

TS -3401

Liquid Color Spectrophotometer



Features :

The liquid colorimeter TS 3401 is a high-precision color analysis tool designed by 3nh for liquid colorimetry using innovative core technology. With a D/0 optical structure, full-band LED light source and a highperformance test system, the liquid colorimeter TS 3401 captures the transmitted color of a sample quickly and accurately, and analyzes its subtle chromaticity properties in depth.

Product characteristics :

Meet the standard :

The D/0 geometric optical structure can provide a more comprehensive chroma analysis to ensure that your products meet the quality standards :

GB/T 3978,GB/T 18833,GB 2893 ASTM D1003/1044,CIE No.15,ASTM E308,DIN5033 Teil7

High performance dual array sensor :

Equipped with high-performance silicon photodiode dual 40 array sensor to ensure measurement speed and accuracy, improve work efficiency.

Combined full spectrum LED light source

The combined full spectrum LED light source is used as the lighting source, covering the wavelength range of 360 ~ 780nm, ensuring the high stability of the test.

Excellent repeatability and difference between stations

The repetitive spectral transmittance was less than 0.05%. Chroma value within 0.015, the difference between the stations within 0.25, to ensure that the measurement results between multiple devices are highly consistent, for mass production of quality control escort.



Multivariate light source simulation

A range of International Lighting Commission approved standard light sources are built in to ensure that your products can accurately measure color under different light sources.

Chroma index is abundant

In addition to the commonly used Color index measurement, it can also provide color indicators such as transmittance, oil color scale (ASTMD1500), platinum cobalt index, Gardner Index, Saybolt (Sebert Index), pharmacopoeia (Pharmacopoeia, European Pharmacopoeia, US pharmacopoeia), EBC (beer color), ICUMSA Color (sugar color), etc. Meet the needs of diverse industries.

Intelligent zero calibration

Intelligent zero calibration technology is adopted to reduce the influence of external interference, adapt to different measurement environments, and ensure the accuracy and reliability of measurement data.

Powerful display and interaction capabilities

Equipped with 7-inch true color capacitive touch screen, large screen navigation operation, can display a variety of chroma indicators such as spectrum, color difference value/chart, color simulation and color deviation.



| | | | |
|--|--|--|--|
|  Touch screen operation |  Zero calibration |  10+ chroma index |  Computer extension |
| 1 Fast measurement, fast reading | 2 Accurate measurement and stable performance | 3 Rich content and powerful functions | 4 Friendly interface, simple and easy to use |

PC quality management software:

Connect instruments for more functional expansion

The upper computer software SQCX can connect the instrument through USB cable and Bluetooth, control the instrument for measurement, change the instrument configuration, and operate the instrument data. At the same time, it also greatly expands the function of the instrument to realize complex data management, color detection, report generation, etc. Facilitate customer customization and management

Analysis and management : By connecting SQCX software on PC, the instrument can analyze, copy, delete, modify, name and save the measured data.

Data printing : Compare color differences, generate test reports, and print out the data by connecting to a Bluetooth printer.





Mass storage : The measured data report can be uploaded to the cloud storage. Achieve mass data storage.

Share and pass : The generated test report can be shared and transmitted through a connected computer. Fast exchange of color information to speed up production time.

Optional accessories :

Meet the different measurement needs of customers

This product is equipped with a variety of accessories; Such as micro printer, 30mm colorimetric dish, 100mm colorimetric dish, etc., to meet customer measurement needs.

| Material number | name | picture |
|------------------|--|---|
| 3002.001.27.0008 | 30mm cuvette |  |
| 3002.001.27.0010 | 100mm cuvette |  |
| 3001.609.01.0020 | Microprinter |  |
| / | Microhole (4mm) transmission test mixture assembly |  |

Application field:

The instrument is widely used in various solvents, drugs, petroleum, industrial oil, cosmetics, food and beverage and other fields. Colorimetric analysis and transmittance testing are also widely used in glass processing, plastic processing, film, display processing, packaging industry, liquid and pharmaceutical analysis and other industries.



| | | | | |
|-------------|---------|-----------|-------------------|--------------------|
| Liquid drug | solvent | cosmetics | Food and beverage | Plastic processing |
|-------------|---------|-----------|-------------------|--------------------|

Product parameter :

| | |
|---------------------------------|--|
| Model number | TS 3401 |
| Lighting mode | Transmission: D/0 (diffuse illumination, reception at 0°).Approximate CIE No.15 stipulates 0/0 (parallel light illumination/receiving in 0° direction).Standard:ASTM D1003/1044,CIE No.15,GB/T 3978,GB 2893,GB/T 18833,ASTM E308,DIN5033 Teil7 |
| Characteristic | National standard pharmacopoeia color measurement, glass processing, plastic processing, Im, display processing, packaging industry,liquid pharmaceutical analysis and other industries colorimetric analysis, transmittance test are widely used |
| Integrating Sphere Size | Φ40mm |
| Lighting source | Combined full spectrum LED light source |
| Spectroscopic method | Planar grating spectroscopy |
| Sensor | Silicon photodiode array (double row 40 groups) |
| Wavelength Range | 360~780nm |
| Wavelength Interval | 10nm |
| Semiband Width | 10nm |
| Transmittance measurement range | 0~200% |
| Color Space | CIE LAB,XYZ,Yxy,LCh,CIE LUV,Musell,s-RGB,HunterLab,*xy,DIN Lab99 ,CMYK(The above part is realized by the upper computer) |
| Color Difference Formula | ΔE^*_{ab} , ΔE^*_{uv} , ΔE^*_{94} , $\Delta E^*_{cmc(2:1)}$, ΔE^*_{00} , $DIN\Delta E^*_{99}$, $\Delta E^*_{(Hunter)}$, ΔE^*_{CH} |
| Other Colorimetric Index | The transmittance T, WI (ASTM E313, CIE/ISO, AATCC, Hunter, Taube, Berger, Stensby)YI (ASTM D1925, ASTM 313),TI(ASTM E313, CIE/ISO), isochromatic index Mt, color fastness, color changing fastness, absorbance,APHA/Hazen/Pt-Co (platinum-cobalt index), Gardner Index, iron-Cobalt index, Saybolt (Seibert Index),ASTM D1500 Color scale, Pharmacopoeia(Chinese Pharmacopoeia, European Pharmacopoeia, American Pharmacopoeia),EBC (Beer color), ICUMSA Color(sugar color) |
| Observer Angle | 2°/10° |
| Illuminant | D65,A,C,D50,D55,D75,F1,F2,F3,F4,F5,F6,F7,F8,F9,F10,F11,F12,CWF,DLF,TL83,TL84,TPL5,U30,B,U35,NBF,ID50,ID65,LED-B1,LEDB2,LED-B3,LED-B4,LED-B5,LED-BH1,LED-RGB1,LED-V1,LED-V2,LED-C2,LED-C3,LED-C5(41 light sources in total,part achieved via software in PC) |
| Displayed Data | Spectrogram/Values, Samples Chromaticity Values, Color Difference Values/Graph, PASS/FAIL Result, Color Simulation, Color Offset |
| Measuring Time | Fast mode approx. 0.8s |
| Repeatability | Spectral transmittance: standard deviation within 0.05% (360~780nm: within 0.04%);Chroma value: within ΔE^*_{ab} 0.015 (after preheating correction, measured at an interval of 5S); |
| Inter-instrument Error | $\Delta E^*_{ab} \leq 0.25$ |
| Dimension | L*W*H=370X300X200mm |
| Weight | Approx.9.6kg |
| Power | AC 24V, 3A Power adapter power supply |
| Illuminant Life Span | 5 years, more than 3 million times measurements |
| Display | 7-inch TFT color LCD, capacitive touch screen |
| Data Port | USB, print serial port |
| Data Storage | 1000 standards, 10000 samples; Host computer mass storage |
| Special function | Intelligent zero calibration |
| Language | Simplified Chinese, Traditional Chinese,English |
| Operating Environment | 0~40°C32~104°F |
| Storage Environment | |
| Standard Accessory | -20Power adapter, manual, quality management software (download from official website), data cable, transmission blackboard, 10mm cuvette, 50mm cuvette, 50mm cuvette fixture~50°C-4~122°F |
| Optional Accessory | Microprinter, Microhole (4mm) transmission test xture assembly, 30mm cuvette, 100mm cuvette50°C-4~122°F |

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Trainings :We also take up preventive Maintenance to reduce downtime of HPLC's Trainings.

AMC's/CMC :AMC's/CMC :We offer user training both in-House and at customer sites on HPLC principles, operations, trouble-shooting.

Validations :Validations :We have protocols for carrying out periodic Validations as per GLP/GMP/USFDA norms.

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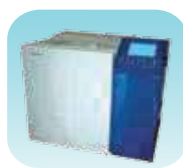
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