



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 im-

age 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 SpectroConnect

The supplied Windows software TECHKON Spectro Connect connects the device to a PC. Measured values and transfer curves are displayed and stored. The display of comparisons to target values, the data export to Microsoft Excel™ and the compatibility to RIP-applications are additionally useful functions of SpectroConnect. An exceptional feature is the enlarged view of the microscopic images.



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 ■ 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

Specifications

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| 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 |

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| 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, approx. 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:
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