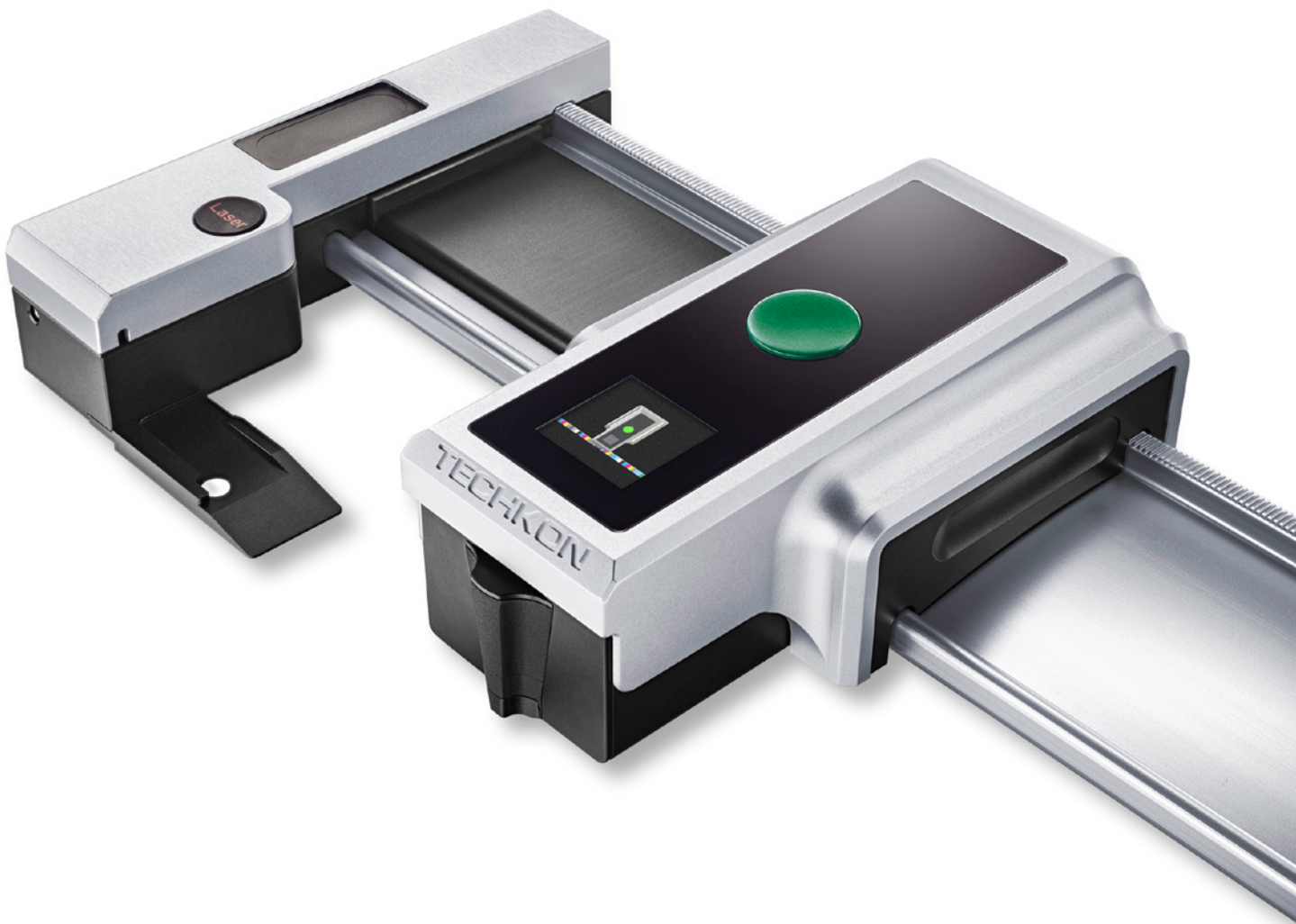


TECHKON
Erfolg ist messbar



TECHKON SpectroDrive



TECHKON SpectroDrive – Scan-Measurement System

Quality on the fast track

High quality and productivity

The new generation of the proven Scan-Measurement System TECHKON SpectroDrive combines decisive advantages: Precise measurements thanks to an ISO-compliant measuring head, technical reliability and high measurement speed. It can be fully integrated into the printing process. The result: a productivity and quality boost for your printing press.

The system consists of two components: The motorized measurement device scans the complete color bar on a printed sheet within seconds and simultaneously sends the spectral measurement data wirelessly to the PC. Here all relevant information for controlling the printing press is clearly displayed by the TECHKON ExPresso 5 software.

Increase profitability

Due to the trend of smaller print jobs and shorter press runs the time from starting a press to getting it "in color" and running with consistent quality is cost critical. SpectroDrive reduces this "non-productive" and therefore expensive set-up time dramatically. You will increase profitability thanks to substantially reducing paper and ink waste and getting more precious time out of your printing press. The system makes your printing jobs predictable and calculable. In addition, the complaint rate will

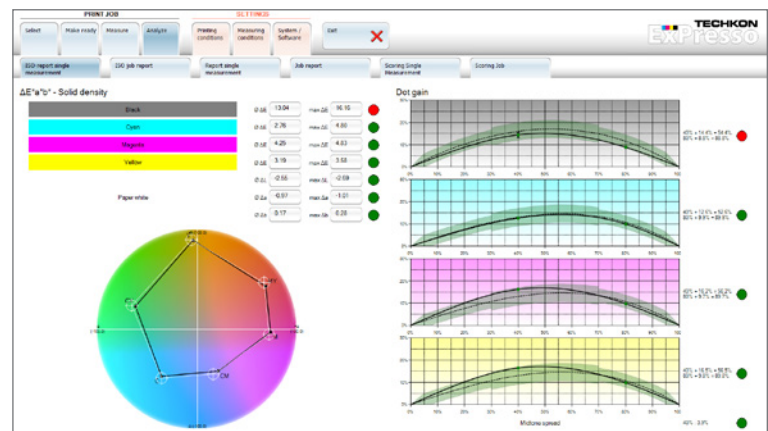
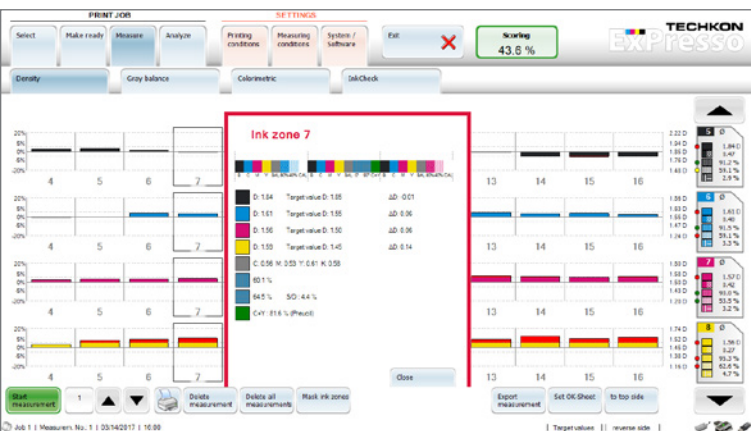
go down significantly and your customers will appreciate the sensible gain and reliability of the print quality. ISO-compliant printing becomes easier than ever before.

The high rate of return of investment is amazing. The relative low – and only one time – investment will show in recurring profits almost immediately. Also older printing presses get a productivity boost thanks to SpectroDrive.

Ease of use and high speed measurement

Setting up a printing press can be compared with starting a jet plane. It is a time-critical process, where the press operator – like a pilot – must observe and perform a multitude of important tasks at the same time. Hence, during the development of SpectroDrive great care was taken in delivering a system that is easy to use and fast, to make working with SpectroDrive even more intuitive and convenient.

For example, a laser beam can be activated to support the exact positioning of the print control strip. Furthermore the measurement device has only one button to start the measurement process. Installation is simple as well. After a few minutes the system is operable and ready to take measurements. Due to its aluminum unibody case the new SpectroDrive is particularly robust and reliable. Of course SpectroDrive is able to handle



variable scan lengths and fits to any printing press format. The battery charging is inductive, fast and sustainable.

Two measurement systems in one

This statement relates not only to the technical fact that the spectral measurements allow displaying densitometric and colorimetric data. It also points out that SpectroDrive can be used as a scanning device as well as a hand-held instrument for single measurements. Just take the device from the horizontal track and position it wherever you want to take a color measurement. SpectroDrive now also features an integrated display that shows the measurement values of spot measurements directly at the device.

Software TECHKON ExPresso 5

TECHKON SpectroDrive scans print control strips on printing sheets in seconds, making it the ideal quality control solution for high-speed packaging printing.

The trend towards smaller print runs, shorter delivery times and consistent color quality must be taken into account today by print service providers and packaging manufacturers in order to gain a competitive advantage. Shortening set-up times and avoiding mistakes and rejects are crucial for a satisfactory profitability. With simple hand-held measuring instruments one is often overwhelmed with these high demands.

By using the new generation of scanning color measuring devices in the quality control process directly at the press, print service providers and packaging manufacturers can guarantee reliable color control, with shorter makeready times and less waste.

The SpectroDrive measurement results are displayed directly on the screen using the TECHKON ExPresso 5 software, allowing printers to make corrections immediately, even before color deviations can be seen with the eye. All color measurements are made in less than 10 seconds up to 105 cm sheet width.

The self-explaining Windows software TECHKON ExPresso 5 is quick and easy to use via its touch-screen user interface and now supports 16 languages for easier operation.

The program supports printing machines of all manufacturers up to a sheet size of 206 cm (80 inch) sheet width. Any print control strip with equal patch width can be used. An integrated print control strip editor allows the support of customer-specific control elements.

Process colors, special colors such as PANTONE®, substrate, dot gain, gray balance and density values are measured and immediately displayed clearly in ink zone specific diagrams.

The range of functions of the TECHKON ExPresso 5 software includes the measurement of spot colors, display of up to 16 printing units, front-side and reverse printing, evaluation according to color density, colorimetry, gray balance and calculation of the density adjustment for the lowest delta E.

The program supports key industry standards, including optical brightener M1, M3 for wet ink densities as well as ISO 12647, PSO, IDEAlliance G7, GRACoL and SWOP 2013.

The evaluation module can be used to create and print quality reports according to ISO 12647 or customer-specific standards. For a quick assessment of the entire order at a glance, a scoring with its own definition of priorities and weighting is available. Furthermore the program now supports 16 languages for easy operation and offers touch-screen support.

All color references are managed in the color library of the software. Importing CxF3 color data is quick and easy. All job data including OK sheets are automatically stored in the integrated database, making setting up of repeat jobs a snap, allowing set up of new jobs within seconds.

This is just an excerpt from a list that documents the performance of the entire system. Thanks to its modularity, the software can be upgraded for further applications.



Versions and functions

The scan-measurement device SpectroDrive and the Windows software ExPresso 5 form a complete quality control system for increasing productivity and quality of a printing press. There are two different packages available. A post-purchase software upgrade from SpectroDrive **Basic** to the **Pro** version can be done easily.

SpectroDrive + Software ExPresso 5 Basic

Consists of the spectral-measurement device SpectroDrive and the Windows software TECHKON ExPresso 5 Basic with the following functions:

▪ Ink zone specific density display ▪ Color density for CMYK and spot colors (spectral density) ▪ Densitometric gray balance ▪ Dot area ▪ Dot gain ▪ Printing contrast ▪ Slur/doubling value ▪ Target values and tolerances ▪ OK-sheet ▪ Front-side and reverse printing ▪ Works with any sheet format and color bar length ▪ Display of single measurements when used as a hand-held device ▪ Measurement data export (e.g. JDF format) ▪ Statistical analysis and report ▪ Supports up to 6 printing units

SpectroDrive + Software ExPresso 5 Pro

Same functions as the Basic package and additionally:

▪ Ink zone specific colorimetric CIE $L^*a^*b^*$ and $\Delta E^*a^*b^*$ display ▪ $\Delta L^*a^*b^*$ ▪ CIE $L^*C^*h^*$ ▪ $\Delta L^*C^*h^*$ ▪ InkCheck: recommendation for ink key setting ▪ Display and evaluation according to ISO 12647 (PSO) ▪ GrayGuide (gray balance) according to Gracol G7™ ▪ OBA-Check ▪ Supports up to 16 printing units

Software

▪ TECHKON ExPresso 5; delivered on data media with software protection key (USB dongle), with print control strip TCS Digital System requirements: Microsoft Windows 10 or higher; 64-bit, minimum: IBM-compatible PC with Intel i5 or comparable processor, 8 GB better 16 GB RAM, SSD Harddisk, 2 USB ports; screen resolution minimum 1.400 x 900 pixel

Contents

▪ Measurement device SpectroDrive ▪ Charging console with integrated white standard ▪ AC adapter with universal plugs ▪ Horizontal track with holder ▪ 2 vertical bars ▪ WLAN module for wireless data transmission ▪ USB cable ▪ Manual with ISO 9000 compliant certificate (pdf on data media) ▪ Manufacturer certificate ▪ Screwdriver ▪ 4 screws ▪ Optional: data media with software ExPresso 5, USB dongle

Optional accessories

▪ Color reference TECHKON SpectroCheck

Specifications

Measurement geometry	0°: 45° optics according to ISO 5-4
Spectral range	400 to 700 nm in 10 nm steps, spectral resolution 10 nm, pixel distance sensor < 3 nm
Measurement aperture	1.5 mm, appropriate for measuring patches with at least 3 x 3 mm (h x w)
Light source	LED, provides measurement conditions M0, M1, M2, M3 according to ISO 13655
Polarization filter	Twice linear crossed, switched on and off per software command
Measurement time	Approx. 160 mm/s for 4 mm patches (equals approx. 3 seconds for 520 mm sheet length), single measurement approx. 1 second (if SpectroDrive is used as hand-held device)
White reference	Absolute and relative; absolute white standard integrated in charging console
Illumination types	A, C, D50, D65, F 2/7/11
Standard observer	2°, 10°
Density filter	ISO/ANSI T, ISO/ANSI I, ISO E; spectral density Dmax
Density measurement range	0.00 – 2.50 D
Formats	52 (20") for sheet format 00 (B3+, 370 x 520 mm); 74 (28") for sheet format 0B (B2+, 520 x 740 mm); 102 (40") for sheet format 3B (B1+, 720 x 1020 mm); 105 (42") for sheet format 3B+ (B1+, 780 x 1050 mm); special formats (up to 2060 mm) on request
Repeatability	0.01 D; 0.03 CIE $\Delta E^*a^*b^*$
Inter-instrument agreement	0.01 D; 0.3 CIE $\Delta E^*a^*b^*$
Display single measurement	Color-OLED, 128 x 128 pixel
Data transmission	WLAN module for wireless data transmission with PC-sided USB connection
Power supply	LiFePO4 battery, regulated recharge via charging console with AC adapter, 100 – 240 V, 47 – 63 Hz
Weight	Measurement device: 925 grams
Dimensions	Measurement device: 59 x 96 x 170 mm (approx. 2.3 x 3.8 x 6.7 inches)

System requirements for TECHKON software: Microsoft Windows 10 or higher; 64-bit, minimum: IBM-compatible PC with Intel i5 or comparable processor, 8 GB better 16 GB RAM, SSD Harddisk, 2 USB ports; screen resolution for TECHKON ExPresso 5: minimum 1.400 x 900 pixel