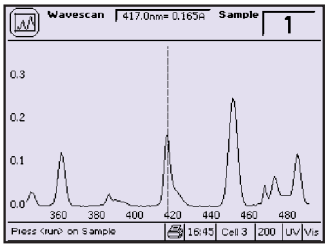
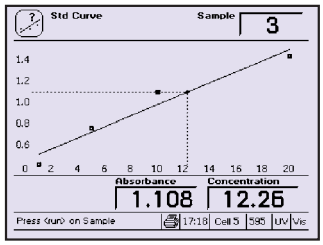
Libra S32 and Libra S32PC UV/Visible spectrophotometers

- 1.8nm Bandwidth
- Unique Press To Read (PTR) high energy deuterium and tungsten sources
- Instrument Performance Validation (IPV) facility
- Rapid scan facility
- 8-position sample changer as standard

The **Libra S32** and **S32PC** instruments are high performance systems intended for the busy multi-user analytical laboratory. The instruments are provided with a Qualification and Performance Verification Logbook supplied to keep an ongoing record of instrument performance for GLP purposes.



Wavelength scan



Standard curve

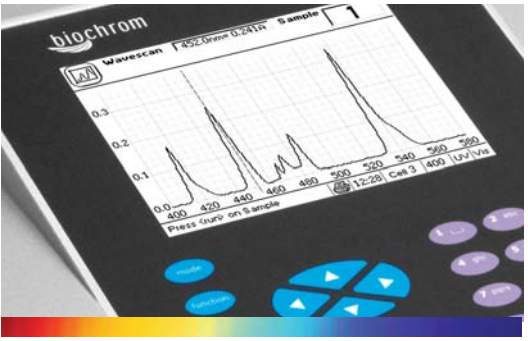
Libra S32 only

- Free standing instrument
- Comprehensive on-board applications software covering wavelength scan, enzyme kinetics, standard curve, substrate concentration, and multi-wavelength equation entry and there is the capacity for 50 user definable stored methods
- Direct download of results to Excel for archiving using supplied spreadsheet interface software
- Provides display and print-out information in English, German, French, Italian, Spanish or Russian

Libra S32PC only

- Compact, PC-based instrument
- Supplied with Acquire software and serial cable

Instrument	Part number	Lamps	Optics	Wavelength range, nm	Absorbance range, A	Bandwidth, nm
Libra S32	80-2115-30	Deuterium / tungsten Press to read (PTR)	Reference beam compensation (RBC)	190 – 1100 (in 0.1 nm steps)	-3.000 to + 3.000	< 1.8
Libra S32PC (includes Acquire software)	80-2115-40	Deuterium / tungsten Press to read (PTR)	Reference beam compensation (RBC)	190 – 1100 (in 0.1 nm steps)	-3.000 to + 3.000	< 1.8

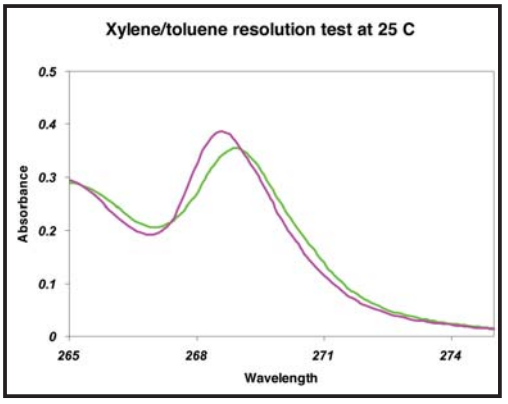


Libra S35 and Libra S35PC Pharmacopoeia compliant UV/Visible spectrophotometers

- Pharmacopoeia Compliant
- 1nm Bandwidth
- Unique Press To Read (PTR) high energy deuterium and tungsten sources
- Instrument Performance Validation (IPV) facility
- Rapid scan facility
- 8-position sample changer as standard

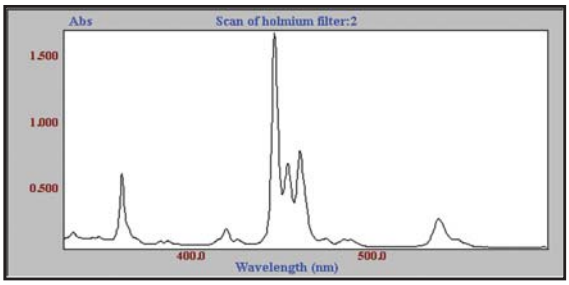
The **Libra S35** and **S35PC**instruments are high specification systems with a 1nm bandwidth intended for the busy multi-user laboratory in Pharmaceutical QC, Analytical and Research laboratories, whose requirements include high performance, GLP, IQ/OQ certification test plans and output to LIMS. In some cases, compliance with 21 CFR part 11 may also be needed. With press to read lamp technology, lamp life is only consumed during the measurement cycle; therefore long term running costs are minimal. The on-board self test diagnostics for instrument performance validation may be used in conjunction with the Qualification and Performance Verification Logbook (provided with the instruments) so that an ongoing record of instrument performance over time may be kept for GLP purposes.

The Libra S35 is a compact, free-standing instrument with local control. The Libra S35PC requires a PC or laptop and is supplied with Acquire software and a serial cable; when used with the optional Acquire CFR software, the system is fully Pharmacopoeia compliant.

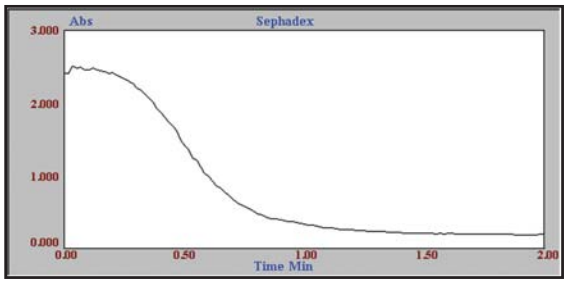


The diagram shows the effect of bandwidth when the xylene/toluene test specified in the Pharmacopoeia is applied to different instruments. The absorbance ratio of the peak around 269nm to the trough around 266nm is 2.0 and 1.7 for the Libra S35 and S32, respectively. The value for the Libra S35 confirms that it is fully compliant with all the ratios stated in the Pharmacopoeia monographs.

Instrument	Part number	Lamps	Optics	Wavelength range, nm	Absorbance range, A	Bandwidth, nm
Libra S35	80-5000-35	Deuterium / tungsten Press to read (PTR)	Reference beam compensation (RBC)	190 – 1100 (in 0.1 nm steps)	-3.000 to + 3.000	< 1.0
Libra S35PC (includes Acquire software)	80-5000-36	Deuterium / tungsten Press to read (PTR)	Reference beam compensation (RBC)	190 – 1100 (in 0.1 nm steps)	-3.000 to + 3.000	< 1.0



Wavelength scan



Reaction kinetics

Acquire Software

- Comprehensive software for UV/Visible spectrophotometry
- Audit trail (data log) facility in all modes of operation
- Flexible results formatting and presentation
- Extensive on-line help
- Export to spreadsheet capabilities

Acquire software has the following application modules and selected features:

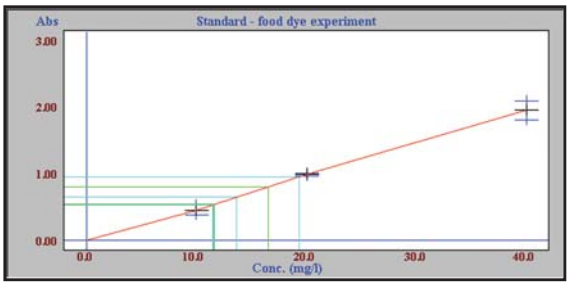
Instrument control	Simulates instrument control panel
Wavelength scanning	Zoom, 1-4 derivative, overlay, mathematics, peak search
Reaction kinetics	Serial and parallel assays, multi wavelength assays, Michaelis Menten
Quantification	Standard curve, substrate concentration, curve fit, load by record, append
Multi wavelength	User defined equation entry
Time drive	Long term measurements with automatic save, multi wavelength

To assist with regulatory compliance, Acquire software has automatic saving of data from the spectrophotometer to user specified directories/ folders that can have restricted access on the network. There is also an audit trail facility; operator actions used in defining and creating results, followed by subsequent editing of results or data manipulation are recorded in the form of a read only/write protected text file for subsequent examination by a supervisor. Acquire software has been developed by scientists for scientists in an ISO accredited environment and our software development process is available for external audit, if required.

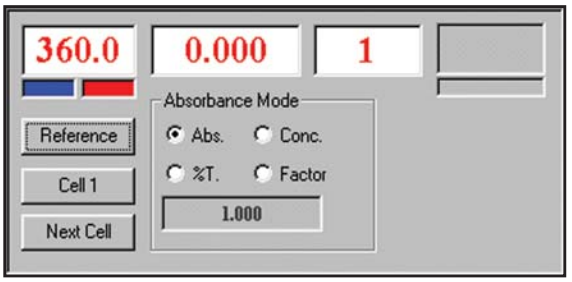
Personal computer specification for Acquire software

For optimum performance, an IBM compatible Pentium or greater personal computer running Microsoft Windows 95, 98, 2000, NT or XP is required. The PC should have a minimum of 32 MB RAM, 200 Mb hard disk, a CD-ROM disk drive, a serial mouse installed, one free COMMS serial port and VGA graphics. Any printer supported by Microsoft Windows 95, 98, 2000, NT or XP can be used with the PC. Contact your supplier for further information.

Software	Part number	Use with	Application modules
Acquire	80-2115-31	Libra S21, S22, S32, S32PC S35, S35PC	Instrument control, Wavelength scanning, Reaction kinetics, Quantification, Multi-wavelength, Time drive
Acquire Lite	80-2112-24	Libra S11, S12	Instrument control, Wavelength scanning, Reaction kinetics, Quantification, Multi-wavelength, Time drive



Quantification



Instrument control

21 CFR part 11 compliant Acquire Software

- Compliant software in terms of electronic records and signatures, with full password protection
- Export of data directly to Excel spreadsheet and Adobe Acrobat
- Full audit trail
- All the functionality of standard Acquire software, including flexible results formatting/presentation and extensive on-line help

Acquire CFR software has the additional application modules and selected features when compared to standard Aquire:

CFR administrator	Provides system administrators with user management capabilities, enabling the required security functions to be established

21 CFR part 11 Acquire applications software is for use with the high specification instruments in the Libra range of UV/Visible spectrophotometers, and these powerful systems are ideal for Analytical, QC or Research laboratories that operate within controlled environments. It comprises both client and server applications for networked installations, and both of these may be installed on one PC if required. As in any 21 CFR part 11 compliant environment, it is the responsibility of the end user to have the necessary standard operating procedures (SOPs) and training in place to ensure that the maximum benefit is obtained from the system.

It is the CFR Administrator tool that enables the system administrator to set and define access privileges for individual users or user groups in the laboratory. The audit trail is always enabled and separate file and application logs are automatically kept; when ready, methods or data may be signed off by the user using the File > e-signature function. Results may be printed or exported in spreadsheet or, very conveniently, in Acrobat format.

Personal computer specification for Acquire CFR software

21 CFR part 11 compliant Acquire software requires a PC or network with one of the following Microsoft Windows operating systems to be installed:

NT 4.0 with Service Pack 6.

2000 with Service Pack 2 or 3.

XP with Service Pack 1.

Additionally, at least one NTFS (New Technology Filing System) formatted directory must be available in order to use the software (note that FAT & HPFS are not adequate alternatives).

The computer should have both a free USB port available for the software dongle and a serial port for connection to the spectrophotometer (alternatively another USB port used in conjunction with an appropriate USB to serial converter can also be used).

Software	Part number	Use with	Application modules
Acquire CFR	80-5000-31	Libra S21, S22, S32, S32PC, S35, S35PC	Instrument control, Wavelength scanning, Reaction kinetics, Quantification, Multi-wavelength, Time drive, CFR administrator