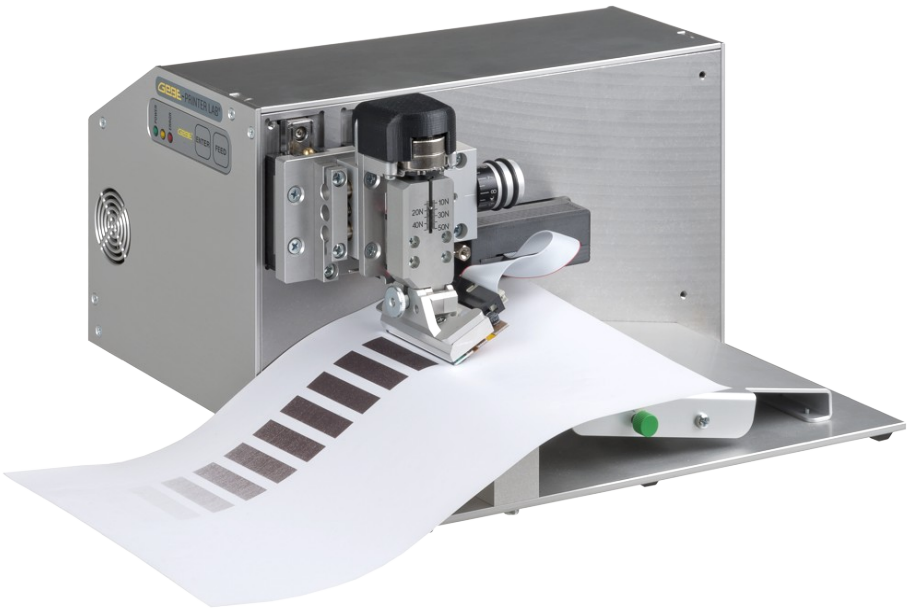
Technical Information

INPUT/OUTPUT DEVICES

www.gebe.net

Information



GPT-10000 Thermal print testing system

GeBE-PrinterLab®

Highlights at a glance:

- independent of paper thickness due to vertical print head positioning system
- Quick exchange of print head and platen roller (< 1 minute)
- sticking and head residue tests
- automated handling to avoid operating errors
- simulation of other printer systems
- database link for test data logging

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The GeBE-PrinterLab®

The GeBE-PrinterLab® is a state of the art test system for the thermal print technology. It precisely tests thermal paper and furthermore the hardware involved in the printing process, like thermal print heads or platen rollers.

Besides testing, it helps to understand the whole thermal printing process and side effects coming with this technology like sticking & head residue.

The design of the GeBE-PrinterLab® was focused especially on user-friendly operation. This allows the exchange of print heads or platen rollers in seconds only. The test operator performs every test mode with the included firmware „GeBE-PrinterLab® TestSuite. Several print head drive settings can be adjusted. For long-term testing an optional software is available as well.

With every print head comes an „head attachment“ that assigns an identity to each head as a „memory“ for all technical data, lifetime of print dots and dot ageing. Therefore a newly installed print head is immediately ready for printing and thus hot plug and play. The head attachment „memory“ also determines the exact position of the print line.

Other printer systems can be evaluated through alteration of the mechanical settings, e.g. printer head, platen pressure or head alignment (positioning of print line to the platen roller).

Surprisingly a correct print head alignment will influence the printing result almost solely independent from the print head platen pressure!

The GeBE-PrinterLab® is equipped with a vertical print head positioning system, which automatically eliminates print head alignment errors caused by different paper thicknesses. Therefore this system is applicable for every paper thickness without changing the settings.

Parameters which influence the printing process (print head alignment and platen pressure) can be precisely adjusted in the testing system GeBE-PrinterLab®. A micrometer screw is used to adjust the print head alignment position manually (or optional motor-driven) to an accuracy of 10 µm, which is detected by a sensor that transmits this information to the GeBE-PrinterLab® -TestSuite. The printer head platen pressure is also set via motor. At printer power on the standard settings for head alignment and platen pressure will be immediately read from the „memory“ to correctly set up the print head. However the user can change this default settings via printer command at any time. In case a change does not correspond to the preprogrammed test mode, the „TestSuite“ firmware refuses to print. This prevents test manipulation and malfunction.

An adjustable paper guide offers the possibility to use single sheets of paper, e.g. A4, as well as paper rolls up to ø 150 mm. An optional roll holder for ø 300 mm paper rolls is available for long-term testing.

Accessories

- head attachments already available for several standard flat head print heads
- big roll holder for paper rolls up to 300 mm
- rotary cutter for paper weight up to 350 g/m^2

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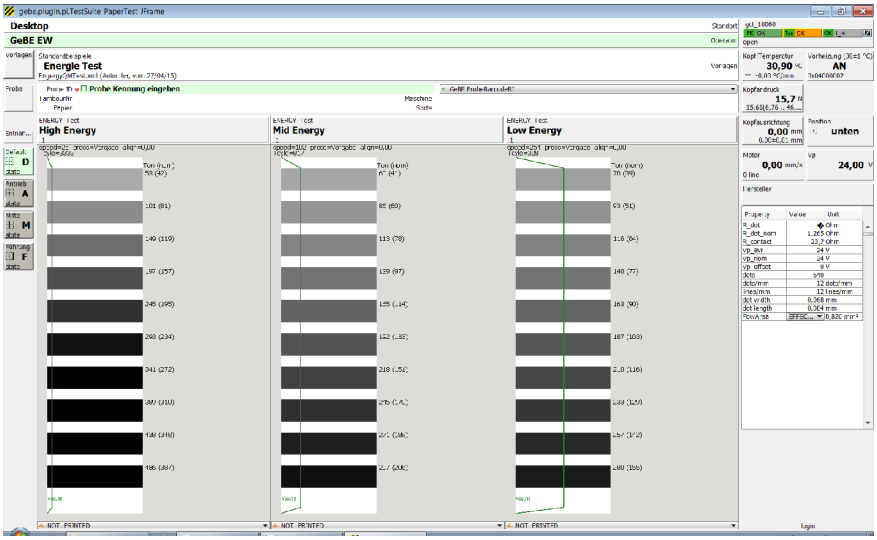
The GeBE-PrinterLab® TestSuite



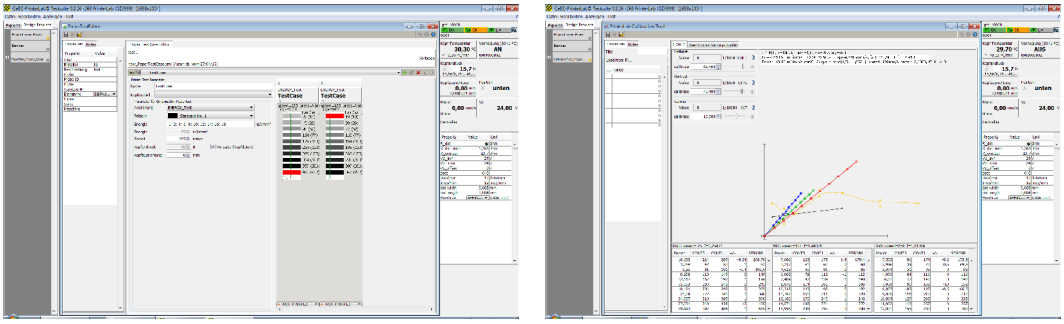
Picture 1: Print screen of energy test

The GeBE-PrinterLab® TestSuite serves as testing software for programming and evaluation of test modes. Two different surfaces are available as **production** mode or **R&D** mode. The R&D developer can generate a test program under R&D mode, which additionally allows to set operation parameters and tolerances to be complied.

A programmed test case can change either the print energy, printing speed, printer head platen pressure or the head alignment, while keeping the others constant.

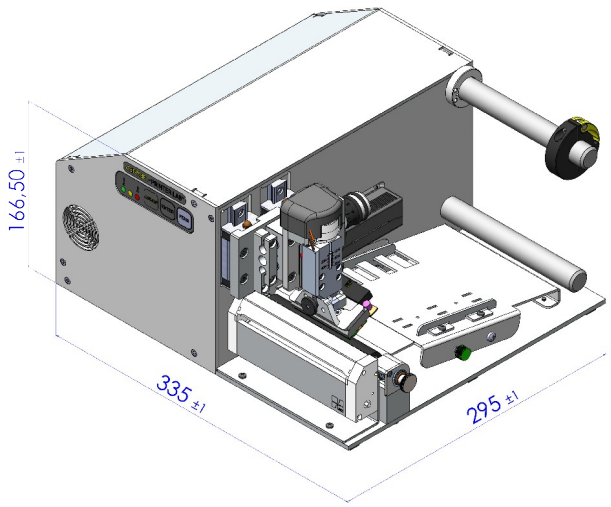
The production mode serves to perform the preprogrammed R&D test modes. Information about tambour number, sampling point , etc., can be insert manually or via bar code scanner. After a printout, the result will be stored. After the test has been completed a quittance can be printed out including barcode and all additionally inserted information. A special interface software is available to export the data into other database systems.

On request the GeBE-PrinterLab® is compatible to older ATLANTEK 400/200 units.



Picture 2: GeBE-PrinterLab® TestSuite in R&D Mode

Technical drawings



Drawing 3: GeBE-PRINTER LAB®

Technical data details

	GPT-10000
Paper width	unlimited
Paper size	for single sheets, e.g. A4
Paper guide	available for paper widths 60 82 and 114 mm
Platen roller	width 116 mm, ø 19.1 ± 0.05 mm, hardness: 45 shore A
Print head width **Print head contact pressure**	width maximum 116 mm 5 – 50 N adjustable via software
Print head standard	near edge with integrated dot history control, resolution: 300 dpi horizontal, printing speed: max. 500 mm/s
Paper thickness	50 - 450 µm with near edge printer head, 50 - 250 µm with flat printer head
Supply voltage	print head: 24 VDC with 450W (675W peak), Logic: 5 VDC or 3.3 VDC
Print speed	0 – 500 mm/s adjustable
Resolution	0 – 4800 dpi vertical : adjustable via software
Dimensions	33.5 x 29.5 x 16.5 cm (without paper roll)
Weight	approx. 10 kg
Housing	aluminium
Environment	+15°C to +27°C to meet specified accuracy