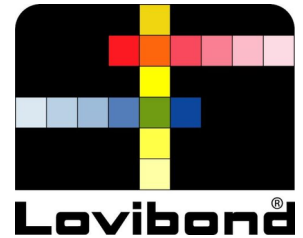


# Lovibond® Colour Measurement Tintometer® Group



## TRA 520 Handheld & Benchtop Sphere Spectrophotometer



- Compact, Lightweight and Easy to use Sphere Spectrophotometer
- Designed for Fast, Accurate and Precise Colour Measurement
- On Screen Target Display Allows Positioning to be Perfect Every Time
- OnShade Software Included for FREE – Perfect for Detailed Data Analysis

Artigo No: 403225

### Handheld and Benchtop

With the ability of being both a handheld and a benchtop unit, the TRA 520 offers the best of both worlds. The compact, ergonomic and lightweight design of the handheld unit along with the precision-engineered benchtop stand makes the TRA 520 ideal for users on the go or in the laboratory.

### Applications

The TRA 520 allows the user to measure most applications including powders, liquids, gels, pastes, granules and solid materials. Users can also measure fluorescent materials with UV In and UV Out.

### Accuracy

Giving accurate and repeatable results is what the TRA 520 does best. The on board camera based locator, enables the user to position the instrument accurately on the chosen sample with minimal contact. This feature dramatically minimize the chances of geometric metamerism.

### Aperture Options

Choosing the correct aperture size for your surface is extremely important for accurate measurement. The TRA 520 gives you the flexibility to adjust aperture size from 10mm/8mm to 5mm/4mm with the switch of a button. This adjustability of aperture helps to ensure the instrument is perfect for your measurement needs.

### Calibration

The calibration board supplied with every TRA 520 incorporates a white tile and black calibration plate. This allows minimum and maximum readings to be checked every 24 hours.

### FREE Software

As standard, the TRA 520 comes with a FREE PC software package. The OnShade software allows for a detailed data analysis which can then be shared or printed via the optional micro printer accessory.

### Suitable for Multiple Applications

The versatility of the TRA 520 means its suitable for multiple applications and has the ability to report CIE Lab, XYZ, Yxy, LCh, CIE LUV, Hunter Lab colour spaces,  $\Delta E^*L^*a^*b^*$ ,  $\Delta E^*C^*h^\circ$ ,  $\Delta E^*uv$ ,  $\Delta E^*94$ ,  $\Delta E^*cmc(2:1)$ ,  $\Delta E^*cmc(1:1)$ ,  $\Delta E^*00$ ,  $\Delta E$  Hunter Colour Difference Formulas; and can be set to D65, A, C, D50, D55, D75, F1, F2, F3, F4, F5, F6, F7, F8, F9, F10, F11, F12 illuminants. In addition, the TRA 520 can report a wide selection of other Colorimetric Index's: WI (ASTM E313, CIE/ISO, AATCC, Hunter), YI (ASTM D1925, ASTM 313), TI (ASTM, E313, CIE/ISO), Metamerism Index (MI), Colour stain, Colour Fastness, Colour Strength and Opacity. This data can be seen as either Spectral Value/ Graph, Colorimetric Value, Colour Difference Value/ Graph, PASS/FAIL Result, Colour Offset or Samples Chromaticity valuesN6

## Indústria

Indústria de Alimentos e Bebidas | Indústria Farmacêutica | Indústria Química | Óleo e Gás | Outras Indústrias

## Aplicação

Plásticos | Produtos Domésticos | Revestimentos | Têxteis

## TRA 520 Handheld & Benchtop Sphere Spectrophotometer

The TRA 520 is a cost effective quality control solution, which can be used as either a handheld or a benchtop spectrophotometer. The lightweight and ergonomic design along with the portable benchtop stand makes it ideal for quality control in the lab, field or in the manufacturing plant. Available with switchable apertures of 10mm/8mm & 5mm/4mm and the ability to measure florescent materials with UV In and UV Out makes the TRA 520 the perfect cost-effective handheld and benchtop spectrophotometer.N616

## Dados Técnicos

<b>Applicable Standard</b>	ASTM 313 ASTM D1925 ASTM E308
<b>Tipo de Cor</b>	Opaque
<b>Geometria Óptica</b>	Reflect: di: 8°, de: 8° (diffused illumination, 8 degree viewing angle)
<b>Tamanho da Esfera de Integração</b>	48 mm
<b>Modo Espectrofotométrico</b>	Concave Grating
<b>Sensor</b>	256 image Element Double Array CMOS Image Sensor
<b>Display</b>	3.5 inch TFT colour LCD, Capacitive Touch Screen
<b>Interfaces</b>	USB
<b>Intervalo Espectral</b>	10 nm
<b>Modo de Medição</b>	Single Measurement, Average Measurement
<b>Armazenamento Externo</b>	2000 Standards : 20000 Samples
<b>Método de Localização</b>	Camera View Finder Locating
<b>Faixa de Reflectância Medida</b>	0 - 200 %
<b>Tempo de Medição</b>	2.6 s
<b>Abertura de Medição</b>	Dual Aperture: 10mm/8mm & 5mm/4mm
<b>Componente Especular</b>	SCI & SCE
<b>Fonte de Alimentação</b>	Li-ion Battery
<b>Fórmula de Diferença de Cor</b>	$\Delta E^*ab$ , $\Delta E^*uv$ , $\Delta E^*94$ , $\Delta E^*cmc$ (2:1), $\Delta E^*cmc$ (1:1), $\Delta E^*00v$ , $\Delta E$ (Hunter)
<b>Tempo de Vida da Bateria</b>	5000 measurements with 8 hours
<b>Outro Índice Colorimétrico</b>	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
<b>Dados Exibidos</b>	Spectrogram/Values, Samples Chromaticity Values, Colour Difference Values/Graph, PASS/FAIL Result, Colour Offset
<b>Acordo Entre Instrumentos</b>	MAV/SCI: $\Delta E^* \leq 0.15$
<b>Faixa Espectral</b>	400 - 700 nm
<b>Largura de Banda</b>	10 nm
<b>Iluminantes</b>	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

<b>Portabilidade</b>	Portátil
<b>Vida Útil do Iluminante</b>	5 years, more than 3 million measurements
<b>Observador</b>	2° / 10°
<b>Idiomas da Interface do Usuário</b>	Inglês, Alemão, Francês, Espanhol, Português, Chinês
<b>Dimensões</b>	184 x 105 x 77 mm

## Texto do Escopo de Entrega

- TR 520 Sphere Spectrophotometer
- TRA Portable benchtop Stand
- OnShade PC Software
- White and Black Calibration Board
- White background plate
- Dust Cover
- USB Cable External DC Power Supply
- USB Stick with User Manuals in English, French, German, Spanish, Portuguese and Chinese
- Sturdy Carrying Case
- 10 mm, 20 mm and 30 mm Optical Glass cells
- Cell Cover

## Acessórios

Título	Artigo No
W586/OG/10 vidro ótico	605890
W586/OG/10 vidro ótico, 5 pçs.	605895
W586/OG/20 vidro ótico	605900
W586/OG/20 vidro ótico, 5 pçs.	605905
W586/OG/30 vidro ótico	605910
W586/OG/30 vidro ótico, 5 pçs.	605915

---

**Tintometer GmbH**

Lovibond® Water Testing  
Schleefstraße 8-12  
44287 Dortmund  
Tel.: +49 (0)231/94510-0  
sales@lovibond.com  
www.lovibond.com  
Alemanha

**The Tintometer Limited**

Lovibond House  
Sun Rise Way  
Amesbury, SP4 7GR  
Tel.: +44 (0)1980 664800  
Fax: +44 (0)1980 625412  
sales@lovibond.uk  
www.lovibond.com  
Reino Unido

**Tintometer China**

9F, SOHO II C.  
No.9 Guanghualu,  
Chaoyang District,  
Beijing, 100020  
Customer Care China Tel.: 4009021628  
Tel.: +86 10 85251111 Ext. 330  
Fax: +86 10 85251001  
chinaoffice@tintometer.com  
www.lovibond.com  
China

**Tintometer South East Asia**

Unit B-3-12, BBT One Boulevard,  
Lebuh Nilam 2, Bandar Bukit Tinggi,  
Klang, 41200, Selangor D.E  
Tel.: +60 (0)3 3325 2285/6  
Fax: +60 (0)3 3325 2287  
lovibond.asia@tintometer.com  
www.lovibond.com  
Malásia

**Tintometer Brazil**

Caixa Postal: 271  
CEP: 13201-970  
Jundiaí – SP  
Tel.: +55 (11) 3230-6410  
sales@lovibond.us  
www.lovibond.com.br  
Brasil

**Tintometer Inc.**

6456 Parkland Drive  
Sarasota, FL 34243  
Tel: 941.756.6410  
Fax: 941.727.9654  
sales@lovibond.us  
www.lovibond.us  
EUA

**Tintometer India Pvt. Ltd.**

Door No: 7-2-C-14, 2<sup>nd</sup>, 3<sup>rd</sup> & 4<sup>th</sup> Floor  
Sanathnagar Industrial Estate,  
Hyderabad, 500018  
Telangana  
Tel: +91 (0) 40 23883300  
Toll Free: 1 800 599 3891/ 3892  
indiaoffice@lovibond.in  
www.lovibondwater.in  
Índia

**Tintometer Spain**

Postbox: 24047  
08080 Barcelona  
Tel.: +34 661 606 770  
sales@tintometer.es  
www.lovibond.com  
Espanha