Automated ISO Brightness & Color

The Technidyne PROFILE/Plus ColorTouch measures the following optical properties according to industry standards:

- *Color*
- *Opacity*
- *ERIC 950**
- *Whiteness*
- *ISO Brightness*
- *Color Difference*

✛ **Brightness evaluation**

✛ **High resolution spectrometer**

✛ **Stored reference standards**

✛ **Internal calibration routine**

✛ **Pulsed Xenon flash lamp**

✛ **Exact conformance with ISO Optical Standards**

✛ **Effective Residual Ink Concentration (ERIC*)**

✛ **Innovative Sample Backing Wheel**

✛ **Certificate of Calibration**

✛ **PROFILE/Plus Automated Testing System Ready**

Features

Exact Conformance with ISO Optical Standards
The International Organization for Standardization, ISO, has established a series of standards to be followed when evaluating the optical characteristics of paper products. The PROFILE/Plus ColorTouch is in exact conformance with ISO 2469 and 2470 for the measurement of ISO Brightness.

High Resolution Spectrometer
Designed to be in exact compliance with ISO Optical Standards, the PROFILE/Plus ColorTouch utilizes the same optical design, spectral detectors and analyzers as Technidyne's other spectrophotometers, the ColorTouch 2 and the ColorTouch PC.

Stored Reference Standards
Samples may be measured under two ISO calibrated sources - C (ISO Brightness), D65 (outdoor daylight), and UV-EX (no uv energy). Once calibration of these sources is completed the instrument stores all settings so that calibration can be accomplished internally each time a different source is selected. Spectral data measurements can be made with and without fluorescence excitation. This allows complete analysis of the optical brightener's impact on the samples brightness, whiteness and color shift.

Internal Calibration Routine
Technidyne provides a disk which contains all the calibration data required for the instrument. All the operator needs to do is select the calibration function and follow the directions presented on the screen. The operator is not required to enter any data, which eliminates errors in data entry.

Pulsed Xenon Lamp
The PROFILE/Plus Color Touch uses the latest technology for sample illumination. This pulsed xenon lamp has an expected life of over 1 million measurements, which ensures excellent stability.

Innovative Sample Backing Wheel
The innovative sample backing wheel can accommodate a total of 6 different backings which are stored in the software. This allows the system to automatically recall the proper backing for the particular grade of paper being measured.

Certificate of Calibration
Certificate of Calibration traceability to the ISO level III calibration is provided with each PROFILE/Plus ColorTouch. This helps to ensure compliance with quality systems and norms.

Effective Residual Ink Concentration ERIC* (Optional)*
By converting the infrared reflectance measurement of paper to a coefficient for light absorption, ERIC technology provides a control parameter specifically to measure the residual ink content of secondary fiber.

Economic Benefits – Lowering Costs and Saving Money

Exact conformance with ISO Optical Standards ensures that the PROFILE/Plus ColorTouch will provide precise and accurate measurement data. This means that optical properties of the sheet can be controlled more closely thereby saving money on chemical addition and reduction of culled paper.

Effective Residual Ink Concentration (ERIC) is an optional measurement for PROFILE/Plus ColorTouch. It provides valuable information to more easily control deinking processes to lower the cost of chemical addition.

The innovative sample backing wheel allows the use of different backings in order to conform exactly to industry standards. This reduces testing time and ensures correct measurements for controlling the process and reducing costs.

Internal calibration routine means that the PROFILE/Plus ColorTouch has a calibration process which optimizes instrument functions to reduce labor costs. The **swing-in standard** helps extend the time between primary calibrations and improves repeatability and reproducibility. This helps to lower operating costs and ensure accurate and reliable data.

A **Pulsed Xenon flash lamp** is used for sample illumination in the PROFILE/Plus ColorTouch. Each one has an expected life of over 1 million measurements to keep replacement costs low and ensure stability. The PROFILE/Plus ColorTouch **measures multiple properties simultaneously** thus speeding up data collection and optimizing testing resources to save time and money.

PROFILE/Plus Automated Test System

PROFILE/Plus is a unique building block approach to automated testing. Each PROFILE/Plus instrument is a standalone instrument that can be easily placed in line with other PROFILE/Plus instruments to operate as an automated test system. This one of a kind versatility allows you the flexibility to build an automated test system that can be established over time or all at once. In addition as your testing needs change, the versatility of the PROFILE/Plus provides the flexibility to modify the testing sequence or move other test in to or out of the system. PROFILE/Plus puts you in charge of your automated testing program. In today's ever changing markets, having a testing program that can adapt, is key to long term viability.

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Specifications and Technical Data

The PROFILE/Plus ColorTouch conforms but is not limited to, the following industry standards:

- ✚ ISO 2469   Measurement of Diffuse Reflectance Factor
- ✚ ISO 2470   Measurement of Diffuse Blue Reflectance Factor
- ✚ ISO 2471   Determination of Opacity, Diffuse Reflectance Factor
- ✚ ISO 3688   Pulps-Measurement of Diffuse Blue Reflectance Factor
- ✚ ISO 11475 Determination of CIE Whiteness, D65/10º
- ✚ ISO 11476 Determination of CIE Whiteness, C/2º
- ✚ ISO 5631   Determination of Color (C/2º)

- ✚ CD or MD profile strips

- ✚ Single sheet samples (automatically)
  - o A3, A4, and 8½" x 11"

- ✚ Handsheets

- ✚ Thickness Range – 25 to 1000 µm

- ✚ Grammage Range - 15 to 600 g/m²

- ✚ Weight –
  - o 75 lb
  - o 34 kg

- ✚ Dimensions –
  - o Height = 26" (66 cm)
  - o Depth = 18" (46 cm)
  - o Width = 10 ½" (26.7cm)

- ✚ Voltage/Frequency -
  - o 100-130 VAC/49-61 Hz
  - o 210-250 VAC/49-61 Hz

- ✚ Air -
  - o 30 - 40 psi
  - o 205 - 275 Kpa

Results:

Most common Color Spaces (Lab, L*a*b*, L*C*h, etc.)

10 illuminant conditions (A, B, C, D50, D55, D65, D75, F2, F7, F11)

Brightness (ISO, D65, Uvex) Whiteness (CIE, Hunter) Color Difference Opacity ERIC*

Measurement completed in seconds!

Conforms to industry standards

Multiple measurement, averaging, statistics and trending capabilities

Average, Maximum Test Value, Minimum Test Value and Standard Deviation

Tabular and Graphical display of results