



**Digital MicroScope
TECHKON SpectroPlate**

**SPECTRO
SP LATE**

Printing plate measurement right on the spot



TECHKON®

10 reasons for perfect printing plates:

1. versatile

- accurate measurements on all popular offset plates
- for AM, FM, Hybrid, from low- to high-res screening
- measures film in reflection and transmission
- can be used as „Digital Microscope“
- measurement on CMYK-print
- with digital ruler

6. verifiable

- devices are factory-made calibrated permanently to accredited reference FMB from renown research institute fogra
- calibration values can be easily checked and re-calibrated to other FMB references

7. expandable

- upgrade from Start- to Expert-version via firmware upload from the PC
- devices flexible for firmware updates via PC within seconds

8. beautiful

- aesthetically appealing and ergonomic, functional design
- lightweight and compact, fits like a glove
- large, ideally positioned measurement button for practical one-hand operation

9. user friendly

- operation self explanatory
- several menu languages selectable
- all measurement functions quickly accessible

10. communicative

- USB port for the speedy transfer of measurement data to the PC
- comprehensive software SpectroPlate Connect included

2. fast

- measurement time only 1 second !
- recording of complete transfer curves
- direct, secure positioning on the sample
- no time consuming calibration necessary
- immediately ready to use after switching on

3. accurate

- high-resolution CMOS color matrix sensor
- high precision optical system „Made in Germany“
- homogeneous, spectral-broadband LED illumination
- highest absolute accuracy thanks to direct reference to absolute standard fogra Measuring Bar FMB
- sophisticated image calculation and powerful signal processing

4. independent

- mobile, portable unit; also for remote use without PC
- large, high resolution and high contrast LCD graphic display
- quickly rechargeable high-capacity batteries; with charging console
- Measured data can be transferred to PC

5. durable

- solid, rugged design; works well in harsh industrial environments
- no mechanically moving parts; therefore no wear and tear, i.e. maintenance free
- Use of eco-friendly, long-lasting components meeting the environment and safety regulations



Our four guidelines for perfect measurement technology

The new SpectroPlate series and all other TECHKON products are the result of many years of expertise in designing and manufacturing high-quality measurement devices for the printing industry.

1. easy and quick operation
2. high measurement accuracy
3. robust engineering and reliability
4. ergonomic and functional design

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 display.

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.

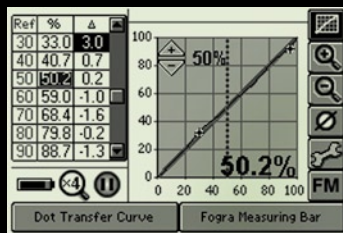
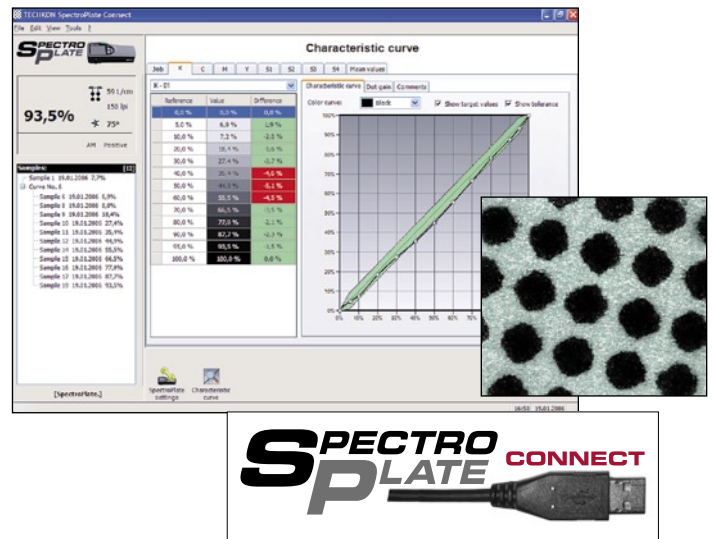
Portable Microscope

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.

SpectroPlate Connect

The supplied Windows software 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 SpectroPlate Connect. An exceptional feature is the enlarged view of the microscopic images.



Direct and secure positioning on the sample thanks to the visible measurement aperture and the realtime video preview.

Can be practically used as digital microscope and electronic ruler.

Entire dot transfer curves within seconds: Just measure the patches of a control wedge. The resulting curve is shown directly on the display.

All measurement data can be transferred to the PC for linearizing a RIP powered plate processor.

SpectroDens and SpectroPlate

An unbeatable team! For each application the right measurement tool. Densitometric and colorimetric values on printed matter by using SpectroDens and geometric dot information on printing plates with SpectroPlate.

The maintenance free measurement device is shipped with extensive accessories. It is ready to measure right out of the box:

Just place the device on the printing plate. Press the green button... Ready!

Specifications

SPECTRO PLATE

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, realtime image preview captured in LCD graphic device display

Light source

homogeneous spectral-broadband LED illumination

Measurement time

approx. 1 second per measurement

Calibration

factory-made calibrated permanently to fogra Measuring Bar FMB, white standard in charging console

Measurement range Dot %

0.0 - 100.0 %

Screen ruling range

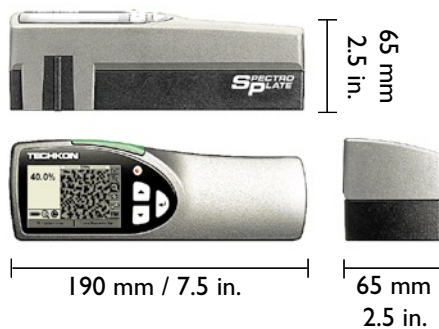
AM: 30 - 150 l/cm
75 - 380 lpi
FM: 10 - 70 microns

Measureable media

Offset printing plates, CtP and conventional, Film in transmission and reflection, Printed paper CMYK

Memory

100 data sets
(only Expert- and All-Vision-version)



Repeatability

+/- 0,5 %

Display

high-contrast LCD graphic display, 240 x 160 pixels, 16 gray levels, contrast ratio adjustable

Power supply

rechargeable Ni-MH battery, controlled recharge via charging console with AC adapter, 100 - 240 V, 47- 63 Hz, approx. 10.000 measurements per battery charge, battery level control

Communication Port

USB

Weight

530 g (1.2 lbs)

Software SpectroPlate Connect

runs with Microsoft Windows 2000/XP

Contents

Measurement device, Charging console with white standard, AC-adapter with universal plugs, Carrying case, USB cable, CD with Software SpectroPlate Connect, Manual with ISO 9000 certificate

Functions

SpectroPlate is available in three different types of performance packages:

The entry-level model **Start** is 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 features supplementary the measurement of processless, low-contrast printing plates.

SpectroPlate Start

- % Dot Percentage
- Screen angle in °
- Screen frequency in l/cm and lpi

SpectroPlate Expert

same as „Start“ and additionally:

- dot % transfer curve
- dot gain transfer curve
- geometric analysis
- memory for 100 data sets

SpectroPlate All-Vision

same as „Expert“ and additionally:

- measurement of chemistry-free, processless 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 be connected to the Windows-Software **SpectroPlate Connect** which is included in the package.

All devices are factory-calibrated to the official reference fogra Measuring Bar FMB resulting in high long-term absolute accuracy and an excellent inter-instrument agreement. Additionally, time-consuming calibration procedures prior to measurements are obsolete.

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Download current program versions for the measurement instruments. Or simply order your personal test device !



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Measurement technology on the highest level