

# Lovibond® Colour Measurement

## Tintometer® Group



## EComparator Range

Advance from Visual (subjective) to Electronic (objective) Colour Measurement  
Immediate & Accurate - Straight from the Box  
Guaranteed Agreement with International Standards  
Display Results with On-Screen Colour and Numerical Options  
Digital, Portable, Push-Button Technology



# EComparator Series

The Lovibond® EComparator Series provides an easy way to transition from subjective visual measurement to a non-subjective, accurate electronic measurement.

Colour graders who are used to the traditional comparator series sometimes find the upgrade or transition to an electronic system daunting. The assurance of relying on physical colour difference is diminished.

With the EComparator Series, viewers can view the colour difference:

On-Screen Colour

On-Screen Numerical Display

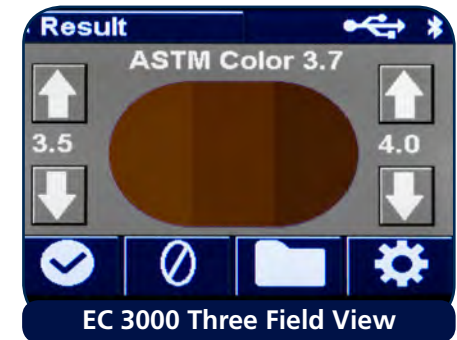
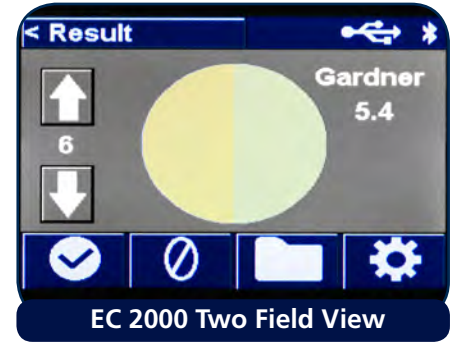
Touch screen technology makes the EComparator Series easily programmable with instinctive menus on screen. Users can set language\*, date and time, view preferences and create projects with individual tolerance settings. An on-screen warning system of:

Within Tolerance = Green;

Outside Tolerance = Red;

On Border of Tolerance = Amber

provides the user with immediate information on the sample.



The user friendly ergonomics and intuitive interface guarantee new users can be quickly trained and easily supported. Large data storage (> 20,000 readings), USB connectivity ensures readings can be stored and shared easily and quickly. Flexibility is further enhanced with software packages for Windows® with multiple language\* support on-screen.

\* Supported Languages

English : French : German : Spanish : Italian : Chinese : Japanese : Russian

Lovibond® accuracy and efficiency is apparent throughout. EComparators are supplied with Certified Glass and Liquid Reference Standards enabling quick and simple validation. The instruments are equipped with an integrated light shield to protect the sample from ambient light and a flexible path length and cell choice (plastic or glass) for flexibility of application. With robust casing and a small laboratory footprint, the EComparator Series is the ideal solution for users wishing to experience the benefits of immediate, accurate, electronic readings: the best of both worlds.

## Specifications

Light Source		White LED (25 year lifetime)
Sensors		Tristimulus Detectors, Reference and Sample
Display	Size: Resolution: Colour:	3.5 inch 320x240 24 Bit (True Colour)
Touchscreen		Resistive
Keypad		3 key tactile membrane
Sample Chamber	Cell Type Filters	W100 Spectrophotometer EC Range Holders
Casing	Material Size	Flame Retardant ABS W 106mm x D 210mm x H 57mm
Power	Sources Batteries	USB or Battery 4 x AA
Interfaces		USB 2.0 (mini USB receptacle)
Data Storage		> 20,000 readings
Temperature		Max Sample Temperature = 80 ° C



## EC 2000 Pt Co

Order Code: 162010

Colour Scale	Pt-Co
Range	0 - 500
Resolution	1 Pt-Co Unit
Repeatability	+/- 3% +1 Pt-Co Units
Path Length	50mm
Standards	ASTM D1209
Comparator View	2 Field
Cells	3 x 50mm W100 (Plastic) 1 x 50mm W100 (OG)
Validation Liquids	1 x 60ml Bottle
Glass Standard	1



## EC 2000 Gardner

Order Code: 162020

Colour Scale	Gardner
Range	0 - 18
Resolution	0.1 Gardner Unit
Repeatability	+/- 0.2
Path Length	10mm
Standards	ASTM D1544, D6166
Comparator View	2 Field
Cells	3 x 10mm W100 (Plastic) 1 x 10mm W100 (OG)
Validation Liquids	1 x 60ml Bottle
Glass Standard	1



## EC 3000 ASTM Color

Order Code: 163010

Colour Scale	ASTM Color
Range	0 - 8
Resolution	0.1 Unit
Repeatability	+/- 0.1
Path Length	33mm
Standards	ASTM D1500, D6045
Comparator View	3 Field
Cells	2 x 33mm W100 (Plastic) 2 x 33mm W100 (OG)
Validation Liquids	2 x 60ml Bottle
Glass Standard	2



## EC 3000 Saybolt

Order Code: 163020

Colour Scale	Saybolt
Range	-16 - +30
Resolution	1 Saybolt Unit
Repeatability	+/- 1
Path Length	50mm
Standards	ASTM D156, D6045
Comparator View	3 Field
Cells	2 x 50mm W100 (Plastic) 2 x 50mm W100 (OG)
Validation Liquids	2 x 60ml Bottle
Glass Standard	2



# The Scales

## PLATINUM-COBALT/HAZEN/APHA COLOUR (ASTM D 1209)

Often referred to as Pt-Co, Platinum-Cobalt, Hazen or APHA Colour - all terms are interchangeable and equally valid. Used to measure clear to dark amber liquids.

Originally defined by specified dilutions: range from 0 at the light end of the scale to 500 at the darkest.

Used extensively in the water industry but also for clear oils, chemicals and petrochemicals such as glycerine, plasticisers, solvents, carbon tetrachloride and petroleum spirits.

## GARDNER COLOUR (ASTM D 1544, ASTM D 6166, AOCs Td 1a, MS 817 Part 10)

Single number, one dimensional, colour scale for grading the colour of similarly coloured liquids

The scale ranges from a pale yellow to a red in shade and is described in terms of the values 1-18.

Used to measure colour of resins, varnishes, lacquers, drying oils, fatty acids, lecithins, sunflower oil and linseed oil.

## SAYBOLT COLOUR (ASTM D 156, ASTM D6045)

The Saybolt Colour scale is used for grading light coloured petroleum products

The colour range of the Saybolt-scale is similar to that of the Platinum-Cobalt/Hazen/APHA Colour (ASTM D 1209) scale and is therefore employed for the measurement of water-clear, colourless to slightly yellowish products.

The faintest coloration is Saybolt-colour number +30, the strongest evaluable Saybolt coloration value is -16.

Popular for aviation fuels, kerosene, naphthas, white mineral oils, hydrocarbon solvents and petroleum waxes.

## ASTM COLOR (ASTM D 1500, ASTM D 6045, ISO 2049, IP196)

ASTM D1500 is a single number, one dimensional, color scale ranging from a pale straw through to a deep red in sixteen steps (0.5 - 8.0 units in increments of 0.5 units).

Please note the Chinese Industrial Standard SH/T 0168 (0 to 25) is directly related to ASTM D1500 (0 to 8.0).

Sometimes referred to as the "mineral oil color value", the ASTM Color Scale is widely used for the grading of petroleum products such as lubricating oils, heating oils and diesel fuel oils.



**zeller** GmbH

Labworld.at Laborgeräte - Glas - Reagenzien  
Mikrobiologie - Hygienekontrolle  
Industriestr. 1, 6845 Hohenems, Austria  
Tel. +43 (0)5576 76705 Fax +43 (0)5576 76705 7  
Email: office@labworld.at