

Lovibond[®] Colour Measurement Tintometer[®] Group



TRA 520 Spectrophotometer

Measure Liquids, Gels and Powders with the TRA (Adaptor) Series



- Not Everything is Flat, Not Everything is Solid
- Awkward Objects Can Be Difficult to Measure
- The TRA (Accessory) is a Precision Engineered Portable Docking Station for the TR Range of Handheld, Sphere, Versatile Spectrophotometers
- Provides a Light Controlled Environment for the Measurement of Liquids, Gels and Powders

Part Number: 403225

Precision Engineering

Designed specifically for the Lovibond[®] Spectrophotometers, the instruments fit tightly into the housing to avoid any ambient lighting entering the sample.

Accurate Measurements Every Time

Each TRA kit is supplied with a white background plate to ensure consistency of readings. Background colour is critical when measuring translucent or transparent samples.

Flexibility of Application

Supplied with 3 different optical glass cells (10mm, 20 and 30 mm path length), the TRAs support a wide variety of samples. Thicker and more viscous materials are easier to handle if the largest 30 mm cell is used. In other cases, a smaller volume of sample may only be available, hence the 10 mm cell.

TRA 520 Spectrophotometer

The TRA series have been designed according to precision engineering as the ideal adaptor for the Lovibond[®] range of spectrophotometers. The robust shape makes them ideal for use in any laboratory. The angled viewing panel makes measurements easy-to-read. The integral lid blocks any ambient light since no external light interferes with the measurements.

Technical Data

Colour Type	Opaque
Optical Geometry	Reflect: di: 8°, de: 8° (diffused illumination, 8 degree viewing angle)
Integrating Sphere Size	48 mm
Spectrophotometric Mode	Concave Grating
Sensor	256 image Element Double Array CMOS Image Sensor
Display	3.5 inch TFT colour LCD, Capacitive Touch Screen
Interfaces	USB
Spectral Interval	10 nm
External Storage	2000 Standards : 20000 Samples
Measurement Mode	Single Measurement, Average Measurement
Power Supply	Li-ion Battery
Battery Life Time	5000 measurements with 8 hours
Location Method	Camera View Finder Locating
Measured Reflectance Range	0 - 200 %
Measurement Time	2.6 s

Measuring Aperture	Dual Aperture: 10mm/8mm & 5mm/4mm
Specular Component	SCI & SCE
Colour Difference Formular	ΔE^*ab , ΔE^*uv , ΔE^*94 , ΔE^*cmc (2:1), ΔE^*cmc (1:1), ΔE^*00v , ΔE (Hunter)
Other Colorimetric Index	WI (ASTM E313, CIE/ISO, AATCC, Hunter) YI (ASTM D1925, ASTM 313, TI (ASTM E313, CIE/ISO) Metamerism Index MI, Staining Fastness, Colour Fastness, Colour Strength, Opacity
Displayed Data	Spectrogram/Values, Samples Chromaticity Values, Colour Difference Values/Graph, PASS/FAIL Result, Colour Offset
Inter Instrument Agreement	MAV/SCI: $\Delta E^* \leq 0.15$
Spectral Range	400 - 700 nm
Bandwidth	10 nm
Repeatability	MAV/SCI: $\Delta E^* \leq 0.03$
Illuminants	CIE Illuminant D65 CIE Illuminant A CIE Illuminant C CIE Illuminant D50 CIE Illuminant D55 CIE Illuminant D75 CIE Illuminant F1 CIE Illuminant F2 CIE Illuminant F3 CIE Illuminant F4 CIE Illuminant F5 CIE Illuminant F6 CIE Illuminant F7 CIE Illuminant F8 CIE Illuminant F9 CIE Illuminant F10 CIE Illuminant F11 CIE Illuminant F12
Portability	Portable
Illuminant Life Span	5 years, more than 3 million measurements
Observer	2° / 10°
Environmental Conditions	0 - 40 °C, 0 - 85 % Relative Humidity (non condensing), Altitude < 2000 m

Stock Conditions	-20 - 50 °C, 0 - 85 % Relative Humidity (non condensing)
Languages User Interface	English, German, French, Spanish, Portuguese, Chinese
Dimensions	184 x 105 x 77 mm
Weight	600 g

Delivery Scope

- Complete TR 520 or 500 kit (including power supply and calibration foot).
- TR Accessory (including sample cover).
- White background plate.
- 10, 20 and 30mm Optical Glass cells.

Accessories

Title	Part Number
W586/OG/10 Optical Glass	605890
W586/OG/10 Optical Glass (pack of 5)	605895
W586/OG/20 Optical Glass	605900
W586/OG/20 Optical Glass (pack of 5)	605905
W586/OG/30 Optical Glass	605910
W586/OG/30 Optical Glass (pack of 5)	605915

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