T7 UV/VIS Spectrophotometer

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T7

UV/ VIS Spectrophotometer

- The T7 series of UV-Visible Spectrophotometers have been designed using “state of the art technology” .
- The instruments are professionally manufactured to a very high specification, with excellent quality control.
- The instruments have been designed using expertise gathered over many years in the field of UV-Visible Spectrophotometry.
- This gives the T7 series of instruments high performance characteristics, flexibility and user friendliness.

The T7 series is a new generation of split beam UV-Visible Spectrophotometers

UV-Visible Spectrophotometer is a well-accepted, documented technique with many applications. The technique is extensively used for the analysis of foods, drugs, agricultural products and is widely used in the medical care, public health, environmental protection, life sciences industries and many other organic and biochemical applications.
As a major manufacturer of analytical instrumentation, We have recently introduced the T7 series of UV-Visible Spectrophotometers. This range of instruments, which offer excellent performance, high quality and are com-petitively priced. The T7 range of UV-Visible Spectrophotometers can fully meet the requirements of the chemist.
The T7 UV-Visible series is innovative in terms of instrument application, mechanical and optical design, electronic control and software whilst retaining features that are well established and accepted through the industry.
The T7 series of UV-Visible Spectrophotometers are able to carry out the following analysis: photometric measurement, spectrum scans, kinetic measurements, quantitative determination and DNA/Protein analysis. When interfaced to a PC the software offers many more user-friendly applications such as access to data base, three-dimensional spectrum analysis, GLP Laboratory protocol, fast analysis of pesticide residues and other applications within the environmental protection code of analysis.

Features:

- Accurate analysis
  Holographic grating greatly reducing stray light of the instrument and making the analysis more accurate.
- Stable performances
  The split beam ratio optics ensures good stability.
- High-speed measurement
  The fastest scanning speed is over 1000nm.
- Powerful function
  The main unit of the spectrophotometer can analyse for photometric measurement, quantitative measurement, spectrum scan, DNA/Protein analysis and can print data.When connected to a computer the Spec UV software adds many additional functions, such as 3D spectrum analysis, GLP laboratory protocol. It can be applied in fast pesticide remain detection, environment protection, inspection and quarantine and other fields.
- Convenient operation
  High degree of automation, the operator only needs to press keys twice when measuring ordinary samples.
- Easily upgraded
  Many optional accessories enhance the flexibility and the measurement range of the instrument.
- Easy routine maintenance
  The simple mechanical structure and modular electrical design make the routine maintenance easy.
- Original technology
  The deuterium and tungsten lamps can be easily replaced and are supplied pre-aligned.
  A motorised automatic 8-cell holder is supplied as standard which is particularly useful for the determination of pesticides.

Tungsten lamp and deuterium lamp

LCD 320 × 240

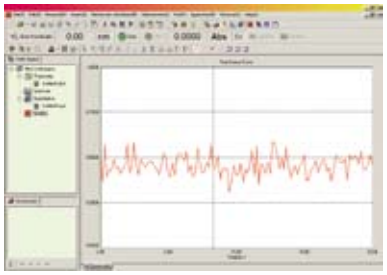
UV-Win is a powerful, intuitive software product used for connectivity to the range of bench top UV-Vis Spec-trophotometers.

The UV-Win software offers complete instrument control along with data acquisition and a whole host of mathematical tools for interpretation of measurement results. The UV-Win software is separated into four key workspaces:

- Spectral Analysis
- Quantitative Analysis
- Kinetic Analysis
- Photometric Analysis

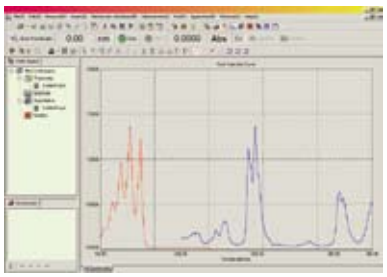
Four regular functions

Photometric measurement



Kinetics measurement

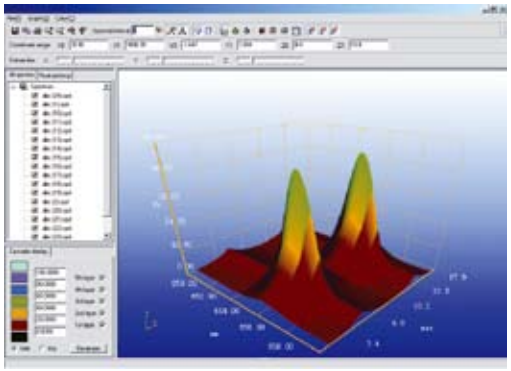
Quantitative measurement



Spectrum scan

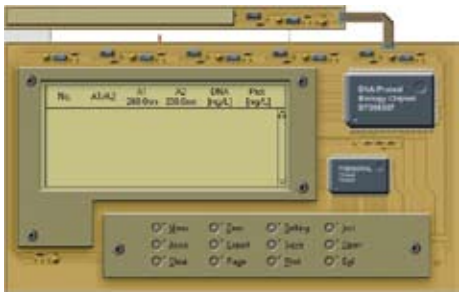
3D Presentation

- 3D Presentation by combining multiple spectrum
- Spectra can be fully and easily manipulated
- Peak Picking
- Graphics printout



DNA/Protein analysis

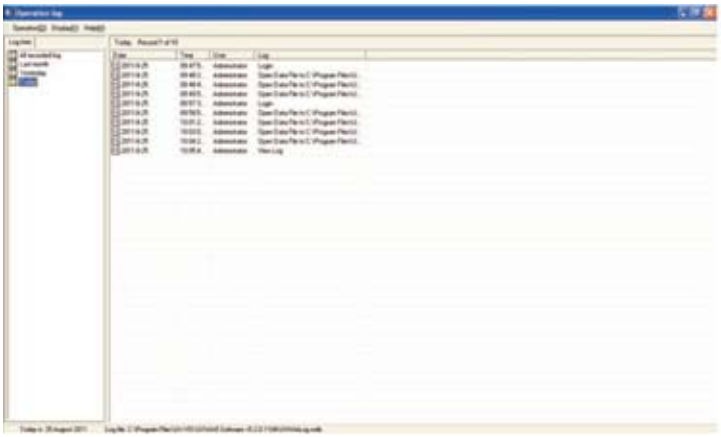
- Measurement of absorbance ratios at 260nm and 230nm, at 260nm and 280nm, and at custom defined wavelengths
- Background correction using absorbance at 320nm (Optional)
- Absorbance ratio calculation for user selected wavelengths
- Concentration calculation using arbitrary factors when selecting custom defined wavelengths

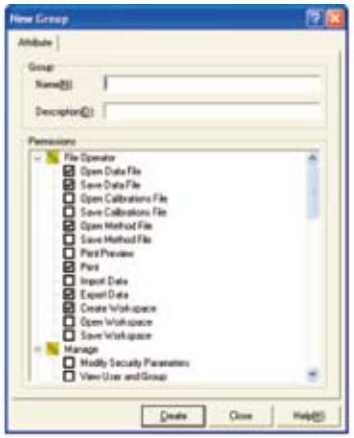


UVWin GLP offers all of the features and functionality of UVWin whilst also offering extensive Administrative capabilities along with a detailed audit trail.

Administration

- Administrative settings can be made where Analysts may require conformity to GLP/GMP/GRP
- Create User groups specifying exactly what actions they are able to perform.
- Add New Users to custom User Groups to determine their privilege settings.
- Automatically log software activity in an Audit Trail.
- Use Password control to ensure Users are logged in for instrument usage.





Certification

UV-Win GLP has been evaluated and tested by a third party software validation specialist. As a result it was found that UV-Win GLP offers all of the features and functions required for use in compliance with the guidance specified in:

- 21CFR Part 11- Electronic Records; Electronic Signatures
- Guidance for Industry Part 11, Electronic Records; Electronic Signatures — Scope and Application, August 2003

Optional accessories:

- **UVWIN6** UV/Win 6 Software & RS232 Communication Cable
- **PS181-2** T7/T7D Sipper Pump Accessory (Pump, Tubing, Cassette, Front Panel, Flow Cell)
- **CH181-1** T7 5 Position 10mm Constant Temperature Cell Changer (For use with PTC-2)
- **PTC-2** Peltier Module
- **DS181-1** T7 Adjustable Angle Solid Sample Holder
- **S181-1** T7 Solid Sample Holder
- **LS181-1** T7 Universal 5 Position 5-50mm Path Length Motorised Cell Holder
- **ST181-1** T7 8 Position 10mm Path Length Motorised Cell Holder
- **MH181-1** T7 Micro Cell Holder
- **MR181-1** T7 Specula Reflection Accessory
- **TR181-1** T7 Variable 13-16mm Test Tube Holder
- **DIS-001** Dissolution Accessory (16 Port PVDF Manifold Assembly, 16 x 1/4-28 - M6 Tube Set)


UVWIN6


PS181-2


CH181-1


PCT-2


DS181-1


S181-1


LS181-1


ST181-1


MH181-1


MR181-1


TR181-1

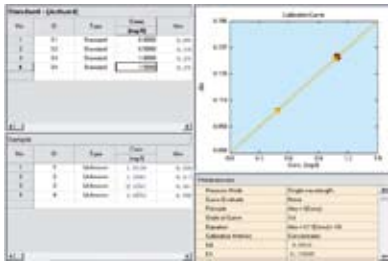

UP16-1

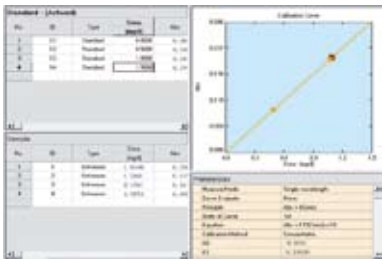
Instrument application:

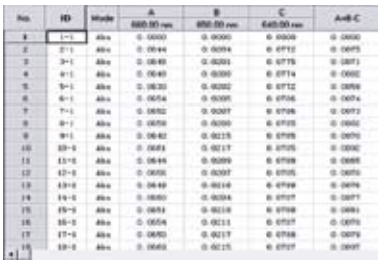
Environment:
Monitoring of water quality, atmospheric pollution,rainfall and soil contamination.

Geology exploration:
Determination of metallic elements and inorganic salt in minerals.

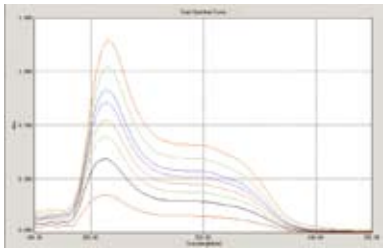
Agriculture:
Can be applied in various agriculture, such as pesticide detection, crops analysis, animal medicine analysis, fertiliser inspection, soil analysis, animal food stocks inspection etc.



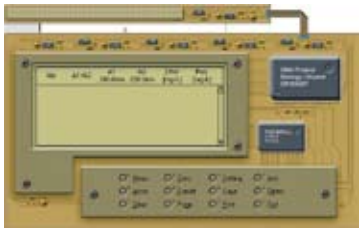




Food inspection:
Analysis of additives preservatives and flavours, fat contents, enzyme, glucose, flavouring, minerals, vitamins, etc.



Life science:
Test the micro samples of life science and provide DNA/Protein detector to measure the DNA/Protein concentration.



Specifications:

Split beam optics		
Instrument Type	T7	T7S
Spectral Bandwidth	2nm(fixed slit)	0.5 , 1 , 2 , 5nm(variable slit)
Working Mode	MPU Mode/PC Mode	MPU Mode/PC Mode
Software Support	MPU Software Platform/Spec UV software workstation	MPU Software Platform/Spec UV software workstation
Wavelength Range	190 ~ 1100nm	190 ~ 1100nm
Wavelength Accuracy	± 0.3nm(Automatic wavelength correction)	± 0.3nm(Automatic wavelength correction)
Wavelength Reproducibility	0.2nm	0.2nm
Stray Light	< 0.12%T(220nm , Nal; 340nm , $NaNo_2$)	< 0.12%T(220nm , Nal; 340nm , $NaNo_2$)
Photometric Mode	Transmittance, Absorbance, Energy	Transmittance, Absorbance, Energy
Photometric Range	-0.3 ~ 3Abs	-0.3 ~ 3Abs
Photometric Accuracy	± 0.002Abs(0 ~ 0.5A) ± 0.004Abs(0.5 ~ 1A) ± 0.3%T(0 ~ 100%T)	± 0.002Abs(0 ~ 0.5A) ± 0.004Abs(0.5 ~ 1A) ± 0.3%T(0 ~ 100%T)
Photometric Reproducibility	± 0.001Abs (0 ~ 0.5A) ± 0.002Abs (0.5 ~ 1A) ± 0.15%T(0 ~ 100%T)	± 0.001Abs (0 ~ 0.5A) ± 0.002Abs (0.5 ~ 1A) ± 0.15%T(0 ~ 100%T)
Baseline Flatness	± 0.002Abs(190 ~ 1100nm)	± 0.002Abs(190 ~ 1100nm)
Baseline Stability	0.001Abs/h(500nm,0Abs 2nm Spectral Bandwidth, 2hr warm-up)	0.001Abs/h(500nm,0Abs 2nm Spectral Bandwidth, 2hr warm-up)
Photometric Noise	± 0.001Abs(500nm,0Abs 2nmSpectral Bandwidth)	± 0.001Abs(500nm,0Abs 2nm Spectral Bandwidth)