Lovibond® Colour Measurement

Tintometer® Group

Lovibond® RT 300, 400, 500 Series

Portable Spectrophotometers

Opaque Samples, Semi Solids & Translucent Liquids

- √ Lightweight, compact, portable instruments
- √ Diffuse/8º sphere or 0º/45º optical geometry
- √ Large, easy-to-read graphical LCD display
- √ Opacity and colour strength measurement
- √ Flip-back target shoe for flexible use
- √ Rugged construction
- √ Rechargeable battery for remote use

Lovibond® RT300-400-500 Portable Spectrophotometers

Measuring Functions and Indices

The Lovibond® RT300 - 400 - 500 series of versatile, portable spectrophotometers is designed to give fast, precise and accurate colour measurement information on a range of products. They provide absolute and difference measurements in various colorimetric systems including CIE XYZ, CIE Yxy, CIE L*a*b*, Hunter LAB (RT300 & RT500 - not supported on RT400), CIE L*c*h, CMC and CIE 94, whiteness and yellowness per ASTM E313-98, metamerism Index and DIN 6172.

Flexible Measurement Modes

The RT300 - 400 - 500 series stores up to 1024 standards with tolerances for easy pass/fail measurement. A red/green LED-illuminated indicator and the LCD display provide visual confirmation of results. A tone also sounds to indicate a fail result. To allow the operator to take quality-control readings in a time-efficient manner without having to create tolerances or store data, it is also possible to take a quick measurement and comparison of two colours.

Special 'PROJECT Mode' (RT300 & 500)

Each project maintains a group of standards from which the instrument selects the closest colour for comparison with measured samples. The projects mode helps to organise standards eg a project can represent a customer that has several standard colours for a particular product line.

Opacity, Colour Strength and Shade Sorting

The RT300 - 400 - 500 can measure opacity as well as three colour strength options: chromatic, apparent and tristimulus calculations. They also perform 555 shade sorting. These are important considerations in the colour quality control of manufactured products involving plastic, painted or textile materials.

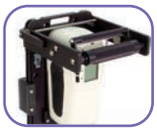
Texture and Gloss Influence (RT400 & 500)

To determine the influence of the specular component, the RT400 and RT500 allow simultaneous measurement of both specular component included (colour) and specular component excluded (appearance).

User-Friendly Ergonomics

In addition to on-board programmes to assist the operator in the data collection process, the instruments themselves are highly user-friendly. They are compact and lightweight. A wrist strap and tactile side grips make them easy to hold. Read-outs are large and easy to see. A rechargeable battery pack allows extended operation of the instrument.

Sample Adapters for Standardised Sample Presentation



Benchtop Stand

Designed to hold the instrument and sample steady, ensuring accurate and repeatable measurements. It holds the instrument in an upright position for vertical sample measurement or in an upside-down position for horizontal measurement.

'Liquid' Cell Holder

Suitable for liquids, powders and semi solids. It features a black chamber with a white ceramic backing that encloses the sample filled cell. When using the liquid cell holder we recommend that the instrument be held in a vertical position using the benchtop stand.

Powder Cell Holder

Suitable for liquids, powders and semi solids. It holds a circular cell, which is enclosed in a black chamber to prevent ambient light from affecting the measurement. We recommend that the instrument be held in an upside-down position using the benchtop stand.

Pellet Holder

Suitable for products in pellet or granular form. The holder slips over the shoes of the instrument, the sample reservoir can be closed to prevent spillage and the plunger provides pressure to hold the sample in place during measurement.

V-block Sample Holder

The V-block sample holder is designed to hold odd-shaped parts for measurement such as bottle preforms.

SPECIFICATIONS

Measuring geometry	RT300: 0º/ 45º; RT400 & 500: diffuse/8º sphere
Spectral response	400 - 700 nm
Bandwidth	10 nm measured; 10 nm output
Repeatability	RT300 & 400: rE^*_{ab} = 0.1 on white reference RT500: rE^*_{ab} = 0.05 on white reference
Measurement range	0 - 200% reflectance
Measurement area	RT300: 7 mm; RT400 & RT500: 8 mm
Measurement time	Approximately 2 seconds
Light Source	Gas-filled tungsten lamp
Illuminant	C, D50, D65, D75, A, F2, F7, F11 & F12
Observer	2º, 10º
Interface	RT400: RS232; RT300 & 500: interface to RT Colour Software via patented bi-directional RS232, 300 - 57600 baud
Data Storage	1024 standards with tolerances, 2000 samples
Display	128 x 256 pixel in-built graphic LCD
Lamp Life	Approx. 500,000 measurements
Power Supply	Removable (Ni-metal hydride) battery
AC adapter requirements	90 - 130VAC or 100 - 240VAC, 50 - 60Hz, 15W max
Charge time	Approx. 4 hours - 100% capacity
Measurements per charge	1000 measurements within 8-hour period
Dimensions	Height 109 mm, width 84 mm, length 196 mm
Weight	1.1 kg
Sphere (RT400 & RT500)	Spectralon® (a durable, highly reflective material that prevents premature degradation)

Accessories supplied

Calibration standards, operation manual, AC adapter, carrying case

Order Codes

400300	RT300: 0º/45º
400400	RT400: diffuse/8º sphere
400500	RT500: diffuse/8º sphere
400610	RT Colour Software (for RT300, RT500)
400620	Benchtop Stand
400630	Liquid Cell Holder (recommended for use with benchtop stand)
400640	Powder Cell Holder
400660	V-block Sample Holder
400680	Pellet Holder

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