

TECHKON
Perfect Color Made Easy



TECHKON SpectroPlate



TECHKON SpectroPlate – Plate Measurement Device

Fast and precise printing plate measurement

Why measurement on printing plates?

Today in the age of computer-to-plate and high-resolution printing plates, quality control in prepress is critical to quality print. Accurate measurement of correct dot transfer on offset printing plates is a key segment of comprehensive process control in the printing industry.

Measurement is accurate only when the appropriate measurement technology is applied. Years ago, the use of densitometers on printing plates was common practice. However, densitometers are designed for measuring printed paper substrate, leading to limitations when reading plates.

At present, plate measurement devices based on microscopic image capture and processing are the established standard. TECHKON SpectroPlate combines all the 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. 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 high resolution image capture quality and the internal graphic calculations, SpectroPlate can read any screen size and screen technology accurately: FM, AM or Hybrid screen. The spectrally white illumination and dynamic color evaluation permits reading of all kinds of plate types and coated surfaces.

In addition to plate reading, SpectroPlate also handles dot measurements on film and on printed paper in CMYK print.

Portable Microscope

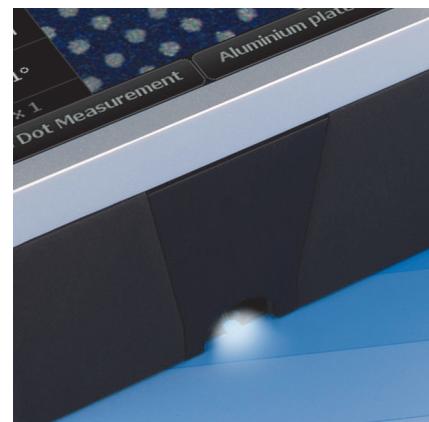
SpectroPlate allows you to see things that are normally hidden from the human eye. The large device display clearly shows the raster dots on film or on a printing plate at large magnification. This allows you to visually judge printing plates and inspect for any soiling or exposure errors.

An additional widely-used feature is image transfer of uncompressed high-resolution files to a PC, where the files can be saved, edited, and exported. The geometric shape and size of dots or lines can be captured in micrometers or millimeters, matching the dimensions required.

SpectroConnect Software

The included Windows-based software, TECHKON SpectroConnect pairs the device to a PC. Measurement values and transfer curves can be displayed and stored. Displaying comparisons to target

values, exporting data to Microsoft Excel™, and compatibility to RIP applications, are additional useful. And lastly, the most useful feature is the enlarged view of your microscopic image targets.



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. 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.

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 chemistry-low, process-low plates with very low visible contrast

Software ▪ TECHKON SpectroConnect requires Windows 7, 8 or 10

Contents ▪ SpectroPlate Measurement device ▪ 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

Specifications

Measurement technology	High-precision optical system with high resolution digital camera and digital image processing	Memory	100 data sets (only Expert and All-Vision)
Image capture	1024 x 1024 pixels, 16 million colors, RGB uncompressed	Repeatability	± 0.5 %
Measurement aperture	1 x 1 mm, direct positioning with viewfinder, real-time image preview captured in LC graphic device display	Display	Color LC backlight display, anti-reflective, 320 x 240 pixels
Light source	Homogeneous spectral-broadband LED illumination	Power supply	Rechargeable LiFePO4 battery, regulated recharge via charging console with AC adapter, 100 – 240 V, 47 – 63 Hz, approx. 10000 measurements per battery charge, battery level control
Measurement time	Approximately 1 second per measurement	Communication Port	USB
Calibration	Factory-made calibrated permanently, white standard in charging console	Weight	490 grams
Measurement range dot %	0.0 – 100.0 %	Dimensions	61 x 50 x 185 mm (approximately 2.4 x 2.0 x 7.3 inches)
Screen ruling range	AM: 30 – 150 l/cm, 75 – 380 lpi; FM: 10 – 70 microns	System requirements for TECHKON software:	
Measurable media	Offset printing plates – CtP and conventional, film in transmission and reflection, printed paper CMYK		Windows 7, 8 or 10; 32- and 64-bit, minimum: IBM-compatible PC with Intel Core Duo processor or comparable processor, 4 GB RAM, 2 USB ports