

Distribuido por:



lr@lrdiagnostico.com
www.lrdiagnostico.com

Dynamica

Halo DB-20/DB-20S/DB-20R

UV / Visible Double Beam Spectrophotometer



The Halo DB-20 is a high performance double beam spectrophotometer suitable for many analytical applications that a higher level of accuracy is required.

Genuine Double Beam Optics

True double beam optics ensure concurrent measurement of the sample and reference for improved stability, accuracy and reproducibility. The light beam is split in two using a half mirror so that one beam passes through the sample side whilst the other passes through the reference side. Both beams are then measured on individual detectors. The reference side beam also acts to stabilize photometric values in a similar manner to the ratio beam principle.

Spectral Features

Coma aberration elimination from the concave diffraction grating achieves a high resolution 1.5 nm (DB-20S : 1nm) spectral bandpass and certifies compliance of the Halo DB-20 to the stringent European Pharmacopoeia standards.

Other specifications include an impressive wavelength accuracy of ± 0.3 nm, noise level 0.0003Abs (500nm) and stray light $\leq 0.05\%$ (220nm NaI, 340nm NaNO₂).

Built-in and Diverse Range of Measurement Modes

Photometry Mode: Perform quantitative analyses in either absorbance or transmittance modes. Select from single wavelength, up to 6 different individual wavelengths, nucleic acid/protein A260/A280 ratios and set up calibration curves with up to 20 standards for concentration measurements.

Time Scan: Perform kinetic measurements for time periods ranging from 1 minute to >27 hours. Measurement intervals are factory preset and automatically selected when the scan time is set.

Wavelength scan: Perform a full spectral scan from 190 to 1,100nm at any of 8 incremental and preset selectable scan speeds starting from a high resolution 10nm/minute up to a swift 3,600nm /minute. Data is displayed as either numerical values or a graphical spectrum. Furthermore, perform downstream processing of data, such as peak / valley search or smoothing, directly on board or with the optional Halo UV Detective software.

Dual Lamp Advantage

By virtue of the long life, halogen tungsten and deuterium lamps, the Halo DB-20s wavelength range is an extensive 190nm – 1,100nm. Furthermore, the dual lamp system results in higher accuracy than

corresponding xenon lamps. Lamp switching is automatic and selectable from a wavelength range of 325nm to 370nm.

User Friendly Operation and Information Rich LCD Display

The extra large 165mm x 122mm, backlit LCD screen with adjustable brightness control displays a large array of data also in graphical format. The seamless and chemical resistant keypad is designed for easy and quick selection of navigation and function features whilst protecting against any laboratory spills. Other unique features include the 'GO TO WL' short cut key to allow direct input of a new wavelength into an existing measurement.

Validation Functions

To ensure optimum instrument performance, self-diagnosis incorporating a number of parameters and wavelength calibration are automatically initiated upon start-up. Furthermore, the Halo DB-20 is equipped with a GLP/GMP feature for analyses requiring validation and auditing. Parameters such as wavelength accuracy, wavelength reproducibility, bandpass, baseline flatness, baseline stability and noise level can be all validated and the audit report printed.

Stand Alone or PC Operation

The Halo DB-20 is fully equipped and capable of executing all functions in stand alone mode. Simply connect a standard laser printer for direct printouts of data and graphs. For more advanced control, analyses and reporting, the simple slide of a switch places the Halo DB-20 under the direct control of the optional UV Detective software installed on a computer with Windows® XP or Windows®7 operating system.

On-Board Data Storage

Up to 20 operating programs and up to 10 sets of measurement data can be stored in the flash memory of the Halo DB-20. Programs can easily be recalled, edited and deleted. Furthermore, when in stand alone mode, data (in text format) can be downloaded directly to an external memory stick via the USB port and transferred for further processing to any computer loaded with commercial spreadsheets (such as Microsoft® Excel)

HALO DB-20 / DB-20S / DB-20R SPECIFICATIONS	DB-20	DB-20S	DB-20R
Optics	Concave diffraction grating / Double Beam Principle		
Wavelength Range	190nm -1,100 nm		
Spectral Bandwidth	1.5 nm	1.0 nm	
Stray Light	≤0.05% (220nm NaI, 340nm NaNO ₂)	≤0.10% (220nm NaI, 340nm NaNO ₂)	
Wavelength Accuracy	±0.3nm		
Photometric Range	Absorbance: -3 to +3 %T: 0% to 300%T Concentration: 0,000 to 9,999		
Wavelength Scan Speed	10, 100, 200, 400, 800, 1,200, 2,400, 3,600 nm/minute		
Baseline Stability	0.0003 Abs/hr (500nm, after 2 hours)		
Noise Level	0.0003 Abs (500nm)		
Light Source	Tungsten-Halogen and Deuterium Lamps		
Light Source Switching	Automatic switching selectable from 325nm to 370nm		
Detector	Silicon Photodiode		
Display	Back-lit LCD 165(W) x 122(H) mm		N/A
Dimensions	505(W) x 590(D) x 265(H) mm		
Net Weight	29Kg		
Gross Weight	35Kg		
Power Requirements	110 - 220 V selectable, 50/60Hz		

Halo DB-20/DB-20S/DB-20R Ordering Information

PRODUCT	CATALOG NUMBER#
Halo DB-20 UV-Visible Double Beam Spectrophotometer 110 - 220 V selectable, 50/60Hz	DB-20-220
Halo DB-20S UV-Visible Double Beam Spectrophotometer 110 - 220 V selectable, 50/60Hz	DB-20S-220
Halo DB-20R UV-Visible Double Beam Spectrophotometer 110 - 220 V selectable, 50/60Hz	DB-20R-220
Rectangular Long-Path Cuvette Holder	DB-20-RLPH
Cylindrical Long-Path Cuvette Holder	DB-20-CLPH
Thermostatic Cuvette Holder (includes tubing)	DB-20-TCH
Manual 5-Cuvette Holder/Changer	DB-20-FCC
Auto 6-Cuvette Holder/Changer with temperature control and stirrer	DB-20-SCCT
Auto 6-Cuvette Holder/Changer without temperature control and stirrer	DB-20-SCC
Micro-cuvette Holder*	DB-20-MCH
Micro-cuvette - quartz: 50µl / 10mm optical path length*	MC-50
Auto Sample Sipper with temperature control*	DB-20-SST
Auto Sample Sipper without temperature control*	DB-20-SS
Micro Flow Cuvette Holder*	DB-20-MFH
Glass Sample Holder	DB-20-GSH
Film Sample Holder	DB-20-FSH
UV Detective Software	UVDS-08-01

Note : * Not Applicable for Halo DB-20S & DB-20R



PC Control Operation DB-20R

The Halo DB-20R shares the same specification of DB-20S with impressive 1nm bandwidth. DB-20R is PC control only, which the display and USB storage port were replaced by the UV detective software come as standard.

(Computer not included)