



## Polygraphische innovative Technik Leipzig



**Precision. Quality. Reliability.**  
Innovations for the Printing Industry.



# Precision. Quality. Reliability.



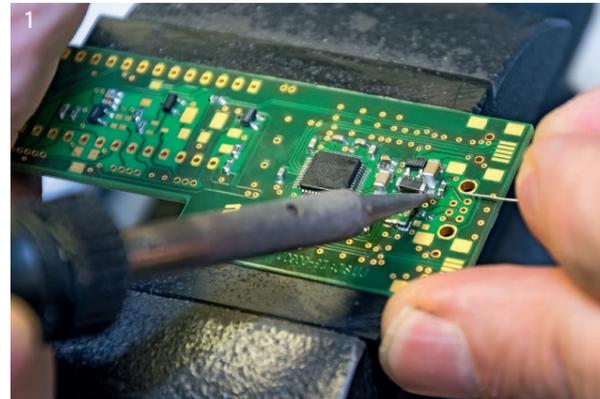
Polygraphische innovative  
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## We Set High Standards not only in the Printing Industry

PITSID Polygraphische innovative Technik Leipzig GmbH was founded in 1999. Since then, the affiliated company of the Sächsisches Institut für die Druckindustrie (SID Leipzig) has celebrated major international success with their products.

The range of cutting-edge products have been perfectly tailored to the requirements of the graphic arts industry and for use on processing machinery in the broadest sense. It comprises a variety of innovative measurement and testing devices that have been specifically developed for areas like print register, printing plate bending, compression, roller adjustment, traction force, gap width, packing height, IPA content, UV curing and book block strength. The latest analysis methods help determine relevant physical quantities like force, direction, distance or friction coefficient.

As different as the fields of application are, so clearer is the common denominator: PITSID measurement and testing devices combine the highest precision with ease of operation. This is the reason why it is hard to imagine daily work in the graphic arts industry and applications on processing machinery without them.



- 1 Assembling a circuit board
- 2 Checking the curing degree on-site with the UV Curing Tester UV CURE CHECK
- 3 Roller adjustment with the Contact Zone Gauge NIP CON SMART
- 4 Gap Gauge GAP CONTROL in use

# Innovative solutions.

For register, packing height, UV curing, nip and gap width.

**LUCHS IV Register Measuring System**



The LUCHS Register Measuring System is today used worldwide for the quality control, adjustment and error analysis of printing presses. It is able to measure the transfer, front-to-back and feed register of multicolour printing presses. Optionally, the device can be used to measure the varnish, the folding and cutting register. The measurement is carried out by recording and analysing special measuring elements located at different positions on the printed sheet.

The fully automatic analysis assigns the measured results to the different printing units and positions on the printed sheet and summarises the results in various graphs. The fourth generation of the LUCHS Register Measuring System features a completely new device concept and new measuring elements. The application areas have been expanded beyond offset printing and can now be used in flexography, digital printing and for varnish register. The scope of delivery is the handheld measuring head – connectable to an existing laptop by USB – and the control software.

**Register Measuring Process / Register Measuring Head RMK**



The Register Measuring Process makes it possible to carry out highly precise measurements in sheet-fed offset printing with practically invisible coded micro-marks either inline or offline. The measuring marks can even be placed inside narrow print control bars.

The integrated measuring mark encoding allows for identifying the printing units, the measuring position on the sheet as well as the recognition of the front and back side of the sheet.

For an external offline measurement, the separate Register Measuring Head RMK is available. It is characterised by a large field of view, a large measurement range and is activated simply by lifting it up. The measurement occurs automatically after positioning the measuring head on a measuring mark and a completed measurement is signalled optically and/or acoustically. The camera system of the measuring head can even be used as a video magnifier for controlling the print quality.

**Packing Gauge AMG (S/M/L)**



The Packing Gauge AMG is suitable for any cylinder diameter and is available in sizes S, M, and L. The AMG measures and digitally displays the height of the blanket or the printing plate above the bearer or measuring ring in an instant, even for cylinders that are difficult to reach.

The AMG L can even be used for measuring the height of varnish plates or flexography clichés.

Due to its convenient size, the device can be placed on the printing plate or blanket with only one hand and can be used without it needing to be rotated or moved.

This allows the measured values to be precisely recorded without any influence due to pressure variations or inaccurate cylinder parallelism during placement. The measured values can be saved during the measurement and easily read outside of the press.

**UV Curing Tester UV CURE CHECK**



The UV Curing Tester UV CURE CHECK quickly determines the curing degree of UV and hybrid inks as well as UV varnish coatings on printed sheets by measuring the coefficient of sliding friction. The device is intended for use on a measuring table, the press control panel or on the printed sheet pile. With a click of a button, meaningful values can be determined not only in solid areas, but also in ordinary printed images.

Through measurements made with the UV CURE CHECK, it is possible to counteract harmful migration escaping from the sheet and to check if inks could block and smear during print finishing or transport. The device helps optimise the UV emitter output, thereby saving energy and working environmentally friendly.

**Contact Zone Gauge NIP CON Smart**



The Contact Zone Gauge NIP CON SMART is used to precisely determine the contact zone width (NIP width or contact pressure) between elastic and hard rollers. It is therefore ideal for checking and correcting the setting of dampening rollers and inking rollers in printing presses. The device can also be used for corresponding paired rollers in other processing machines.

The measurement is carried out simultaneously with two sensors respectively so that the results can be observed instantly at both sides when correcting the roller setting. The extremely lightweight sensors allow operation by only one person.

The system takes the critical roller parameters into account when calculating the real contact zone width and thus achieves a more exact match with visually inspected strip widths as well as a parallel alignment of the rollers to each other in the inking unit or dampening unit.

**Gap Gauge GAP CONTROL**



The Gap Gauge GAP CONTROL is a technical innovation which makes everyday tasks during machine assembly easier. The GAP CONTROL has been developed in order to precisely determine typical gaps starting at 1.8 mm between hard pairs of rollers or cylinders. At the same time, the device is able to determine the width between slots or slits in mechanical components.

Considerable emphasis was placed on the easy handling of device: When the measurement sensor (measurement wedge) is inserted into a gap, the gap width can be easily read on the device display. Due to its high precision and fast measurement, the GAP CONTROL replaces the need for using feeler gauges or gauge blocks. There is simply no easier way to measure gap distances.

**PRECISION**

# We offer metrological solutions for compression, alcohol content, printing plate positioning, dimensions, traction force and page pull-out strength.

**Contact Pressure Tester  
COMPRESS II**



The Contact Pressure Tester COMPRESS II has successfully proven itself to be irreplaceable during printing press assembly and service. It allows for the control of the contact pressure between the bearer rings of printing presses by comparing the calculated actual value to a predetermined set-point value.

A very thin, fine paper measurement strip is pressed between the activated bearer rings. The resulting line or roll impact is analysed optoelectronically. For roller impressions, the device is able to provide information about the pressure distribution along the width of the bearer ring contact zone.

Based on the analysis, the printing press settings can be optimised, ensuring consistent print quality and prolonging the lifetime of the cylinder bearers.



**IPA Measuring Device  
IPA CONTROL III**



The hand-held IPA measuring device makes it possible to determine the exact alcohol concentration in the dampening solution quickly, easily and very precisely. Dampening solution samples can be taken at any point in the dampening solution circulation.

The hand-held IPA CONTROL III measuring device analyzes the gas phase evaporated above the dampening solution sample. First, the dampening solution sample taken from the press is filled into the measuring dish. The immersed measuring head passes the resulting IPA-air mixture to a gas sensor inside the hand-held measuring device. Based on the measured temperature of the dampening solution and the signal from the gas sensor, the IPA CONTROL III calculates the IPA concentration of the dampening solution sample and outputs this value on the display.

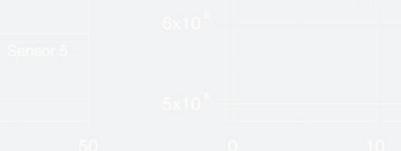
**Automatic  
Printing Plate Bender  
APB**



With the automatic printing plate bender APB, it is possible to bend a printing plate while referencing the position of the printing form independent of any format variations of the plate itself. In this way, a precise and axially parallel printing image position is achieved after mounting on the sleeve or plate cylinder.

Using two, practicably invisible measuring elements imaged on the edge of the printing plate, the actual position of the printing image is determined with micrometer accuracy. An automatic positioning system brings the plate iteratively into the optimal position before bending. After arriving at the ideal position, the bending process is carried out automatically.

The printing makeready process is in this way considerably shortened, especially with offset printing presses where the bended edge determines the position and the parallelism of the printing plate, saving time and reducing waste.



**2D Measuring System  
MICRO CONTROL**



The 2D Measuring System MICRO CONTROL is an innovative system for precisely measuring primarily (thin) flat objects. The dimensions and geometry of objects of various sizes can be determined with a resolution in the  $\mu\text{m}$  range with very simple user operation – even extremely thin objects, such as paper, cardboard or transparent items.

The measuring system is based on a reference surface that is designed as a coded coordinate system, the PointArea. Measurement tools are used for mechanically contacting the object to be measured. A smartphone captures an image of the measurement tool and the Point Area. Through internal calculations in the smartphone, the position of the measurement tool and consequently the edge of the measured object can be precisely identified.

The coordinate system can have a maximum dimension of 8 x 8 m. The ambient temperature is taken into account and is compensated for. All measurement data is displayed, saved and can be exported to a PC for protocol generation.

**Separating Force Gauge  
PEEL CONTROL**



The Separating Force Gauge PEEL CONTROL is intended to measure the opening force of peelable, seam-sealed packaging or the separating force of materials that have been glued, heat sealed or laminated together.

The calculated force values allows for the comparison to defined set-points and can be used for quality control purposes during production. The handheld device is ideally used directly on the processing machine.

After fixing the test object into the clamping device, the opening or the separating process is carried out by hand. All significant traction force parameters are calculated, like the force distribution subject to the measurement time and the opening path, and are graphically displayed.

In order to determine the adhesive strength, the necessary force needed for separating a laminated surface is calculated. The measured data can be exported for documentation.

**Perfect Binding Tester  
BIND CONTROL**



The Perfect Binding Tester BIND CONTROL is intended to measure and quantifiably evaluate the pull-out strength of single pages from a book block. It is the first device that measures a trimmed book block of a uniform width.

The BIND CONTROL makes it possible to evaluate the performance of book block-making machines and assesses the binding stability as a parameter of the book block quality.

In the results, the measured traction force per centimeter is indicated on the display as well as different calculated statistical analyses and quality ratings. It is possible to optionally export the result data.

RELIABILITY



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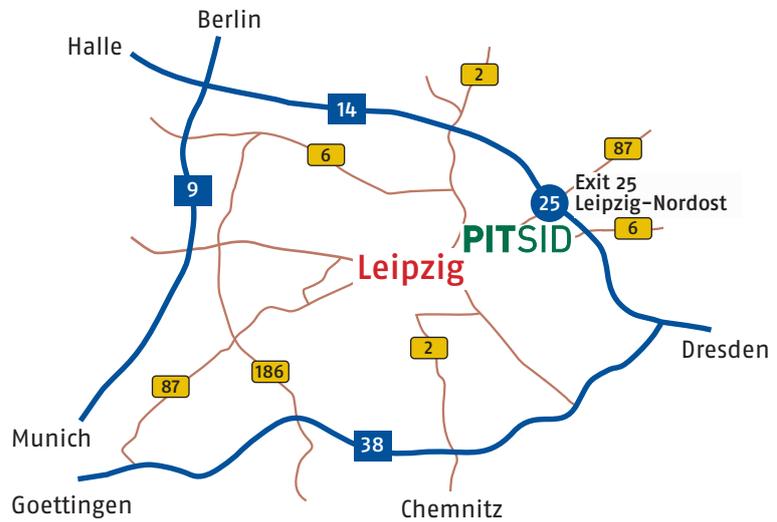


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