, our customers benefit from the tried and proven basic design of our **INSPEKT** series which with its modular basic structure also enables changes to the load frame configuration. With the special designs of our materials testing machines, our customers not only benefit from the know-how but also from the many years of experience of our engineers and technicians in building materials testing machines.

According to the special requirements of our customers, we quickly and flexibly design customised testing systems for an optimal solution of a wide variety of test jobs.



INSPEKT vario 30 kN

Testing machine for pressure and bending tests on large-scale parts, such as for example floor elements. The single-spindle load unit has been designed so that it can be adjusted upwards or sideways in X-Y direction. This allows all points of the component to be tested without any test alterations.



INSPEKT 50 kN

Testing machine for establishing the flexional strength of high-voltage Insulators. Insulators with a length of up to 6 m can be clamped and then tested at any optional point.

Universal Testing Machines



INSPEKT S 50 kN
 This testing machine allows the ring stiffness of sewage pipes to be tested. A special expansion control system guarantees an exact determination of the deformation of the pipes.



INSPEKT 50 kN
 This pressure testing machine is used to determine the external pressure resistance of screwed and riveted plate structures in the assembly lines of the automobile industry.

INSPEKT 250 kN
 Testing machine in a horizontal position for tensile and buckling tests of automobile cardan shafts.



INSPEKT P.U.MA 600 kN
 This metal forming test equipment is used for research purposes to characterise micro deformation processes. Four separately controllable drives ensure an exact plane parallel introduction of the force. The deformation processes takes part in a vacuum with temperatures of up to 1200 °C.



INSPEKT table S 50 kN
 Universal testing machine for safety glass in the building industry and in shipbuilding. The machine has been designed to carry out pressure tests as well as 3 and 4-point tests.



Fully automatic testing system for foam material. This system is based on an **INSPEKT table 5 kN** machine for pressure and bending tests and a specimen measuring station. A pneumatic linear feeding system guarantees a high specimen throughput.

It's Not Enough to Simply Put It Somewhere

Universal testing machines don't work according to the principle of "put it down – switch it on – and work with it." They have to be set up by experts. Their operators must learn how to work with them.

This isn't any different with **INSPEKT**, even if many things are quicker and easier with these machines. Our engineers and customer service technicians are experts who know their product down to the last detail.

Our customers also benefit from this knowledge during the calibration and maintenance work. This helps to avoid unnecessary downtimes and saves additional costs. Our technical knowledge and our experience in constructing universal testing machines is not limited to our own products. Specialists who design and build universal testing machines must also have a good knowledge of their industry.

Our customers benefit from this know-how. For example, we also cost-effectively upgrade already existing universal testing machines with the latest **INSPEKT** modules.

Robust load frames and drives, regardless of where they originate from, often last for ages. Only the measuring technology itself and the controls age and have to be adapted to current test standards by being modernised. Here we can help out quickly and efficiently. The solution is a modern materials testing system with significantly lower investment costs than buying a new machine.

INSPEKT universal testing machines also convince through their reliability and their universal application when they have been modernised – just another reason why we should work together successfully.



Putting the Machine into Operation

- Unpack, set up, assemble
 - Functional check and machine acceptance test
 - Works calibration or calibration according to the German Calibration Service DAkkS
 - Instruct the operating personnel
- Benefit: one stop training



Training

- training carried out by our service technicians during the acceptance test
 - training in our company before the machine has been put into operation
 - on site retraining or at our application laboratory
- Benefit: full use of our comprehensive testing systems



Software and application service

- free-of-charge helpdesk for LABMASTER software users
 - online helpdesk for specific parameterisation and evaluation enquiries
 - remote software updates
- Benefit: savings in time and costs



Calibration

- according to ISO/IEC 17025
 - accredited calibration centre for force (compression-tension), length (extension, deformation) and hardness
- Benefit: no further costs through additional calibration centres
- When analysing the calibration results, our specialist staff can immediately carry out an adjustment and any necessary maintenance work.



Modernisation

- retrofitting of electromechanical and hydraulic universal testing machines and hardness testing machines
 - replacement of aged drives, measuring technology and electronics
 - use of the modern universal LABMASTER software
- Benefit: lower costs through a continued use of useable load frames and peripheral technology (clamping devices, external measuring technology)



Contract testing

- testing of customer specimens in the company-owned application laboratory on customer order
- Benefit: well-grounded measurands and parameters of the materials without the expense for the acquisition of an own testing machine



INSPEKT-Service modules

Universal Testing Machines



Commissioning



Training



Software and application service



Calibration according to the German Calibration Service DAkkS



Modernisation

Universal Testing Machines

Product range



- Universal testing machines
- hardness testers
- furniture test stands
- component test installations
- special testing engineering
- maintenance service and the German Calibration Service DAkkS
- Contract testing

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