



## DOUBLE BEAM UV VISIBLE SPECTROPHOTOMETER

## DOUBLE BEAM UV VISIBLE SPECTROPHOTOMETER

Designed to conserve benchspace, our product offers the measurement range of 190-1100nm at bandwidth of 1.8nm and 2nm. Engineered for a wide range of applications, our systems provide dependable performance and reliable results. It produces the photometric range of -0.3 to 3 A; 0-200 %T and photometric accuracy of  $\pm 0.2\%T$  which makes it suitable for various quantitative assays.

Used in Most suitable for quantitative determination assays and toxicological assays in environmental, industrial, pharmaceutical fields..

Also known as Vis Spectrometer, UV-Vis Spectrometer, Spectrometers, visible spectrophotometer.

## 100 DOUBLE BEAM UV VISIBLE SPECTROPHOTOMETER



Wavelength range: 190-1100nm

Spectral Bandwidth: 1.8nm and 2nm

Detector: Silicon Photodiode

Stray Light: Stray light is achieved at  $\leq 0.03\%T$

Light source: Deuterium and tungsten halogen lamp

LCD display

Automatic wavelength setting

Double beam optical system having suspended posture

Sample size: A wide range of standard cuvettes to be use based on the sensitivity or sample volume requirements.

Equipped with scanning software

High, medium and low scanning speed

Sophisticated and simplified sample analysis software: The sample analysis software provides the scanning, fixed wavelength analysis, quantitative analysis, data collection, storage, export, and reporting. With additional feature of an easy access USB port available in the unit that enables results to be stored directly to a USB memory stick for easy transfer of data.

Strengthening and thickening of bottom plate ensures elimination of vibrational or transformational impact on the optical system

Optical system having high quality structural design with technological requirements and raw materials

24-bit high speed and high precision A/D conversion technique improves sensitivity

Provides Photometric, Quantitative, Kinetics, Wavelength scan, Multi-wavelength and DNA/Protein Test functions

## SPECIFICATIONS

| Model                      | BSDBU-101                              | BSDBU-102 |
|----------------------------|--|-----------|
| Wavelength Range           | 190-1100 nm                            |           |
| Wavelength Accuracy        | $\pm 0.1$ nm(D2 656.1NM), $\pm 0.3$ nm |           |
| Wavelength Reproducibility | $\leq 0.1\%T$                          |           |
| Wavelength Repeatability   | $\leq 0.1$ nm                          |           |
| Spectral Bandwidth         | 1.8 nm                                 | 2 nm      |
| Photometric Range          | 0-200%T, -0.3--3A, 0-9999C             |           |
| Photometric Accuracy       | $\pm 0.2\%T$                           |           |
| Photometric Repeatability  | $\leq 0.15\%T$                         |           |
| Stability                  | $\pm 0.0004$ A/h(500nm)                |           |
| Baseline Flatness          | $\pm 0.001A$                           |           |

|                         |                                 |
|-------------------------|---------------------------------|
| Stray Light             | ≤0.03%T                         |
| Light Source            | Deuterium&Tungsten Halogen Lamp |
| Detector                | Silicon Photodiode              |
| Software                | PC Software                     |
| Gross Dimension (W/D/H) | 625x430x210 mm                  |
| Display                 | LCD                             |
| Noise                   | ±0.0005A                        |
| Weight (Net/Gross)      | 28 kg                           |
| Power                   | 300 W                           |
| Power Supply            | 220V 50Hz/110V60Hz              |

## ACCESSORIES

| Accessory Code | Name                   | Unit  |
|----------------|------------------------|-------|
| 3000606019     | Glass cuvette (10 mm)  | 4 pcs |
| 3000606021     | Quartz cuvette (10 mm) | 2 pcs |
| 3000606023     | Dustproof cover        | 1 pc  |
| 3000606026     | Software CD            | 1 pc  |

| Accessory Code | Name       | Unit |
|----------------|------------|------|
| 3000606028     | USB Cable  | 1 pc |
| 3000606030     | Power cord | 1 pc |
| 3000606032     | Softdog    | 1 pc |

## OPTIONAL ACCESSORIES

| Accessory Code | Name   | Description | Light Path LxWxH (mm) | Volume  | Unit        | Light Path LxWxH (mm) |
|----------------|--|-------------|-----------------------|---------|-------------|-----------------------|
| 3000606006     | Single Position Cell Holder                        | 10 mm       |                       |         |             |                       |
| 3000606007     | Single Position Water Jacketed Ambient Cell Holder | 10 mm       |                       |         |             |                       |
| 3000606008     | 4-Position Cell Holder                             | 10 mm       |                       |         |             |                       |
| 3000606009     | 4-Position Cell Holder                             | 50 mm       |                       |         |             |                       |
| 3000606010     | 4-Position Cell Holder                             | 100 mm      |                       |         |             |                       |
| 3000606011     | 8-Position Cell Holder                             | 10 mm       |                       |         |             |                       |
| 2902406006     | Adjustable Cell Holder for Micro Cuvettes          |             |                       |         |             |                       |
| 2902406007     | Transparent Film Holder                            |             |                       |         |             |                       |
| 3000606012     | Tube Holder  |             |                       |         |             |                       |
| 3000606013     | Thermostatic Controller                            |             |                       |         |             |                       |
| 3000606014     | Auto Sampler                                       |             |                       |         |             |                       |
| 3000606015     | Auto Thermostatic Sampler                          |             |                       |         |             |                       |
| 3000606016     | Micro Printer                                      |             |                       |         |             |                       |
| 3000606017     | Tungsten Lamp 6V; 10W (PH)                         |             |                       |         |             |                       |
| 3000606018     | Tungsten Lamp 12V; 20W (PH)                        |             |                       |         |             |                       |
| 3000606020     | Tungsten Lamp 12V; 20W (OSRAM)                     |             |                       |         |             |                       |
| 3000606022     | D2 Lamp A510YXU Milasi                             |             |                       |         |             |                       |
| 3000606024     | Glass Cuvette                                      |             | 5x10x45               | 1.7 ml  | Set (4 pcs) |                       |
| 3000606025     | Glass Cuvette                                      |             | 10x10x45              | 3.5 ml  | Set (4 pcs) |                       |
| 3000606027     | Glass Cuvette                                      |             | 20x10x45              | 7 ml    | Set (4 pcs) |                       |
| 3000606029     | Glass Cuvette                                      |             | 30x10x45              | 10.5 ml | Set (4 pcs) |                       |
| 3000606031     | Glass Cuvette                                      |             | 40x10x45              | 14 ml   | Set (4 pcs) |                       |
| 3000606033     | Glass Cuvette                                      |             | 50x10x45              | 17.5 ml | Set (4 pcs) |                       |

|            |                      |  |           |         |             |         |
|------------|----------------------|--|-----------|---------|-------------|---------|
| 3000606034 | Glass Cuvette        |  | 100x10x45 | 35 ml   | Set (4 pcs) |         |
| 3000606035 | Quartz Cuvette       |  | 5x10x45   | 1.7 ml  | Set (2 pcs) |         |
| 3000606036 | Quartz Cuvette       |  | 10x10x45  | 3.5 ml  | Set (2 pcs) |         |
| 3000606037 | Quartz Cuvette       |  | 20x10x45  | 7 ml    | Set (2 pcs) |         |
| 3000606038 | Quartz Cuvette       |  | 30x10x45  | 10.5 ml | Set (2 pcs) |         |
| 3000606039 | Quartz Cuvette       |  | 40x10x45  | 14 ml   | Set (2 pcs) |         |
| 3000606040 | Quartz Cuvette       |  | 50x10x45  | 17.5 ml | Set (2 pcs) |         |
| 3000606041 | Quartz Cuvette       |  | 100x10x45 | 35 ml   | Set (2 pcs) |         |
| 3000606042 | Micro Quartz Cuvette |  | 10x2x2.5  | 50 µl   | Set (2 pcs) |         |
| 3000606043 | Micro Quartz Cuvette |  | 10x2x5    | 100 µl  | Set (2 pcs) |         |
| 3000606044 | Micro Quartz Cuvette |  | 10x2x10   | 200 µl  | Set (2 pcs) |         |
| 3000606045 | Micro Quartz Cuvette |  | 10x2x25   | 500 µl  | Set (2 pcs) |         |
| 3000606046 | Micro Quartz Cuvette |  | 10x2x45   | 700 µl  | Set (2 pcs) |         |
| 3000606047 | Micro Quartz Cuvette |  |           |         | Set (2 pcs) | 10x2x45 |



BSDBU-101



BSDBU-102

## 200 DOUBLE BEAM UV VISIBLE SPECTROPHOTOMETER



Dual optical path, dual beam optical system, dual detector, using high performance imported grating, lower stray light, stronger stability, reliability, more accurate analysis

use 10" touch screen, built-in 32G memory, support Bluetooth connection network powerful data analysis function, internal computer of the host, can input calibration curve, can independently complete photometric measurement, quantitative measurement, spectral scanning, dynamics, DNA/ protein testing, multi-wavelength testing and data printing functions

Adopt the optical system suspension design, the whole optical path is independently fixed on the 16mm thick aluminum deformation-free base, the deformation of the bottom plate and the vibration of the outside have no impact on the optical system, thus greatly improving the stability and reliability of the instrument

With powerful storage function, the instrument can be directly connected to the printer for A4 format data and graph printing

With automatic startup verification and system positioning functions, to repair the deviation caused by long-term application

Data can be exported to U disk

## SPECIFICATIONS

| Model                    | BSDBU-201-C         | BSDBU-202                                    | BSDBU-202-A |
|--------------------------|---------------------|--|-------------|
| Wavelength Range         | 190-1100 nm         |  |             |
| Wavelength Accuracy      | ±0.1nm(D2 656.1 nm) | ±0.1 nm at D2 656.1 nm, ±0.3 nm at all range |             |
| Wavelength Repeatability | ≤0.1 nm             | -  | 0.1 nm      |

|                            |                             |                                     |              |
|----------------------------|-----------------------------|-------------------------------------|--------------|
| Spectral Bandwidth         | 1.8 nm                      | 1 nm                                | 0.5/1/2/4 nm |
| Photometric Range          | 0-200%T, -0.3--3A, 0-9999C  | -0.3-3 A,0-200 % T,0-9999 C         |              |
| Photometric Accuracy       | ±0.2T (0-100%T)             | ±0.2% T (0-100% T)                  |              |
| Photometric Repeatability  | ≤0.05 %T(0-100%T)           | ≤0.1 %T (0-100% T)                  |              |
| Stability                  | ±0.004A/h at 500 nm         | ≤ 0.0005 A/h at 250 nm, 500 nm      |              |
| Baseline Flatness          | ±0.001A                     | -                                   | -            |
| Stray Light                | 0.03 %T220 nm, 360nm        | ≤0.03 %T at 220 nm, 360 nm          |              |
| Light Source               | Tungsten and Deuterium Lamp | D2 Lamp / W Lamp                    |              |
| Detector                   | Silicon Photodiode          | -                                   | -            |
| Software                   | USB                         | -                                   | -            |
| Gross Dimension (W/D/H)    | 630x430x210 mm              | -                                   | -            |
| Display                    | 800x480 touch screen        | 320*240 Dots LCD                    |              |
| Noise                      | ±0.0004 A                   | -                                   | -            |
| Weight (Net/Gross)         | 28 kg                       | -                                   | -            |
| Power Supply               | 220V/50Hz 110V/60Hz         | AC 110/220 V, 50/60 Hz              |              |
| Wavelength Reproducibility | -                           | 0.1 nm                              | -            |
| Optical System             | -                           | Double Beam (1200 Lines/mm Grating) |              |
| Output                     | -                           | USB port & Parallel Port            |              |

## ACCESSORIES

| Accessory Code | Name                | Unit  | For Models             |
|----------------|---------------------|-------|------------------------|
| 3000706027     | 1 cm glass cuvette  | 4 pcs | BSDBU-201-C, BSDBU-202 |
| 3000706028     | power cord          | 1 pcs | BSDBU-201-C, BSDBU-202 |
| 3000706029     | dust cover          | 1 pcs | BSDBU-201-C, BSDBU-202 |
| 3000706030     | 1 cm quartz quvette | 2 pcs | BSDBU-201-C, BSDBU-202 |
| 3000706031     | software kit        | 1 pcs | BSDBU-202              |

## OPTIONAL ACCESSORIES

| Accessory Code | Name                         | Package Size (mm) | Description | For Models |
|----------------|------------------------------|-------------------|-------------|------------|
| 3000706006     | Quartz Cuvettes with Lid     | 52.5x12.5x45      |             | BSDBU-202  |
| 3000706007     | Quartz Cuvettes with Lid     | 102.5x12.5x45     |             | BSDBU-202  |
| 3000706008     | Glass Cuvettes with Stopper  | 7.5x12.5x45       |             | BSDBU-202  |
| 3000706009     | Glass Cuvettes with Stopper  | 12.5x12.5x45      |             | BSDBU-202  |
| 3000706010     | Glass Cuvettes with Stopper  | 22.5x12.5x45      |             | BSDBU-202  |
| 3000706011     | Glass Cuvettes with Stopper  | 32.5x12.5x45      |             | BSDBU-202  |
| 3000706012     | Glass Cuvettes with Stopper  | 42.5x12.5x45      |             | BSDBU-202  |
| 3000706013     | Glass Cuvettes with Stopper  | 52.5x12.5x45      |             | BSDBU-202  |
| 3000706014     | Glass Cuvettes with Stopper  | 102.5x12.5x45     |             | BSDBU-202  |
| 3000706015     | Quartz Cuvettes with Stopper | 7.5x12.5x45       |             | BSDBU-202  |
| 3000706016     | Quartz Cuvettes with Stopper | 12.5x12.5x45      |             | BSDBU-202  |
| 3000706017     | Quartz Cuvettes with Stopper | 22.5x12.5x45      |             | BSDBU-202  |
| 3000706018     | Quartz Cuvettes with Stopper | 32.5x12.5x45      |             | BSDBU-202  |
| 3000706019     | Quartz Cuvettes with Stopper | 42.5x12.5x45      |             | BSDBU-202  |
| 3000706020     | Quartz Cuvettes with Stopper | 52.5x12.5x45      |             | BSDBU-202  |
| 3000706021     | Quartz Cuvettes with Stopper | 102.5x12.5x45     |             | BSDBU-202  |

|            |                          |               |   |           |
|------------|--------------------------|---------------|---|-----------|
| 3000706022 | Micro Cuvettes           | 12.5x12.5x45  |   | BSDBU-202 |
| 3000706023 | Micro Cuvettes           | 12.5x12.5x45  |   | BSDBU-202 |
| 3000706024 | Micro Cuvettes           | 12.5x12.5x45  |   | BSDBU-202 |
| 3000706025 | Micro Cuvettes           | 12.5x12.5x45  |   | BSDBU-202 |
| 3000706026 | Software                 |               | UV Analyst  | BSDBU-202 |
| 3000706032 | Cell Holder              |               | 10mm single cell holder                             | BSDBU-202 |
| 3000706033 | Cell Holder              |               | 10mm 4-hole cell holder                             | BSDBU-202 |
| 3000706034 | Cell Holder              |               | 50mm 4-hole cell holder                             | BSDBU-202 |
| 3000706035 | Cell Holder              |               | 100mm 4-hole cell holder                            | BSDBU-202 |
| 3000706036 | Cell Holder              |               | 10mm 8-hole auto cell holder                        | BSDBU-202 |
| 3000706037 | Cell Holder              |               | 10mm 8-hole manual cell holder                      | BSDBU-202 |
| 3000706038 | Cell Holder              |               | 10mm single hole water jacketed ambient cell holder | BSDBU-202 |
| 3000706039 | Cell Holder              |               | Adjustable cell holder for micro cuvettes           | BSDBU-202 |
| 3000706040 | Cell Holder              |               | Transparent film holder                             | BSDBU-202 |
| 3000706041 | Cell Holder              |               | Test tube holder                                    | BSDBU-202 |
| 3000706042 | Control Units            |               | Peltier system                                      | BSDBU-202 |
| 3000706043 | Control Units            |               | Sipper system                                       | BSDBU-202 |
| 3000706044 | Control Units            |               | Peltier/Sipper system                               | BSDBU-202 |
| 3000706045 | Control Units            |               | Micro printer                                       | BSDBU-202 |
| 3000706046 | Lamps                    |               | W lamp 12V; 20W ( Phillips)                         | BSDBU-202 |
| 3000706047 | Lamps                    |               | D2 lamp A510YXU                                     | BSDBU-202 |
| 3000706048 | Lamps                    |               | D2 lamp A510YXU-002                                 | BSDBU-202 |
| 3000706049 | Glass Cuvettes with Lid  | 7.5x12.5x45   |   | BSDBU-202 |
| 3000706050 | Glass Cuvettes with Lid  | 12.5x12.5x45  |   | BSDBU-202 |
| 3000706051 | Glass Cuvettes with Lid  | 22.5x12.5x45  |   | BSDBU-202 |
| 3000706052 | Glass Cuvettes with Lid  | 32.5x12.5x45  |   | BSDBU-202 |
| 3000706053 | Glass Cuvettes with Lid  | 42.5x12.5x45  |   | BSDBU-202 |
| 3000706054 | Glass Cuvettes with Lid  | 52.5x12.5x45  |   | BSDBU-202 |
| 3000706055 | Glass Cuvettes with Lid  | 102.5x12.5x45 |   | BSDBU-202 |
| 3000706056 | Quartz Cuvettes with Lid | 7.5x12.5x45   |   | BSDBU-202 |
| 3000706057 | Quartz Cuvettes with Lid | 12.5x12.5x45  |   | BSDBU-202 |
| 3000706058 | Quartz Cuvettes with Lid | 22.5x12.5x45  |   | BSDBU-202 |
| 3000706059 | Quartz Cuvettes with Lid | 32.5x12.5x45  |   | BSDBU-202 |
| 3000706060 | Quartz Cuvettes with Lid | 42.5x12.5x45  |   | BSDBU-202 |



BSDBU-201-C



BSDBU-202



BSDBU-202-A

# BSDBU-202-B DOUBLE BEAM UV VISIBLE SPECTROPHOTOMETER



Double light path design can prevent circuit fluctuation and stray light to ensure stability of the instrument

Multi functions like spectrum scanning, standard curve, kinetics, multi wavelength scanning, DNA/Protein testing can be operated directly on the pc

Unique 520mm long light path design greatly improved resolution and the bandwidth can reach 0.5nm

Multi functions operated directly on the spectrophotometer and display the test results' curve and data: wavelength scanning, standard curve, kinetics, multi wavelength scanning, DNA/Protein test

Uses a rigid 16mm diecast aluminium base as their optical mount to ensure the stability and reliability

All baseline, wavelength, dark current can be calibrated automatically to keep good running conditions

6 inches LCD display to show results and curves directly on the screen

Equipped with USB port to connect with a PC, the software comes standard with the instrument

## SPECIFICATIONS

|                            |  |
|----------------------------|--|
| Model                      | BSDBU-202-B                                  |
| Wavelength Range           | 190-1100 nm                                  |
| Wavelength Accuracy        | ±0.1 nm at D2 656.1 nm, ±0.3 nm at all range |
| Wavelength Reproducibility | 0.1 nm                                       |
| Spectral Bandwidth         | 0.5, 1.0, 2.0, 4.0 nm (optional)             |
| Photometric Range          | -0.3-3 A, 0-200 % T, 0-9999 C                |
| Photometric Accuracy       | ±0.2% T (0-100% T)                           |
| Optical System             | Double Beam (1200 Lines/mm Grating)          |
| Photometric Repeatability  | ≤0.1 %T (0-100% T)                           |
| Stray Light                | ≤0.03 %T at 220 nm, 360 nm                   |
| Light Source               | D2 Lamp / W Lamp                             |
| Stability                  | ≤ 0.0005 A/h at 250 nm, 500 nm               |
| Output                     | USB port & Parallel Port                     |
| Display                    | 320*240 Dots LCD                             |
| Power Supply               | AC 110/220 V, 50/60 Hz                       |

# BSDBU-301 DOUBLE BEAM UV VISIBLE SPECTROPHOTOMETER



Large LCD display, all data and graphs can be shown directly and clearly

## SPECIFICATIONS

|                          |  |
|--------------------------|--|
| Model                    | BSDBU-301                                      |
| Wavelength Range         | 190-1100 nm                                    |
| Wavelength Accuracy      | ±0.3 nm  |
| Wavelength Repeatability | 0.2 nm   |
| Spectral Bandwidth       | 1.8 nm   |
| Photometric Range        | 0-200%T, -0.3-3.0 A                            |
| Photometric Accuracy     | ±0.3%T or ±0.003A @ 1A                         |
| Stability                | 0.0003 A/h @ 500nm                             |
| Baseline Flatness        | ±0.0005 A                                      |
| Stray Light              | 0.04%T @ 220 nm , 360 nm                       |
| Light Source             | Tungsten and Deuterium Lamp                    |
| Software                 | Optional PC model with UV/Vis analyst software |
| Gross Dimension (W/D/H)  | 589x428x200 mm                                 |
| Display                  | 5 inches LCD (320*240 dots)                    |
| Weight (Net/Gross)       | 22 kg  |
| Power Supply             | AC 110/220 V 60 Hz                             |

## OPTIONAL ACCESSORIES

| Accessory Code | Name   | Description                                  | Unit | Light Path (mm) |
|----------------|--------|--|------|-----------------|
| 3000806006     | Holder | 4-cell holder for 10mm square Cuvette        |      |                 |
| 3000806007     | Holder | 4-cell holder for up to 50mm square cuvette  |      |                 |
| 3000806008     | Holder | 4-cell holder for up to 100mm square cuvette |      |                 |
| 3000806009     | Holder | Long path single cell holder for 100mm       |      |                 |
| 3000806010     | Holder | Single cell holder for 10mm square Cuvette   |      |                 |
| 3000806011     | Holder | Cylindrical cell holder(Φ16mm)               |      |                 |
| 3000806012     | Holder | Water-jacketed single cell holder            |      |                 |
| 3000806013     | Holder | Test tube holder(Φ8-Φ22mm)                   |      |                 |

|            |                    |  |       |    |
|------------|--------------------|--|-------|----|
| 3000806014 | Holder             | 3-position cuvette holder  |       |    |
| 3000806015 | Holder             | 3-position cuvette holder  |       |    |
| 3000806016 | Holder             | Solid sample holder( $\delta$ 1.5mm--3mm;single cell)                                    | /1pc  |    |
| 3000806017 | Holder             | Solid sample holder( $\delta$ 1.5mm--3mm;double cell)                                    | /1pc  |    |
| 3000806018 | Holder             | 10mm water-jacked 4 cell holder  | /1pc  |    |
| 3000806019 | Other              | 5° reflectance meachment attachment (minimum sample:20x20mm ;central beam height:50mm)   | /1pc  |    |
| 3000806020 | Lamp               | 6v10w halogen lamp   | /1pc  |    |
| 3000806021 | Lamp               | 12v20w halogen lamp (phillips)   |       |    |
| 3000806022 | Lamp               | 12v20w halogen lamp (osram)  |       |    |
| 3000806023 | Lamp               | Milas deuterium lamp; 10v;300ma; 30w   |       |    |
| 3000806024 | Lamp               | Deuterium lamp   | /1pc  |    |
| 3000806025 | Thermo printer     |  |       |    |
| 3000806026 | Stylus printer     |  |       |    |
| 3000806027 | Cuvettes           | Square cuvettes; glass 10mm  | /4pcs |    |
| 3000806028 | Cuvettes           | Square cuvettes; glass 20mm  | /4pcs |    |
| 3000806029 | Cuvettes           | Square cuvettes; glass 30mm  | /4pcs |    |
| 3000806030 | Cuvettes           | Square cuvettes; glass 50mm  | /4pcs |    |
| 3000806031 | Cuvettes           | Square cuvettes; glass 100mm   | /4pcs |    |
| 3000806032 | Cuvettes           | Square cuvettes; quartz 10mm   | /2pcs |    |
| 3000806033 | Cuvettes           | Square cuvettes; quartz 20mm   | /2pcs |    |
| 3000806034 | Cuvettes           | 500ul micro cell ; central-beam height:8.5mm;15mm; 2x10x45mm; quartz                     | /1pc  |    |
| 3000806035 | Cuvettes           | 1000ul micro cell; central-beam height:8.5mm;15mm; 3x10x45mm; quartz                     | /1pc  |    |
| 3000806036 | Software           | Dongles for 31.61 application software ; (UV analyst software)                           | /1set |    |
| 3000806037 | Software           | Software (m.wave basic)  | /1set |    |
| 3000806038 | Software           | Software   | /1set |    |
| 3000806039 | Software           | Advanced PC window software (m.wave professional)  | /1set |    |
| 3000806040 | Software           | Software (m.wave basic)  | /1set |    |
| 3000806041 | Holder             | Cell holder for micro cells; Central beam height: 15mm                                   |       |    |
| 3000806042 | USB connector line | USB connector line (only for m.wave basic)   | /1pc  |    |
| 3000806043 | Quartz Cuvette     | Cell; 100ul; 1pcs; central beam height: 15mm   |       | 10 |
| 3000806044 | Quartz Cuvette     | Cell; 200ul; 1pcs;central beam height:15mm   |       | 10 |
| 3000806045 | Cuvette            | Flow cell; 5 mm; optical glass; 1pcs;central beam height:15mm; l5xw2xh5mm                |       |    |
| 3000806046 | Cuvette            | Flow cell; 10 mm; optical glass; 1pcs;central beam height:15mm; l10xw2xh5mm              |       |    |
| 3000806047 | Cuvette            | Flow cell; 20 mm; optical glass; 1pcs;central beam height:15mm;l20xw2xh5mm               |       |    |
| 3000806048 | Cuvette            | Flow cell; 30 mm; optical glass; 1pcs;central beam height:15mm; l30xw2xh5mm              |       |    |
| 3000806049 | Cuvette            | Flow cell; 5 mm; quartz; 1pcs; central beam height:15mm; l5xw2xh5mm                      |       |    |
| 3000806050 | Cuvette            | Flow cell; 20 mm; quartz; 1pcs; central beam height:15mm; l20xw2xh5mm                    |       |    |
| 3000806051 | Cuvette            | Flow cell; 30 mm; quartz; 1pcs; central beam height:15mm; l30xw2xh5mm                    |       |    |
| 3000806052 | Other              | A-100 peltier/sipper system; constant-temperature sipper system; holder beam height:15mm |       |    |
| 3000806053 | Holder             | 1-cell holder for 100mm square cuvette   |       |    |
| 3000806054 | Holder             | 10mm water-jacketed 4-cell holder  |       |    |
| 3000806055 | Holder             | Test tube holder( $\Phi$ 8- $\Phi$ 22mm)   |       |    |
| 3000806056 | Holder             | Solid sample holder( $\delta$ 1.5mm-3mm; 1-position)                                     |       |    |

|            |                 |                                 |       |   |
|------------|-----------------|---------------------------------|-------|---|
| 3000806057 | Silicon tube    | Silicon tube; 1bag=1pair(1m+1m) | /1bag |   |
| 3000806058 | Glass cuvettes  | Square cuvettes; volume:1800ul  | /2pcs | 5 |
| 3000806059 | Glass cuvettes  | Square cuvettes; volume:1350ul  |       | 3 |
| 3000806060 | Glass cuvettes  | Square cuvettes; volume:900ul   |       | 2 |
| 3000806061 | Glass cuvettes  | Square cuvettes; volume:450ul   |       | 1 |
| 3000806062 | Quartz cuvettes | Square cuvettes; volume:1800ul  | /2pcs | 5 |

## BSDBU-302 DOUBLE BEAM UV VISIBLE SPECTROPHOTOMETER



Easy Data Output by USB/Parallel Port

## SPECIFICATIONS

|                          |                             |
|--------------------------|-----------------------------|
| Model                    | BSDBU-302                   |
| Wavelength Range         | 190-1100 nm                 |
| Wavelength Accuracy      | ±0.3 nm                     |
| Wavelength Repeatability | 0.2 nm                      |
| Spectral Bandwidth       | 1 nm                        |
| Photometric Range        | 0.200%T, -0.3-3.0 A         |
| Photometric Accuracy     | ±0.3%T or ±0.002A @ 1A      |
| Stability                | 0.0003 A/h @ 500nm          |
| Baseline Flatness        | ±0.0005 A                   |
| Stray Light              | 0.04%T @ 220 nm , 360 nm    |
| Light Source             | Tungsten and Deuterium Lamp |
| Software                 | Optional PC software        |
| Gross Dimension (W/D/H)  | 589x428x200 mm              |
| Display                  | 5 inches LCD (320*240 dots) |
| Weight (Net/Gross)       | 22 kg                       |
| Power Supply             | AC 110/220 V 60 Hz          |

## OPTIONAL ACCESSORIES

| Accessory Code | Name   | Description                           | Unit | Light Path (mm) |
|----------------|--------|---------------------------------------|------|-----------------|
| 3000806006     | Holder | 4-cell holder for 10mm square Cuvette |      |                 |

|            |                    |  |       |    |
|------------|--------------------|--|-------|----|
| 3000806007 | Holder             | 4-cell holder for up to 50mm square cuvette  |       |    |
| 3000806008 | Holder             | 4-cell holder for up to 100mm square cuvette   |       |    |
| 3000806009 | Holder             | Long path single cell holder for 100mm   |       |    |
| 3000806010 | Holder             | Single cell holder for 10mm square Cuvette   |       |    |
| 3000806011 | Holder             | Cylindrical cell holder( $\Phi$ 16mm)  |       |    |
| 3000806012 | Holder             | Water-jacketed single cell holder  |       |    |
| 3000806013 | Holder             | Test tube holder( $\Phi$ 8- $\Phi$ 22mm)   |       |    |
| 3000806014 | Holder             | 3-position cuvette holder  |       |    |
| 3000806015 | Holder             | 3-position cuvette holder  |       |    |
| 3000806016 | Holder             | Solid sample holder( $\delta$ 1.5mm--3mm;single cell)                                  | /1pc  |    |
| 3000806017 | Holder             | Solid sample holder( $\delta$ 1.5mm--3mm;double cell)                                  | /1pc  |    |
| 3000806018 | Holder             | 10mm water-jacked 4 cell holder  | /1pc  |    |
| 3000806019 | Other              | 5° reflectance meachment attachment (minimum sample:20x20mm ;central beam height:50mm) | /1pc  |    |
| 3000806020 | Lamp               | 6v10w halogen lamp   | /1pc  |    |
| 3000806021 | Lamp               | 12v20w halogen lamp (phillips)   |       |    |
| 3000806022 | Lamp               | 12v20w halogen lamp (osram)  |       |    |
| 3000806023 | Lamp               | Milas deuterium lamp; 10v;300ma; 30w   |       |    |
| 3000806024 | Lamp               | Deuterium lamp   | /1pc  |    |
| 3000806025 | Thermo printer     |  |       |    |
| 3000806026 | Stylus printer     |  |       |    |
| 3000806027 | Cuvettes           | Square cuvettes; glass 10mm  | /4pcs |    |
| 3000806028 | Cuvettes           | Square cuvettes; glass 20mm  | /4pcs |    |
| 3000806029 | Cuvettes           | Square cuvettes; glass 30mm  | /4pcs |    |
| 3000806030 | Cuvettes           | Square cuvettes; glass 50mm  | /4pcs |    |
| 3000806031 | Cuvettes           | Square cuvettes; glass 100mm   | /4pcs |    |
| 3000806032 | Cuvettes           | Square cuvettes; quartz 10mm   | /2pcs |    |
| 3000806033 | Cuvettes           | Square cuvettes; quartz 20mm   | /2pcs |    |
| 3000806034 | Cuvettes           | 500ul micro cell ; central-beam height:8.5mm;15mm; 2x10x45mm; quartz                   | /1pc  |    |
| 3000806035 | Cuvettes           | 1000ul micro cell; central-beam height:8.5mm;15mm; 3x10x45mm; quartz                   | /1pc  |    |
| 3000806036 | Software           | Dongles for 31.61 application software ; (UV analyst software)                         | /1set |    |
| 3000806037 | Software           | Software (m.wave basic)  | /1set |    |
| 3000806038 | Software           | Software   | /1set |    |
| 3000806039 | Software           | Advanced PC window software (m.wave professional)                                      | /1set |    |
| 3000806040 | Software           | Software (m.wave basic)  | /1set |    |
| 3000806041 | Holder             | Cell holder for micro cells; Central beam height: 15mm                                 |       |    |
| 3000806042 | USB connector line | USB connector line (only for m.wave basic)   | /1pc  |    |
| 3000806043 | Quartz Cuvette     | Cell; 100ul; 1pcs; central beam height: 15mm   |       | 10 |
| 3000806044 | Quartz Cuvette     | Cell; 200ul; 1pcs;central beam height:15mm   |       | 10 |
| 3000806045 | Cuvette            | Flow cell; 5 mm; optical glass; 1pcs;central beam height:15mm; 15xw2xh5mm              |       |    |
| 3000806046 | Cuvette            | Flow cell; 10 mm; optical glass; 1pcs;central beam height:15mm; 110xw2xh5mm            |       |    |
| 3000806047 | Cuvette            | Flow cell; 20 mm; optical glass; 1pcs;central beam height:15mm;120xw2xh5mm             |       |    |
| 3000806048 | Cuvette            | Flow cell; 30 mm; optical glass; 1pcs;central beam height:15mm; 130xw2xh5mm            |       |    |
| 3000806049 | Cuvette            | Flow cell; 5 mm; quartz; 1pcs; central beam height:15mm; 15xw2xh5mm                    |       |    |
| 3000806050 | Cuvette            | Flow cell; 20 mm; quartz; 1pcs; central beam height:15mm; 120xw2xh5mm                  |       |    |

|            |                 |  |       |   |
|------------|-----------------|--|-------|---|
| 3000806051 | Cuvette         | Flow cell; 30 mm; quartz; 1pcs; central beam height:15mm; l30xw2xh5mm                    |       |   |
| 3000806052 | Other           | A-100 peltier/sipper system; constant-temperature sipper system; holder beam height:15mm |       |   |
| 3000806053 | Holder          | 1-cell holder for 100mm square cuvette   |       |   |
| 3000806054 | Holder          | 10mm water-jacketed 4-cell holder  |       |   |
| 3000806055 | Holder          | Test tube holder(Φ8-Φ22mm)   |       |   |
| 3000806056 | Holder          | Solid sample holder(δ1.5mm-3mm; 1-position)  |       |   |
| 3000806057 | Silicon tube    | Silicon tube; 1bag=1pair(1m+1m)  | /1bag |   |
| 3000806058 | Glass cuvettes  | Square cuvettes; volume:1800ul   | /2pcs | 5 |
| 3000806059 | Glass cuvettes  | Square cuvettes; volume:1350ul   |       | 3 |
| 3000806060 | Glass cuvettes  | Square cuvettes; volume:900ul  |       | 2 |
| 3000806061 | Glass cuvettes  | Square cuvettes; volume:450ul  |       | 1 |
| 3000806062 | Quartz cuvettes | Square cuvettes; volume:1800ul   | /2pcs | 5 |

## 200 DOUBLE BEAM UV VISIBLE SPECTROPHOTOMETER



Unique Long light path design

520mm long light path greatly improved the wavelength resolution

Advanced Stand-alone System with Multi Functions

Spectrum scanning, Standard curve, Kinetics, Multi wavelength, DNA/Protein test can be operated

directly on device and all corresponding curves and data can be displayed directly

Rigid Structure, 16mm-thick Optical Base

All optical components are fixed on a 16mm thick rigid die-cast aluminum board to promise higher stability and reliability

One-button Automatic Calibration System

One button auto calibration for baseline, wavelength and dark current to keep device in a good condition

6 inches High-Definition Large LCD Display

Large LCD display, all data and graphs can be shown directly and clearly

Easy Data Output by USB/Parallel Port

USB Port: Connect to computer and operate through PC software ( PC software is standard)

Parallel Port: Connect to micro thermal printer to print test data( Micro thermal printer is optional)

Powerful Software Functions

Spectrum scanning, Standard curves, Kinetics, Multi wavelength scanning, DNA/Protein test can be operated directly on computer

## SPECIFICATIONS

| Model                     | BSDBU-203-A                               | BSDBU-203-B                  | BSDBU-203-C  |
|---------------------------|---|------------------------------|--------------|
| Wavelength Range          | 190-1100 nm                               |                              |              |
| Wavelength Accuracy       | ±0.1 nm at 656.1 nm, ±0.3 nm at all range |                              |              |
| Wavelength Repeatability  | ≤ 0.1 nm                                  |                              |              |
| Spectral Bandwidth        | 1.8 nm                                    | 1 nm                         | 0.5/1/2/4 nm |
| Photometric Range         | -0.3-3 A, 0-200% T, 0-999 C               | -0.3-3 A, 0-200% T, 0-9999 C |              |
| Photometric Accuracy      | ±0.3% T (0-100% T)                        |                              |              |
| Photometric Repeatability | ≤0.1% T (0-100% T)                        |                              |              |

|                    |                                    |
|--------------------|------------------------------------|
| Stability          | $\leq 0.001$ A/30 min at 500 nm    |
| Stray Light        | $\leq 0.05\%$ T at 220 nm & 360 nm |
| Output             | USB port & Parallel Port           |
| Display            | 320*240 Dots LCD                   |
| Light Source       | W Lamp & D2 Lamp                   |
| Detector           | Silicon Photodiode                 |
| Power Requirements | AC110/220 V, 50/60 Hz              |



BSDBU-203-A



BSDBU-203-B



BSDBU-203-C

## 200 DOUBLE BEAM UV VISIBLE SPECTROPHOTOMETER



- Large HD Smart Touch Screen
- High sensitivity and user-friendly UI for easy operation
- Stand-Alone System with Multi Functions
- Spectrum scanning, Standard curve, Kinetics, Multi wavelength, DNA/Protein test can be operated directly on device without PC software
- Automatic 8-position Cell Holder
- Higher efficiency of experiment to save time
- Easy Printing
- Available to connect with general office printer directly (HP DeskJet 1111/1112/2723)
- USB Port, Fast Data Output
- All test data can be exported to USB disk directly
- Optional Bluetooth Module and PC software
- Bluetooth function and PC software are optional to meet different applications
- Large Sample Chamber, Multi Options of Accessories
- 1-10cm universal cell holder, test tube holder, film holder, integrating sphere, specular reflectance accessory, peltier/sipper system, etc
- High-quality Grating with High Performance
- Lower stray light, higher stability and reliability
- 16mm-thick Optical Base, Rigid Structure
- All optical components are fixed on a 16mm thick rigid die-cast aluminum board to promise higher stability and reliability

## SPECIFICATIONS

| Model                    | BSDBU-204-A   | BSDBU-204-B | BSDBU-204-C |
|--------------------------|---|-------------|-------------|
| Wavelength Range         | 190-1100 nm   |             |             |
| Wavelength Accuracy      | $\pm 0.1$ nm at D2 656.1 nm, $\pm 0.3$ nm at full range |             |             |
| Wavelength Repeatability | $\leq 0.1$ nm   |             |             |

|                           |   |      |  |
|---------------------------|---|------|--|
| Spectral Bandwidth        | 1.8 nm  | 1 nm | 0.5/1/2/4 nm   |
| Photometric Range         | -0.3-3 A, 0-200% T, 0-9999 C                                    |      |  |
| Photometric Accuracy      | ±0.3%T (0-100%T); ±0.002Abs (0-0.5Abs); ±0.004Abs (0.5-1.0Abs)  |      |  |
| Photometric Repeatability | ≤0.1%T (0-100% T); ≤0.001Abs (0-0.5Abs); ≤0.002Abs (0.5-1.0Abs) |      | ≤0.1% T (0-100% T); ≤0.001 Abs (0-0.5Abs); ≤0.002 Abs (0.5-1.0Abs) |
| Stability                 | ≤0.001 A/h@250 nm & 500 nm, 2 hrs warm-up                       |      |  |
| Stray Light               | ≤0.05%T at 220 nm & 360 nm                                      |      |  |
| Output                    | USB Port or Bluetooth (Optional)                                |      |  |
| Optical System            | Double Beam   |      |  |
| Light Source              | W Lamp & D2 Lamp  |      |  |
| Control Mode              | Stand-alone System or PC Software (Optional)                    |      |  |
| Display                   | 10-inch Touch Screen  |      |  |
| Power Requirements        | AC 110/220 V, 50/60 Hz  |      |  |



BSDBU-204-A



BSDBU-204-B



BSDBU-204-C

# BSDBU-205 DOUBLE BEAM UV VISIBLE SPECTROPHOTOMETER



## Sensitive Detection

High-quality Photomultiplier, fast response and high sensitivity

Especially suitable for weak radiation energy detection

## Adjustable Bandwidth

Continuous adjustable spectral bandwidth from 0.1 to 5.0nm

0.1nm interval, suitable for various applications, especially suitable for samples with sharp absorption peaks, like

penicillin sodium, penicillin potassium, etc

## High Stability and Reliability

An extra mercury lamp equipped, one-key calibration for wavelength accuracy

High-quality deuterium lamp and tungsten lamp, longer service time and higher stability

Premium lens and lens coating, higher repeatability

Real-time automatic calibration of dark current

## Larger Sample Chamber, Multi Functions

Various optional accessories: auto 8-position cell holder, autosampler, thermostatic cell holder, integrating sphere and

specular reflection accessory, etc

## PC Software Controlled

User-friendly UI, simple operation and clear display

## Easy Maintain and Lower Cost

Independent modular design, lower maintenance cost

Socket type of lamps, easy to replace and no need to adjust optical path

## SPECIFICATIONS

|                          |  |
|--------------------------|--|
| Model                    | BSDBU-205  |
| Wavelength Range         | 190-900 nm   |
| Wavelength Accuracy      | ±0.3 nm  |
| Wavelength Repeatability | ≤0.1nm   |
| Spectral Bandwidth       | Continuously adjustable from 0.1 nm to 5 nm, 0.1 nm interval |
| Photometric Accuracy     | ±0.3% T  |
| Optical System           | Double Beam  |
| Detector                 | Photomultiplier (PMT)  |
| Light Source             | W Lamp & D2 Lamp & Mercury Lamp                              |
| Control Mode             | PC Software Controlled                                       |
| Stability                | ≤0.0001 A/h  |
| Stray Light              | ≤0.005%T at 220 nm & 360 nm                                  |
| Power Requirements       | AC110/220 V, 50/60 Hz  |



**Biolab Scientific Ltd.**

Trillium Executive Center, East Tower, 675 Cochrane Dr, Markham, Ontario L3R 0B8, Canada

Email: [info@biolabscientific.com](mailto:info@biolabscientific.com) | Website: [www.biolabscientific.com](http://www.biolabscientific.com)