

# Real Spectrum Series Specifications

UNITS	cm <sup>-1</sup>
SAMPLING FREQUENCY	1 minute
FLOW RATE	300 - 800 mL / min
CALIBRATION	Exclusive technologies allow for continuous automatic calibration during operation
CLEANING	Automatic cleaning optional
SELF DIAGNOSTICS	Continuous detection of leaks, lamp output, humidity, temperature and electrical fault
DISPLAY	Backlit LCD with LED alarm indicator (optional 10" colour LCD 800x600 with Touch Panel PC)
OPERATOR INTERFACE	Heirarchical menu system with push button control (optional touch screen graphical interface with Touch Panel PC)
ALARMS	Onscreen alarms and dry contacts to signal alarm condition
HUMIDITY CONTROL	Humidity sensor with large plug-in regeneratable desiccant system
OUTPUTS	<ul style="list-style-type: none"> <li>• Most common communication protocols available ie. MODBUS</li> <li>• Datalogging via RS232, RS485, 4-20mA (Ethernet and USB drive with Touch Panel PC option)</li> </ul>
DIMENSIONS	16"h x 20"w x 8"d
ENCLOSURE	IP66, NEMA 4, wall mountable
FLUID CONNECTIONS	1/4" tube push-in fittings in/out
ELECTRICAL	24 VDC 120W power adapter included (power adapter accepts 90-250 VAC 50/60 Hz)
STORAGE TEMP	-20 to 60°C (-4 to 140°F)
OPERATING TEMP	0 to 45°C (32 to 113°F)
WARRANTY	2 year limited warranty
OPTIONS	<ul style="list-style-type: none"> <li>• Real Clean automatic chemical cleaning</li> <li>• Open channel / Non-pressurized Pump Clean system</li> <li>• Dual Feed</li> <li>• Touch Panel PC</li> </ul>

PLATINUM SERIES	PL2100	PL3000	PL4000
ACCURACY	± 0.5 % FS		
RANGE	0 - 4.0 A	0 - 1.0 A	0 - 0.04 A
PATHLENGTH	4 mm	10 mm	250 mm
WAVELENGTH RESOLUTION	~ 1 nm		
WAVELENGTH	200-380 nm (200 - 750 nm with Platinum Visible Plus option)		
LIGHT SOURCE	Deuterium Lamp (Deuterium + Tungsten with Platinum Visible Plus option)		
LAMP LIFE	4000 hrs		

GOLD SERIES	GL2100	GL3000	GL4000
ACCURACY	± 2 % FS		
RANGE	0 - 4.0 A	0 - 1.0 A	0 - 0.04 A
PATH LENGTH	4 mm	10 mm	250 mm
WAVELENGTH RESOLUTION	configurable up to 40 wavelengths over full range		
WAVELENGTH	200-750 nm		
LIGHT SOURCE	Xenon Flash Lamp		
LAMP LIFE	2 - 5 years (dependant on application)		



Practical, Accurate & Affordable.  
**FROM WASTEWATER TO HIGH PURITY WATER, WE HAVE A MONITORING SOLUTION THAT'S RIGHT FOR YOU.**

## INTRODUCING REAL TECH'S ALL NEW SPECTRUM ANALYZER PRODUCT SERIES

Our new Spectrum product series provides real time analysis across the entire spectrum of UV and/or visible light, allowing for the rapid detection of many common and emerging contaminants.

We understand that one size doesn't fit all for water quality analyzers, and therefore our Spectrum series product offering reflects this by providing you with various product solutions so you can tailor your analyzer to your specific needs.

Whether your application is for wastewater or high purity (ultrapure) water, requires high wavelength resolution or just a single water quality parameter, Real Tech's new spectrum analyzer product series can be configured for your specific water type requirements.





# SPECTRUM ANALYZERS

## REAL SPECTRUM PLATINUM SERIES:

The Platinum series analyzers combine high wavelength resolution with the power of a deuterium light source as used in high end lab spectrophotometers, resulting in our most accurate and sensitive spectrum analyzer. With the addition of our optional Platinum Visible Plus upgrade which adds a tungsten light source to your analyzer, the spectral range is extended into the visible region. The high resolution data provided by our Platinum series analyzers is especially recommended for applications requiring more complex multi-component analysis using Real Tech's chemometric software package available with the Touch Panel PC interface option.

## REAL SPECTRUM GOLD SERIES:

The Gold series analyzers are designed for applications that simply do not require the number of wavelengths or sensitivity provided by our Platinum series. Utilizing a long life xenon flash light source along with a number of pre-selected wavelength options, our Gold series analyzers are the most affordable on the market today while still providing all the data that is needed for highly accurate measurements.

## OPTIONS & ACCESSORIES:

Real Tech's Spectrum analyzers are available with all the accessories that have helped to make our UV254 series so successful.

- Touch Panel PC option allows for added control and functionality.
- The Dual Feed option allows multiple sample streams to be used with a single analyzer. A typical scenario is to measure samples from both before and after a process to provide a measure of the efficiency of a removal process.

- The Real Clean chemical cleaning system virtually eliminates maintenance requirements by automatically cleaning the flow cell at a configurable frequency with an appropriate cleaning fluid.
- The Real Pump/Clean system combines our chemical cleaning system with our proprietary pump and filter system which provides incredible performance for non-pressurized applications such as open channel wastewater.

## OUR TECHNOLOGY ADVANTAGE:

All of our Spectrum series analyzers utilize our exclusive patented and patent-pending technologies to provide many strong competitive advantages, including superior performance, ease of use and cost effectiveness, making continuous spectroscopy analysis much more practical and attainable.

Our spectrum analyzers have Real Tech's specially designed optical bench at their core. This proprietary technology provides Real Tech's spectrum analyzers with a significant technology advantage. In keeping with Real Tech's core philosophy of combining simple and robust designs with best in class performance, our spectrum analyzers bring all the advantages of the traditional cabinet analyzer without the complexity, maintenance headaches and expense.

## APPLICATIONS:

Although Real Tech's UV254 series analyzers provide an unmatched combination of performance and price for measuring organic matter, Real Tech's spectrum analyzers allow several additional capabilities taking them beyond what is possible with UV254 alone.

Even if an aggregate measure of organics is still all that is required, Real Tech's Gold series spectrum analyzers are able to provide the additional ability to efficiently compensate for potential interferences such as turbidity by looking at additional wavelengths beyond just UV254. The use of multiple wavelengths also allows further characterization of the organics to better correlate with specific industry accepted organics

## REDEFINING REAL TIME WATER QUALITY ANALYSIS:

Real Tech's Spectrum product series is neither your traditional cabinet analyzer nor submersible probe. The new Real Spectrum analyzers are redefining real time water quality analysis, with an emphasis on practical designs that offer superior performance, reliability, ease of use and affordability.

The traditional bypass style cabinet analyzer is most often designed specifically as a wet chemistry system to provide multi-parameter analysis using a number of reagents. This is in contrast to a probe style instrument that is specifically designed as a reagentless monitoring system. Because of this the traditional bypass analyzer has inherently higher complexity resulting in higher maintenance requirements as well as a high upfront cost. The traditional cabinet analyzer is therefore often not considered appropriate for many municipal and industrial applications that require a more practical, low maintenance, and robust solution.

Probe style instruments have taken the whole spectrometer and put it directly into the water. While there have been some advantages of the probe style instruments for non-pressurized wastewater systems, the latest generation of sampling systems are eliminating those advantages. Immersing such expensive instruments in the water is inherently problematic. It is more

By using only a single oversized sensor for all wavelengths, while at the same time reducing optical components, Real Tech's spectrum analyzers can realize an unmatched optical efficiency resulting in a very high signal to noise ratio when compared with the conventional photodiode array approach.

Real Tech's spectrum analyzers all use the same unique proprietary technologies found in our highly successful UV254 series instruments. By compensating for the effects of lamp and sensor fluctuations over time, as well reducing the otherwise dramatic effects of flow cell fouling, these technologies allow the elimination of measurement drift that is so common in similar types of instruments.

parameters such as biological oxygen demand (BOD). In addition to organics, Real Tech's Gold series spectrum analyzers provide the ability to simply and accurately measure nitrates in groundwater or wastewater.

Our Platinum series spectrum analyzers provide multi-component measurement capabilities, and are able to extract and isolate concentration information about one or more chemical components of concern in water even when an unknown mixture of other chemical components is also present in the water. This level of performance is needed for more demanding applications in a variety of industries including pharmaceuticals, refineries, chemical plants, food processing, etc.

difficult to physically install and service access for cleaning and calibration and general maintenance is often very awkward. Automatic chemical cleaning is impossible and so cleaning must be done with mechanical wipers or the addition of an air compressor. Sampling more than one water stream requires more than one analyzer as opposed to cabinet analyzers which can usually process multiple sample streams in one instrument. For pressurized water applications, probes require cumbersome add-ons that effectively turn them into a bypass system by physically clamping a mechanical fixture around the probe.

Real Tech's series of spectrum analyzers have been specifically designed to combine the advantages of the probe style instruments with the advantages of the traditional cabinet style analyzers, simultaneously eliminating the problems associated with each of them. Real Tech's spectrum analyzers combine the practical, robust design of a probe, with the convenience of a bypass style analyzer.

