TECHKON
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TECHKON SpectroPlate

TECHKON SpectroPlate – Plate Measurement Device

Printing plate measurement right on the spot

Why measurements on printing plates ?

Today in the age of Computer-to-Plate it is obvious: Without quality control in pre-press, there is no guarantee for quality in print. Thus the measurement of the right dot transfer on offset printing plates is a key segment of comprehensive process control in the printing industry.

However, measurement is only useful if the appropriate measurement technology is applied. Some years ago using densitometers on printing plates was common practice. But densitometers are designed for measuring on printed papers leading to limits when reading on plates.

At present, plate measurement devices based on microscopic image capture and processing are the established standard. TECHKON SpectroPlate unifies all advantages of this modern measurement technology in a compact hand-held instrument.

How does SpectroPlate work ?

The measurement accuracy of a plate-measuring device is determined by the quality of the optical system and the performance of the image processing algorithms. SpectroPlate meets the highest standards in this respect. The sample is illuminated uniformly with spectral broadband light. The microscopic image is captured by a precision optical lens system and a high resolution CMOS color matrix sensor with high dynamic range. The processing of the detailed color image is performed by a powerful graphic signal processor and sophisticated imaging algorithms. All relevant quality parameters for correctly manufactured printing plates are shown on the LCD.

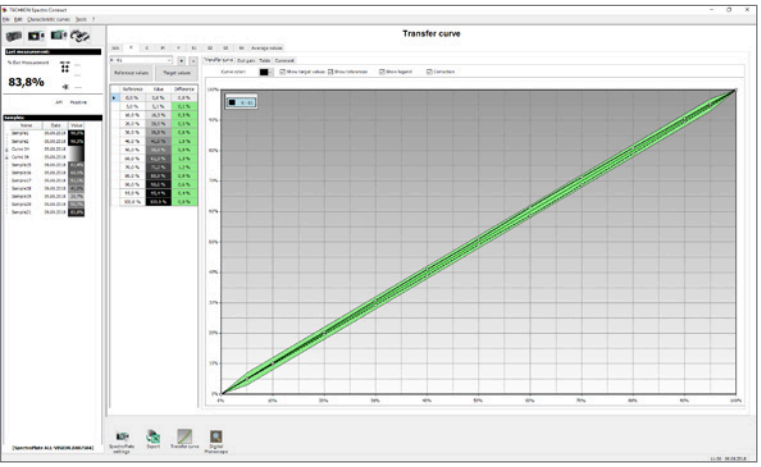
Versatile in use

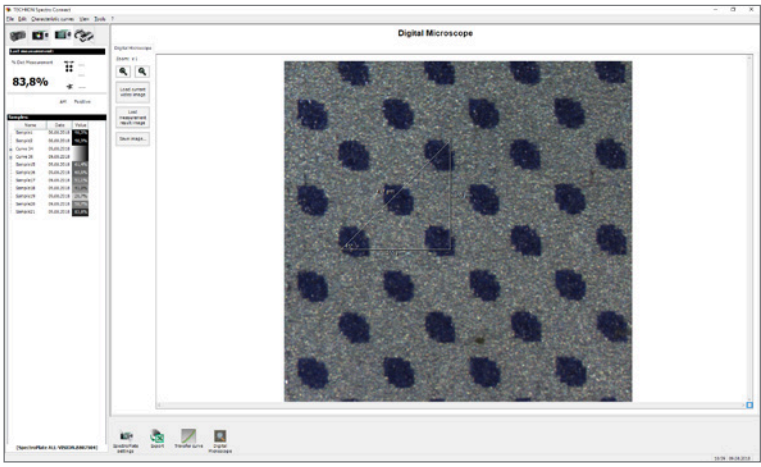
Thanks to the excellent image capture quality and the ingenious graphic calculations, SpectroPlate can read precisely any screen size and screen technology: FM, AM or Hybrid screen. The spectrally white illumination and dynamic color evaluation permits reading all kinds of plate types and coated surfaces.

But it is not only plate reading where SpectroPlate shows its strengths. The multifunctional device handles dot measurement on film as well as on printed paper in CMYK print excellently.

Portable Microscope

SpectroPlate lets you see things normally hidden to the human eye. It shows the raster dots on a film or a printing plate in large magnification on the device display or optionally on a computer screen. It lets you visually judge printing plates and





discover any soiling or exposure errors now that the structure of the raster dots is visible.

A specific strength is the image transfer of uncompressed high-resolution files to the PC where they can be stored, edited or sent over the internet. Geometric sizes of dots or lines can be retrieved in micrometer or mils dimensions.

Software TECHKON SpectroConnect

The Windows software TECHKON SpectroConnect, included in the content of delivery, establishes the connection between the measuring device and the PC via the USB connection. Data processing of the measured values on the PC is very comfortable and data can be transmitted directly to Microsoft Excel™ or any other application with editing function.

The program also serves to remotely control the device for settings, lock functions, perform updates and save the display content for documentation purposes.

Almost all modules have a report and print function to document the results.

With the characteristic modules, the data can be output in Harlequin or ISO 18620 format and thus imported into all modern RIPs.

When using TECHKON SpectroPlate, the program can perform metric measurements in the high-resolution video image and save the image in jpg or png format.

The program supports 14 languages and includes the manuals of the supported devices in PDF format.

TECHKON SpectroConnect, despite its valuable and cost-reducing use as a universal quality control agent, is included free of charge in the content of delivery of all TECHKON devices of the Spectro series.

Versions and functions

SpectroPlate is available in three different types of performance packages: The entry-level model **Start** is designed for dot percentage measurements on all popular types of printing plates, film and CMYK print. The **Expert** version additionally features the recording of complete transfer curves and the possibility to analyze geometric objects within the device. The **All-Vision** model is able to measure supplementary low-contrast, process-low printing plates.

SpectroPlate Start
▪ % dot percentage ▪ Screen angle in ° ▪ Screen frequency in l/cm and lpi

SpectroPlate Expert
Same functions as SpectroPlate Start and additionally:
▪ Dot % transfer curve ▪ Dot gain transfer curve ▪ Geometric analysis ▪ Memory for 100 data sets ▪ Average measurement

SpectroPlate All-Vision
Same functions as SpectroPlate Expert and additionally:
▪ Measurement of low-contrast, process-low plates with very low visible contrast

The Start version can easily be upgraded to an Expert model by a post-purchase upload from the PC. All-Vision functionality is achieved by a hardware expansion.

All three types can easily be connected to the Windows software TECHKON SpectroConnect which is included in the package.

All devices are factory-calibrated to a highly accurate reference printing plate resulting in high long-term absolute accuracy and an excellent inter-instrument agreement. Additionally, time-consuming calibration procedures prior to measurements are obsolete.

Software	▪ TECHKON SpectroConnect requires Windows 10 or 11
Contents	▪ Measurement device SpectroPlate ▪ Charging console with white standard ▪ AC adapter with universal plugs ▪ USB cable ▪ Data media with Windows software TECHKON SpectroConnect ▪ Manual with ISO 9000 compliant certificate (pdf on data media) ▪ Manufacturer certificate
Optional accessories	▪ Upgrades to higher functionality ▪ Replacement parts: Charging console with white standard, rechargeable battery, AC adapter ▪ Offset printing plate reference: Plate Measuring Reference PMR (available only at Ugra, www.ugra.ch)

Specifications

Measurement technology	High-precision optical system with high resolution digital camera and digital image processing
Image capture	1024 x 1024 pixels, 16 million colors, RGB uncompressed
Measurement aperture	1 x 1 mm, direct positioning with viewfinder, real-time image preview captured in LC graphic device display
Light source	Homogeneous spectral-broadband LED illumination
Measurement time	Approximately 1 second per measurement
Calibration	Factory-made calibrated permanently, white standard in charging console
Measurement range dot %	0.0 – 100.0 %
Screen ruling range	AM: 30 – 150 l/cm, 75 – 380 lpi; FM: 10 – 70 microns
Measurable media	Offset printing plates – CtP and conventional, film in transmission and reflection, printed paper CMYK
Memory	100 data sets (only Expert and All-Vision)
Repeatability	± 0.5 %
Display	Color LC backlight display, anti-reflective, 320 x 240 pixels
Power supply	Rechargeable LiFePO4 battery, regulated recharge via charging console with AC adapter, 100 – 240 V, 47 – 63 Hz, approximately 10000 measurements per battery charge, battery level control
Communication Port	USB
Weight	490 grams
Dimensions	61 x 50 x 185 mm (approximately 2.4 x 2.0 x 7.3 inches)

System requirements for TECHKON software:

Microsoft Windows 10 or 11; 32- and 64-bit, minimum: IBM-compatible PC with i5 processor or comparable processor, 4 GB RAM, 2 USB ports

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