



# Brightness and Color spectrophotometer

## ColorTouch®X 45

The ColorTouch®X 45 - the only directional 45°/0° TAPPI Brightness and Color spectrophotometer designed specifically for the pulp and paper industry.

Since the beginning of Technidyne we have been the primary provider of TAPPI directional Brightness and color instrumentation for the paper industry. With the introduction of the ColorTouch®X 45 Spectrophotometer we mark a new day for this measurement.

## Benefits

- Improved stability, especially on OBA containing grades
- Longer lamp life, meaning fewer lamp changes and lower operational cost
- Touchscreen interface provides simple testing sequences
- Quicker testing time, getting data to production sooner
- Full spectral data (360-780nm) for detailed analysis
- Enhanced result screens provide statistical data, trending and other functions
- Capable of measuring the sample under multiple UV levels including UVex, QTH, C & D65
- Data export can be directly to the mill network, uploaded to a USB drive or printed
- Color Difference and data tolerancing

## Touchscreen Operation

- Load sample, initiate the test and the ColorTouch®X 45 does the rest
- Preprogrammed test routine to allow for easy setup and testing
- Does not require an external PC
- Automatic Calibration

## Advanced Data Analysis

- Trending data allows for tracking grades over several samples
- Compare multiple samples on various color plots
- Establish optical tolerances on grades for PASS/FAIL analysis

## Spectral Data Capabilities

- Spectrophotometric data for comprehensive understanding of dyes, fillers, OBA's and other colorants
- Greater accuracy of colorimetric data
- Thorough analysis of metameric color matches

## Pulsed Xenon Flash Lamp

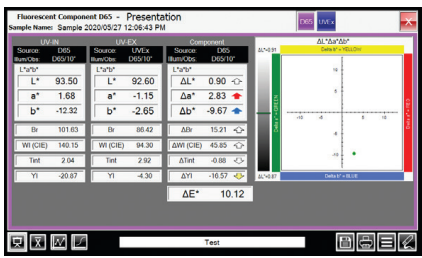
- Eliminates having to change the lamp every 3 months
- Adjustable UV energy to more effectively control OBA dosage

## Contact Details

**web.** [www.industrialphysics.com](http://www.industrialphysics.com)

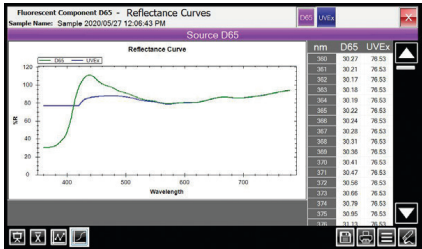
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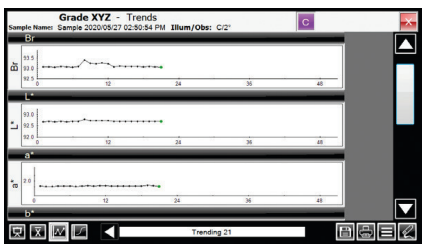
## Unmatched Fluorescence Control

The Technidyne ColorTouch<sup>®</sup> X 45 offers 3 UV included sources D65(UV Rich), C (ISO UV level) and QTH (TAPPI Brightness level) and 1 UV excluded source, providing the fluorescence evaluation sources needed to best control OBA dosage and maximize TAPPI Brightness values.



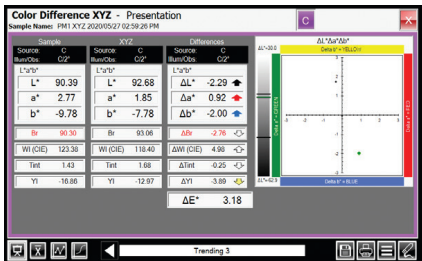
## Expanded Wavelength Range

The Technidyne ColorTouch<sup>®</sup> X 45 provides improved analysis of UV region and detailed color evaluation.



## Data Trending

The Technidyne ColorTouch<sup>®</sup> X 45 provides the trending capabilities to look at grade data of key optical measurements for up to 100 test.



## Pass/Fail Alerts

The Technidyne ColorTouch<sup>®</sup> X 45 allows you to input tolerancing data on Brightness and Color data so that the instrument automatically provides feedback on whether a product matches the production standard.



## Easy of Operation

At the heart of the ColorTouch<sup>®</sup> X 45 is an operator interface built to provide testers with predefined test operations to assure proper testing, while providing management the detail needed to make good decisions.

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## Technical Specification

|                                                    |                                                                                                        |                                        |                                                                                                                                                                                                                                                                         |
|----------------------------------------------------|--------------------------------------------------------------------------------------------------------|----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Industry Standardization</b>                    |                                                                                                        | <b>Quick Calibration</b>               | Yes - using supplied Working Standard                                                                                                                                                                                                                                   |
| <b>Paper/Tissue/Board</b>                          |                                                                                                        | <b>Automated Calibration (Primary)</b> | **Yes (Auto Data Entry via USB) (** When using Technidyne Laboratory Calibration Standards)                                                                                                                                                                             |
| <b>TAPPI Standards</b>                             | T452, T527, T524, T646, T562                                                                           | <b>Display</b>                         | 10.1 Color TFT 1024 x 600 WSVGA, PCT Multi Touch Screen                                                                                                                                                                                                                 |
| <b>Sample Types</b>                                | Letter, A4 Sheets, Sheeted Materials<br>Handsheets, Tissue, Towels<br>Powder/Minerals (pressed pellet) | <b>Hard Disk Drive</b>                 | 32GB Sata SSD                                                                                                                                                                                                                                                           |
| <b>Geometry</b>                                    | Directional 45°/0°                                                                                     | <b>Measurement Time</b>                | 4 to 10 seconds (measurement dependent)                                                                                                                                                                                                                                 |
| <b>Specimen Area Measured</b>                      | 9mm Diameter                                                                                           | <b>Measurement Results</b>             | Brightness (TAPPI)<br>Whiteness (CIE, Hunter, ASTM)<br>Yellowness (Hunter)<br>Tint (CIE, Hunter)<br>Color (XYZ/Rx,Ry,Rz/<br>L,a,b/L*,a*,b* /L*,C*,h/<br>DWL,PUR,x,y,Y)<br>Color Difference<br>Fluorescence<br>Metamarism<br>Spectral Data -<br>Wavelengths 360 to 780nm |
| <b>Specimen Aperture</b>                           | 13mm Diameter                                                                                          | <b>Reflectance Intervals</b>           | 1nm, 5nm, 10nm, 20nm                                                                                                                                                                                                                                                    |
| <b>Light Source</b>                                | Pulsed Xenon                                                                                           |                                        |                                                                                                                                                                                                                                                                         |
| <b>Lamp Life (# of measurements)</b>               | +500,000                                                                                               |                                        |                                                                                                                                                                                                                                                                         |
| <b>Detector</b>                                    | CCD 131,000 Pixels                                                                                     |                                        |                                                                                                                                                                                                                                                                         |
| <b>Spectrometer</b>                                | Dual Blaze grating                                                                                     |                                        |                                                                                                                                                                                                                                                                         |
| <b>Spectrometer Range</b>                          | 200 to 1050nm                                                                                          |                                        |                                                                                                                                                                                                                                                                         |
| <b>Bandpass</b>                                    | 5nm                                                                                                    |                                        |                                                                                                                                                                                                                                                                         |
| <b>Calibration</b>                                 | Traceable to NRC                                                                                       |                                        |                                                                                                                                                                                                                                                                         |
| <b>Measurement Range</b>                           | 0-200% (Reflectance)                                                                                   |                                        |                                                                                                                                                                                                                                                                         |
| <b>UV Sources</b>                                  | D65, C, QTH, UV-EX, *UV1 (* User Defined)                                                              |                                        |                                                                                                                                                                                                                                                                         |
| <b>Automatic UV Control</b>                        | Auto-adjustment to calibrated UV sources                                                               |                                        |                                                                                                                                                                                                                                                                         |
| <b>UV Filters</b>                                  | UV Trim 400nm / UV Cut-off 420nm                                                                       |                                        |                                                                                                                                                                                                                                                                         |
| <b>Observers</b>                                   | CIE 2°, 10°                                                                                            |                                        |                                                                                                                                                                                                                                                                         |
| <b>Illuminants</b>                                 | C, D65, A, B, D50, D55, D75, F2, F7,F11                                                                |                                        |                                                                                                                                                                                                                                                                         |
| <b>Photometric Nonlinearity</b>                    | 0.1%                                                                                                   |                                        |                                                                                                                                                                                                                                                                         |
| <b>Repeatability (white tile avg. 20 readings)</b> | 0.1%                                                                                                   |                                        |                                                                                                                                                                                                                                                                         |
| <b>Reproducibility (interinstrument)</b>           | <0.20 CIELAB DE                                                                                        |                                        |                                                                                                                                                                                                                                                                         |

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|                                            |                                                                                                         |
|--------------------------------------------|---------------------------------------------------------------------------------------------------------|
| <b>Statistics</b>                          | Average<br>Maximum Test Value<br>Minimum Test Value<br>Standard Deviation<br>Trending<br>Grade Tracking |
| <b>Data Views</b>                          | Tabular<br>Color Space Plots<br>Spectral Curves                                                         |
| <b>Pass/Fail Alerts</b>                    | Yes (User Defined Specifications)                                                                       |
| <b>Stored Standards</b>                    | Yes                                                                                                     |
| <b>Data Communications/<br/>Ports</b>      | XML,CSV,Serial /USB (4),<br>Ethernet, RS232<br>FTP Server Connection<br>Capability                      |
| <b>Automeasures</b>                        | Yes<br>(User Defined<br>Measurement Sequences)                                                          |
| <b>Remote Support</b>                      | Yes- via Embedded<br>Teamviewer                                                                         |
| <b>User Interface</b>                      | Embedded software w/<br>Touch, Scroll & Swipe                                                           |
| <b>Available APPS (Optional)</b>           | Correlation (Align Data with<br>Legacy Devices)                                                         |
| <b>Printer (Optional)</b>                  | Optional USB Printer<br>(Small Form factor thermal<br>printer)                                          |
| <b>Recommended Operating<br/>Temp.</b>     | 10-32° Celsius (50-90° F)                                                                               |
| <b>Power Consumption</b>                   | 200 watt max / 80 watts<br>passive                                                                      |
| <b>Voltage / Frequency<br/>Requirement</b> | 100 - 250VAC / 48-61 Hz                                                                                 |

## Weights & Dimensions

|                          |                 |
|--------------------------|-----------------|
| <b>Depth</b>             | 40cm (15.75in)  |
| <b>Width</b>             | 33.5cm (13.2in) |
| <b>Height</b>            | 61cm (24in)     |
| <b>Weight</b>            | 20.4kg (45lbs)  |
| <b>Country of Origin</b> | U.S.A.          |

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