

**UVisco**



Instruction Manual

P series

DOMINIQUE DUTSCHER SAS



DOMINIQUE DUTSCHER SAS

# Single Beam Spectrophotometer



JASCO France SAS – LC-Instru SAS  
Zone Industrielle de l'églantier, 17 Rue des Cerisiers, 91090 Lisses  
Téléphone : 09 72 50 12 35  
[www.lc-instru.fr](http://www.lc-instru.fr)  
[info@lc-instru](mailto:info@lc-instru) , [jascofrance@jascofrance.fr](mailto:jascofrance@jascofrance.fr)

DOMINIQUE DUTSCHER SAS

# Table of Contents

|   |    |
|---|----|
| Safety Information .....  | 1  |
| Package Contents.....   | 1  |
| Unpacking .....   | 1  |
| Installation .....  | 2  |
| Symbols and Conventions.....  | 2  |
| Specifications .....  | 3  |
| Overview .....  | 3  |
| Description of Buttons and Switches .....                                 | 4  |
| Getting Started.....  | 4  |
| General Operating Instructions.....                                       | 5  |
| <i>Touch Screen Using Tips</i> .....                                      | 5  |
| <i>Select Application</i> .....   | 5  |
| <i>Basic Operation</i> .....  | 6  |
| <i>Measurement Results Operation</i> .....                                | 6  |
| <i>Files Operation</i> .....  | 8  |
| Calibration and System Settings.....                                      | 9  |
| <i>Calibration</i> .....  | 9  |
| <i>Settings of Light Source</i> .....                                     | 10 |
| <i>Edit Clock</i> .....   | 11 |
| <i>Memory Management</i> .....  | 11 |
| <i>Language Selection</i> .....   | 12 |
| <i>General Options</i> .....  | 12 |
| <i>Restore Defaults</i> .....   | 13 |
| Performance Verification .....  | 14 |
| <i>Verifying Wavelength Accuracy and Wavelength Repeatability</i> .....   | 14 |
| <i>Verifying Photometric Accuracy and Photometric Repeatability</i> ..... | 14 |
| <i>Verifying Stray Light</i> .....  | 15 |
| <i>Verifying Noise</i> .....  | 15 |
| <i>Verifying Dark Noise</i> .....   | 15 |
| <i>Verifying Stability</i> .....  | 15 |
| <i>Verifying Bandwidth</i> .....  | 16 |
| Measurement .....   | 16 |
| <i>Important Guidelines</i> .....   | 16 |
| <i>Check the cuvettes</i> .....   | 16 |

|                                      |    |
|--------------------------------------|----|
| <i>Photometry</i> .....              | 16 |
| <i>Quantitation</i> .....            | 18 |
| Troubleshooting .....                | 22 |
| Repair and Maintenance.....          | 23 |
| <i>Daily Maintain</i> .....          | 23 |
| <i>Spare Parts Replacement</i> ..... | 23 |
| Warranty .....                       | 26 |
| Equipment Disposal .....             | 27 |

DOMINIQUE DUTSCHER SAS

# Safety Information

Please follow the guidelines below, and read this manual in its entirety to ensure safe operation of the unit.



- Do not open the device.
- Disconnect the device from the mains supply before carrying out maintenance work or changing the fuses.
- The inside of the device is a high-voltage area Danger!
- Do not use the device if it is damaged, especially if the main power cable way is in any damaged or defective.
- Repairs may only be carried out by the service technicians from us and authorized contractual partners.
- The device must be connected to a power outlet that has a protective ground connection.
- If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.



- Do not allow any liquid to enter into the device.
- Do not operate the device in a hazardous location or potentially explosive environment.

## Package Contents

| Description                             | Quantity |
|---|----------|
| Spectrophotometer                       | 1PC      |
| Glass Cuvette                           | 4PCS     |
| Quartz Cuvette (UV/VISIBLE models only) | 2PCS     |
| Power Cord                              | 1PC      |
| Instruction Manual                      | 1PC      |
| Dust Cover                              | 1PC      |

## Unpacking

Open the package, according to carefully check the packaging packing list items, if found inside the packaging are missing or damaged items please contact us and authorized contractual partners.

# Installation

## Placement

Place the instrument on the stable table carefully.

## Install printer (Optional)

Check to confirm instrument power switch is turned off, connect the printer's data cable to the Instrument's serial/USB port.




**Information** *The spectrophotometer supports USB printers using the HP PCL3 GUI print description language.*

## Connect the power cord

Check to confirm instrument power switch is turned off, the power cord plug into two separate power interface and power supply socket apparatus.

# Symbols and Conventions

The following chart is an illustrated glossary of the symbols that are used in this manual.

|   |  |
|---|--|
|  | <b>CAUTION</b> This symbol indicates a potential risk and alerts you to proceed with caution                 |
|  | <b>CAUTION</b> This symbol indicates the presence of high voltage and warns the user to proceed with caution |
|  | <b>CAUTION</b> This symbol indicates risks associated with hot surfaces                                      |

## Specifications

Paste Specifications  
&  
Model Description

## Overview

This model of spectrophotometer used in Chemistry, Pharmaceuticals, Biochemical, Metallurgy, Light Industry, Textile, Material, Environments, Medical, Education and some other fields for Quality Control laboratories.

# Description of Buttons and Switches

## Front View



## Right View



## Rear View











# Getting Started

The following chart describes the basic operation of the instrument.

## Turn On and Self-check

Switch on the power. Self-check includes the following steps: Turn On Lamp → Locating Filter Disc → Locating Automatic Sample Holder (If Installed) → Get Dark Current → Locating Wavelength → Check Energy → Check System baseline.

| System initialization   |   |
|---|---|
|  | Light source initialization  |
|  | Filter initialization        |
|  | Sample holder initialization  |
|  | Dark current check  |
|  | Wavelength calibration  |
|  | Energy check  |

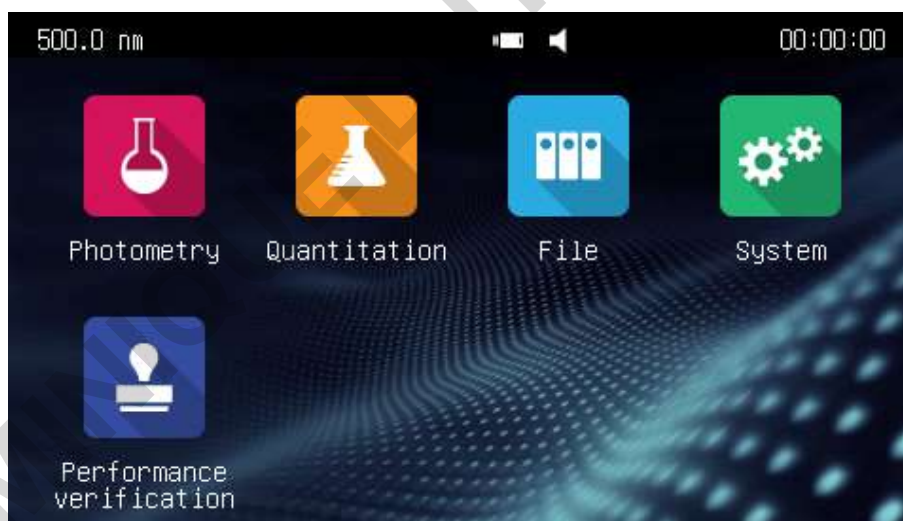
## General Operating Instructions







### Touch Screen Using Tips

The entire screen can be started with a touch. To make a choice, use your nails, fingertips, pencil, or stylus to press the screen. Don't press the screen with sharp objects (such as ball point).




### Select Application

**Main Interface**, press the icon to select application.







|   |   |
|---|---|
|  | <b>Photometry</b> Measure the absorbance or transmittance of the sample.                      |
|  | <b>Quantitation</b> Establish the standard curve and measure the concentration of the sample. |
|  | <b>Spectrum</b> Scan the sample in a wavelength range.  |
|  | <b>File</b> Manage files stored in the instrument or USB disk.                                |
|  | <b>System</b> System calibration and setup.   |
|  | <b>Performance verification</b> Verify the performance of the instrument.                     |

### Basic Operation

|   |   |
|---|---|
|    | <b>Home</b> Back to main interface.           |
|   | <b>Return</b> Back to the previous interface. |
|  | <b>Page Up/Down</b> Go to previous/next page. |

### Measurement Results Operation

|   |  |
|---|--|
|  | <b>Open</b> Open result(s) from internal/USB memory. |
|  | <b>Save</b> Save result(s) to internal/USB memory.   |
|  | <b>Print</b> Print result(s).                        |
|  | <b>Delete</b> Delete selected result(s).             |

## Rename, Print and Delete Results

| Name    | Wavelength | Result  | Date              |
|---------|------------|---------|-------------------|
| Spl - 1 | 500.0      | 0.006 A | 14/04/01 12:00:03 |
| Spl - 2 | 520.0      | 0.013 A | 14/04/01 12:01:12 |
| Spl - 3 | 610.0      | 0.125 A | 14/04/01 12:01:58 |
| Spl - 4 | 700.0      | 0.169 A | 14/04/01 12:02:07 |
| Spl - 5 | 835.0      | 0.011 A | 14/04/01 12:02:49 |

### Rename a Sample:

**List** interface, press the area **Name**, key in the sample name (Up to 8 characters).

### Print the Measurement Report:

**List** interface, press the icon .


### Delete sample(s):

**List** interface, press the **Check Box**, and press the icon .

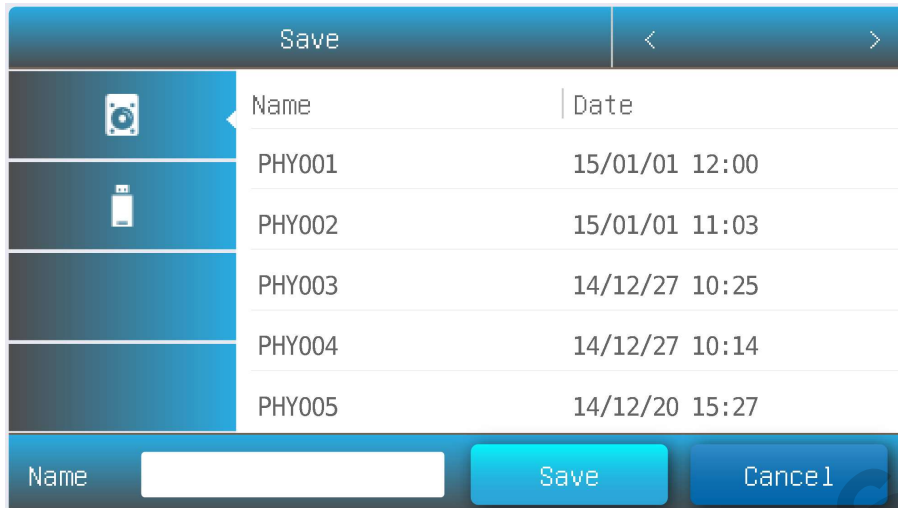
## Open Results

| Name   | Date           |
|--------|----------------|
| PHY001 | 15/01/01 12:00 |
| PHY002 | 15/01/01 11:03 |
| PHY003 | 14/12/27 10:25 |
| PHY004 | 14/12/27 10:14 |
| PHY005 | 14/12/20 15:27 |



### Open:

1. **List** interface, press the icon .
2. Press the icon **internal memory/USB memory** to select the memory which the file saved.
3. Press file lists to select, press the button **Open**.







## Save Results



### Save:





1. **List** interface, press the icon **Save**.
2. Press the icon  /  to select the Internal/USB memory which the file to save.
3. Type in the file name, press the button **Save**.

## Files Operation

|   |   |
|---|---|
|  | <b>Internal Memory</b> Internal memory of the spectrophotometer.                        |
|  | <b>USB Memory</b> USB extended mass memory.   |
|  | <b>Copy</b> Copy the selected file(s) from internal /USB memory to USB/internal memory. |
|  | <b>Export csv</b> Export file(s) to *.csv format  |
|  | <b>Export txt</b> Export file(s) to *.txt format  |
|  | <b>Delete</b> Delete the selected file(s).  |


## Rename, Import, Export and Delete Files



- Rename a File:** **File management** interface, press the area **Name**, key in the file name (Up to 8 characters).
- Copy File(s) From/To Internal Memory/USB Memory:** **File management** interface, press the **Check Box**, press the button  (Need USB disk) .
- Export File(s) To \*.csv Format** **File management** interface, press the **Check Box**, press the button  (Need USB disk) .
- Export File(s) To \*.txt Format** **File management** interface, press the **Check Box**, press the button  (Need USB disk) .
- Delete File(s):** **File management** interface, press the **Check Box**, and press the icon .


## Calibration and System Settings

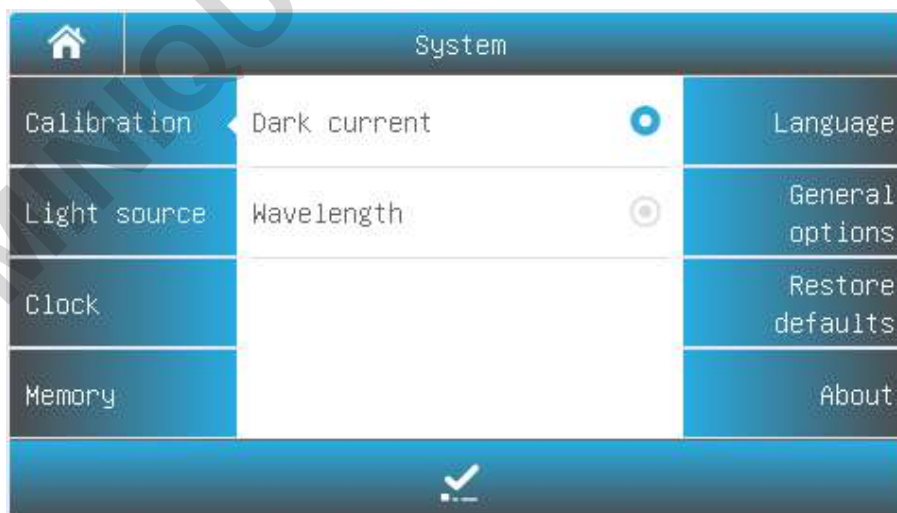


Select the icon  in the main interface. Display options to calibrate the system and configure the basic instrument settings.



### Calibration

|   |   |
|---|---|
|  | <b>Calibrate</b> Start to do calibration. |
|---|---|

Select Tab **Calibration** in the **System** interface. Remove something in the measurement channel, close the sample chamber cover, select the item **Dark current**, **Wavelength**, press the icon  to do calibration.



## Settings of Light Source

|   |   |
|---|---|
|  | <b>Tungsten lamp reset</b> Reset the Tungsten lamp usage.   |
|  | <b>Deuterium lamp reset</b> Reset the Deuterium lamp usage. |

Select Tab **Light source** in the **System** interface. The light source information is displayed on the screen.




Visible models



UV/VISIBLE models



### On/Off lamp:

Press the icon  to turn on/off the Tungsten lamp/Deuterium lamp.

### Change the lamp switching point:

Press the value of lamp switching point. Input the new value.

### Reset the lamp usage:

Press the icon  /  to reset the Tungsten lamp/Deuterium lamp usage time.


## Important information

1. *If only one of the light sources is used in for a long period of time, please turn off another light source to save energy.*
2. *If the lamp switching point is changed, the system baseline must be recalibrated.*

### Edit Clock



|   |                                     |
|---|-------------------------------------|
|  | <b>Accept</b> Accept the new value. |
|---|-------------------------------------|

Select Tab **Clock** in the **System** interface. Press the value of year, month, date, hour, minute or second to change.



Press the icon  to accept new value.

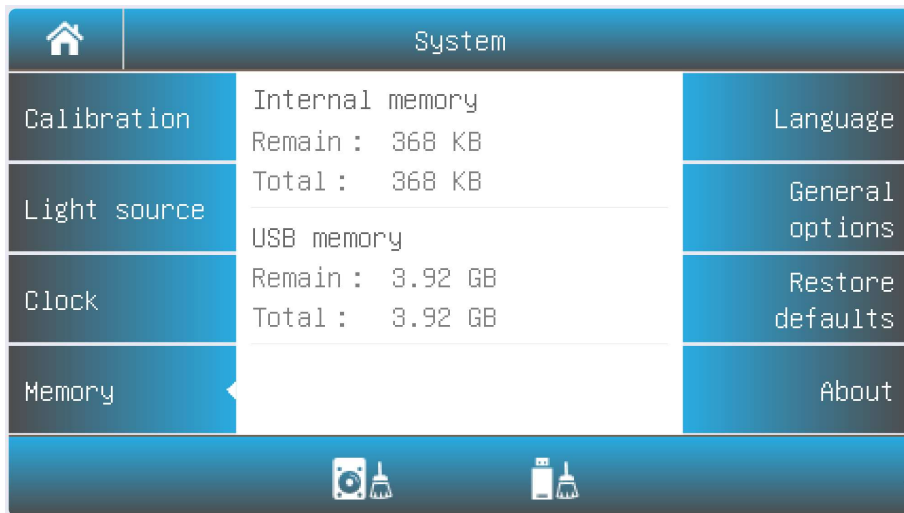


### Memory Management

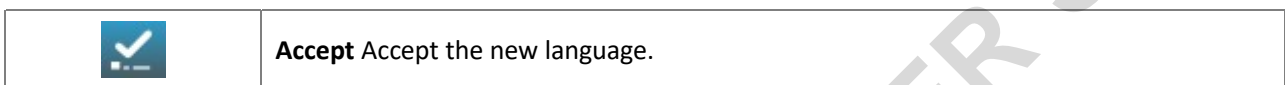
|   |  |
|---|--|
|  | <b>Format Internal Memory</b> Format the internal memory of the spectrophotometer. |
|  | <b>Format USB Memory</b> Format the USB mass storage.                              |

Select Tab **Memory** in the **System** interface. The use of the internal and USB memory (If inserted) are show.

Press the icon  /  to format internal memory/USB memory.



### Language Selection

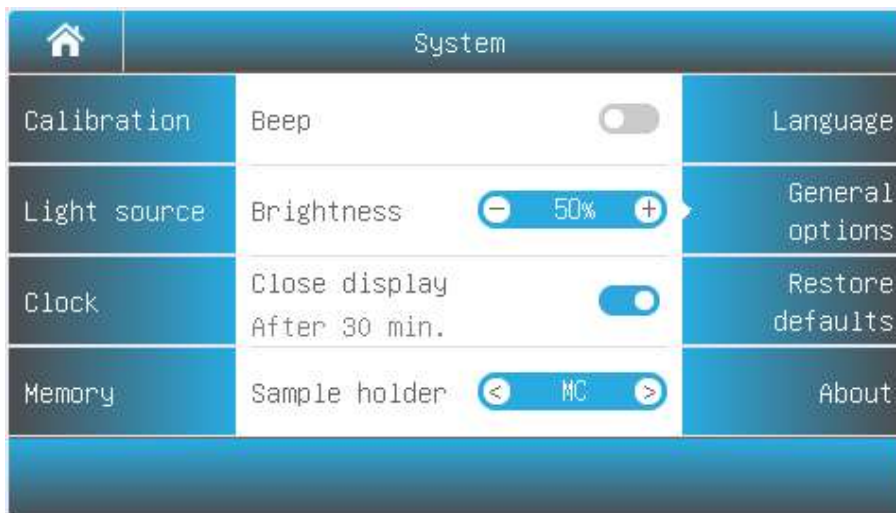


Select Tab **Language** in the **System** interface. Select a language, press the icon  to change.



### General Options


Select Tab **General Options** in the **System** interface.




**Beep:**

Press the icon  to turn on/off the beep.


**Brightness:**

Press the icon  to decrease/increase the brightness of the LCD display.

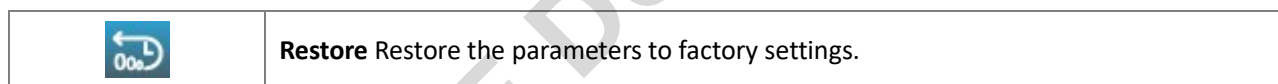
**Close display:**

Press the icon  to turn on/off. If turned on, the display will close automatically if no operation for 30 minutes.

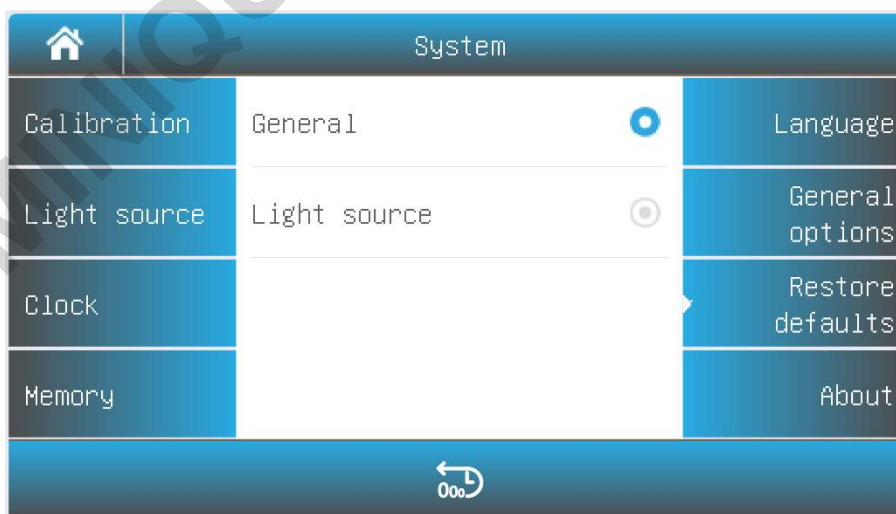
**Select sample holder**

If the instrument is equipped with an automatic sample cell holder, you need to press  before the first use to set the type of automatic sample cell holder provided (Auto Five-cell Holder: AC-5 or Automatic Eight-cell Holder: AC-8)

**Restore Defaults**



Select Tab **Restore defaults** in the **System** interface. Select an item, press the icon  to restore.



# Performance Verification



Select the icon in the main interface. Display options to verify the performance of the instrument.



**Important information** Before verifying the performance, the instrument needs to be preheated for 30 minutes, and then re-measure dark current.

## Verifying Wavelength Accuracy and Wavelength Repeatability

Select Tab **Wavelength accuracy** in the **Performance verification** interface.

**Standard Sample:** Holmium oxide solution or equivalent filter

- Measurement:**
1. Remove something in the measurement channel, close the sample chamber cover, press the wavelength value, type in the wavelength of measurement, press the button **Zero**;
  2. Put the **Standard Sample** in the measurement channel, press the button **Measure**;
  3. Repeat step 2 to do measurement three times. The difference between the average of the three measurements and the standard value is the single-point wavelength tolerance. The difference between the maximum and minimum values of the three measurements is single point wavelength repeatability;
  4. Repeat step 1-3 to do measurement single-point wavelength tolerance one by one. The maximum value in the single-point wavelength tolerance is wavelength accuracy. The maximum value in the single-point wavelength reproducibility is wavelength repeatability.

## Verifying Photometric Accuracy and Photometric Repeatability

Select Tab **Photometric accuracy** in the **Performance verification** interface.

**Standard Sample:** NIST 930D or equivalent filter

- Measurement:**
1. Remove something in the measurement channel, close the sample chamber cover, press the wavelength value, type in the wavelength of measurement, press the button **Zero**;

2. Put the **Standard Sample** in the measurement channel, press the button **Measure**;
3. Repeat step 2 to do measurement three times. The difference between the average of the three measurements and the standard value is the single-point photometric tolerance. The difference between the maximum and minimum values of the three measurements is single point photometric repeatability;
4. Repeat step 1-3 to do measurement single-point photometric tolerance one by one. The maximum value in the single-point photometric tolerance is photometric accuracy. The maximum value in the single-point photometric reproducibility is photometric repeatability.

## Verifying Stray Light

Select Tab **Stray light** in the **Performance verification** interface.

- Standard Sample:** 10g/L NaI solution or equivalent filter (220nm, **UV/VISIBLE models only**), 50g/L NaNO<sub>2</sub> solution or equivalent filter (340 or 360nm)
- Measurement:**
1. Remove something in the measurement channel, close the sample chamber cover, press the wavelength value, type in the wavelength of measurement;
  2. Put the **Reference** in the measurement channel, press the button **Zero**;
  3. Put the **Standard Sample** in the measurement channel, press the button **Measure**, the result is the stray light of this wavelength.

## Verifying Noise

Select Tab **Noise** in the **Performance verification** interface.

- Standard Sample:** None
- Measurement:**
1. Remove something in the measurement channel, close the sample chamber cover, press the wavelength value, type in the wavelength of measurement, press the button **Zero**;
  2. Press the button **Measure**, the result is the noise of this wavelength.

## Verifying Dark Noise

Select Tab **Dark Noise** in the **Performance verification** interface.

- Standard Sample:** Block
- Measurement:**
1. Remove something in the measurement channel, close the sample chamber cover, press the wavelength value, type in the wavelength of measurement, press the button **Zero**;
  2. Put the **Block** in the measurement channel, press the button **Measure**, the result is the dark noise of this wavelength.

## Verifying Stability

Select Tab **Noise** in the **Performance verification** interface.

- Standard Sample:** None
- Measurement:**
1. Remove something in the measurement channel, close the sample

- chamber cover, press the wavelength value, type in the wavelength 500, press the button **Zero**;
2. Press the button **Measure**, the result is the noise of 500nm.

## Verifying Bandwidth

Select Tab Dark **Noise** in the **Performance verification** interface.

**Standard Sample:** Low pressure quartz mercury lamp

- Measurement:**
1. Open the lamp cover, put the low pressure quartz mercury lamp into the lamp seat, and turn it on.
  2. Remove something in the measurement channel, close the sample chamber cover, press the wavelength value, type in the wavelength 546.1;
  3. Press the button **Measure**, the result is the bandwidth.

## Measurement

### Important Guidelines

- Reagents and dilution buffers can cause cauterization and other damage to health.
- Samples (nucleic acids, proteins, bacteria cultures) can be infectious and cause serious damage to health.
- During sample preparation, measuring procedures and maintenance and cleaning work, observe all local laboratory safety precautions (e.g. wear protective clothing and gloves, use of disinfectant) regarding the handling of sample material.
- Dispose of measuring solutions and cleaning and disinfectant materials in accordance with the relevant local laboratory regulations.

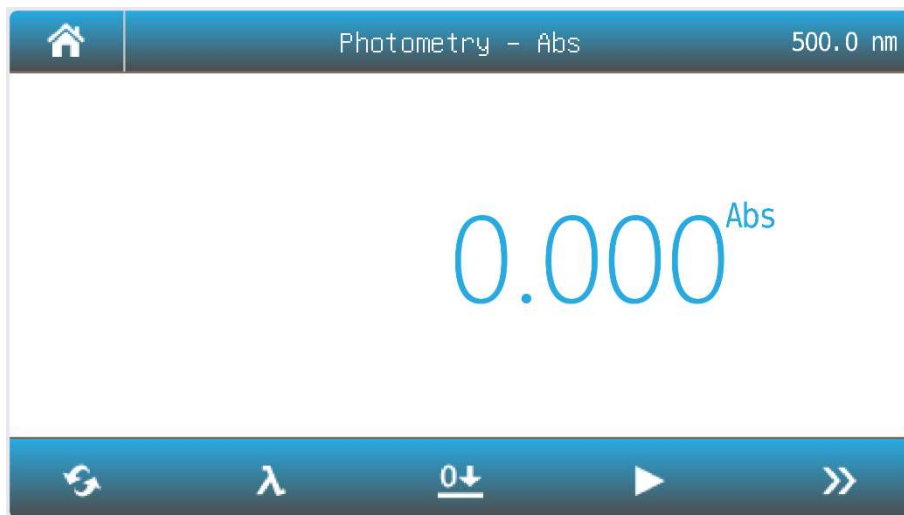
### Check the cuvettes







The cuvettes must be clear and there's no remains of the samples on the surface of it. **Only Quartz cuvettes are permitted to be used in the range of UV area.**


### Photometry

Photometry mode is used to measure the absorbance or transmissivity of the sample.

1. **Main** interface, press the icon  to start a **Photometry** application.





|   |   |
|---|---|
|    | <b>Mode Switch</b> measurement mode to %T, Abs or Energy.                                   |
|    | <b>Wavelength</b> Set measurement wavelength.   |
|    | <b>Zero</b> Do 0Abs/100%T.  |
|    | <b>Read</b> Measure sample and record the result.   |
|  | <b>List</b> View the result(s) list.  |
|  | <b>Increase/Decrease</b> Increase/Decrease the gain of signal. Only for <b>Energy</b> mode. |

2. Press the icon  to switch to the measurement mode.

|            |   |
|------------|---|
| <b>Abs</b> | Measure absorbance value of the sample(s).    |
| <b>%T</b>  | Measure transmittance value of the sample(s). |
| <b>E</b>   | Measure energy value of the sample(s).        |

3. Press the icon  to set wavelength, key in the measurement wavelength.

4. Put the reference in the measurement channel, press the icon  to do zero.

5. Put the sample in the measurement channel, press the icon  to measure a sample and record the result.

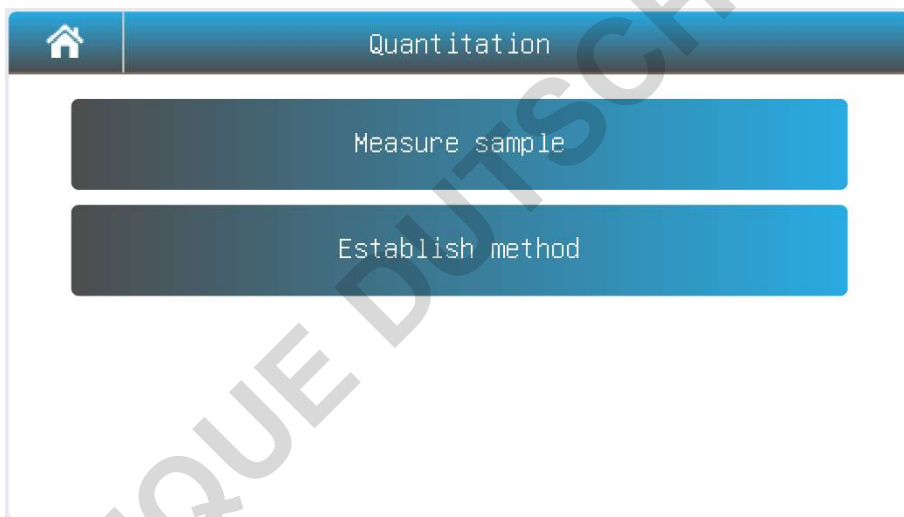
6. Press the icon  to browse the result(s).

| Name    | Wavelength | Result  | Date              |   |
|---------|------------|---------|-------------------|---|
| Spl - 1 | 500.0      | 0.006 A | 14/04/01 12:00:03 | ☑ |
| Spl - 2 | 520.0      | 0.013 A | 14/04/01 12:01:12 | ☑ |
| Spl - 3 | 610.0      | 0.125 A | 14/04/01 12:01:58 | ☑ |
| Spl - 4 | 700.0      | 0.169 A | 14/04/01 12:02:07 | ☑ |
| Spl - 5 | 835.0      | 0.011 A | 14/04/01 12:02:49 | ☑ |

## Quantitation

Quantitation mode is used to measure the concentration of the sample(s).

- 1 **Main** interface, press the icon  to start a **Quantitation** application.



- 2 Establish Method

- 2.1 **Quantitation** interface, press the button **Establish method**.

| Setting                        |           |                             |       |
|--------------------------------|-----------|-----------------------------|-------|
| Measurement                    | A=A1      | Unit                        | mg/ml |
| Wavelength 1<br>190.0 - 1100.0 | 500.0     | Calibration                 | Std M |
| Wavelength 2<br>190.0 - 1100.0 | —         | Standard quantity<br>2 - 10 | 6     |
| Fitting                        | C=K1*A+K0 |                             |       |

|                          |   |
|--------------------------|---|
| <b>Measurement</b>       | <p><b>A=A1:</b> Absorbance is equal to the measured absorbance value of the measured wavelength 1</p> <p><b>A=A1-m*A2:</b> Absorbance is equal to the difference between the absorbance value of the measured absorbance at the wavelength 1 and the wavelength 2, m is the Coefficient</p> <p><b>A=A1/A2:</b> Absorbance is equal to the ratio of the measured absorbance value of the measured wavelength 1 and 2</p> |
| <b>Wavelength 1</b>      | Measurement wavelength 1  |
| <b>Wavelength 2</b>      | Measurement wavelength 2  |
| <b>Fitting</b>           | <p><b>LIN-0:</b> Linear to zero</p> <p><b>LIN:</b> Linear.</p> <p><b>QUA:</b> Quadratic.</p>  |
| <b>Unit</b>              | - (No Unit), %, ppm, ppb, g/L, mg/L, µg/L, ng/L, g/dL, mg/dL, µg/dL, mg/mL, µg/mL, ng/mL, µg/µL, ng/µL, mol/L, mmol/L, IU, Custom(User input, Up to 8 characters).  |
| <b>Calibration</b>       | <p><b>Coe K:</b> Input equation coefficient.</p> <p><b>Std M:</b> Measure standard sample(s)</p> <p><b>Std I:</b> Input standard sample(s)</p>  |
| <b>Standard quantity</b> | Standard sample number (Up to 10)   |

2.2 Press the item to set measurement parameters.

2.3 After all the parameters are set up, press the button **Next** to start establishing the standard curve. If the item **Calibration** is set to the parameter Coe K, Std M or Std I, please refer to 2.3.1, 2.3.2 or 2.3.3.

### 2.3.1 Input equation coefficient to establish standard curve.

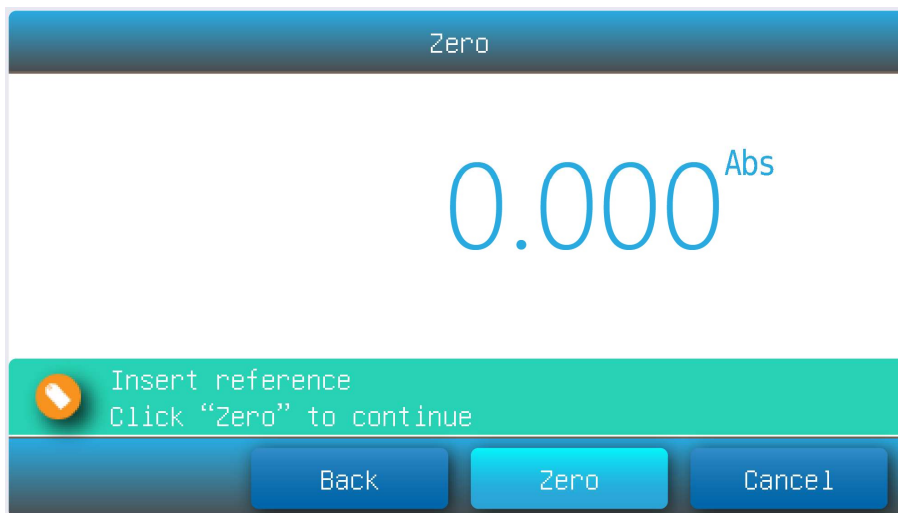
(1) Input equation coefficient K0 ~ K3. Press button **Next**.

| Input coefficient |       |
|-------------------|-------|
| Coefficient K2    | 1.000 |
| Coefficient K1    | 1.000 |
| Coefficient K0    | 0.005 |

Back      Next      Cancel

### 2.3.2 Measure standard sample to establish standard curve

(1) Put the reference in the measurement channel, press the button **Zero** to do zero.



- (2) Put the 1# standard sample in the measurement channel, press the button **Read** to measure.



- (3) Repeat step 3.3 to measure other of the standard samples.  
 (4) Press the item to input concentration of standard samples, press the button **Next**.

| Input standard |       |       |         |       |       |
|----------------|-------|-------|---------|-------|-------|
| Name           | Abs   | Conc  | Name    | Abs   | Conc  |
| Std - 1        | 0.000 | 0.000 | Std - 6 | 1.788 | 16.00 |
| Std - 2        | 0.112 | 1.000 |         |       |       |
| Std - 3        | 0.225 | 2.000 |         |       |       |
| Std - 4        | 0.448 | 4.000 |         |       |       |
| Std - 5        | 0.895 | 8.000 |         |       |       |

### 2.3.3 Input standard sample to establish standard curve

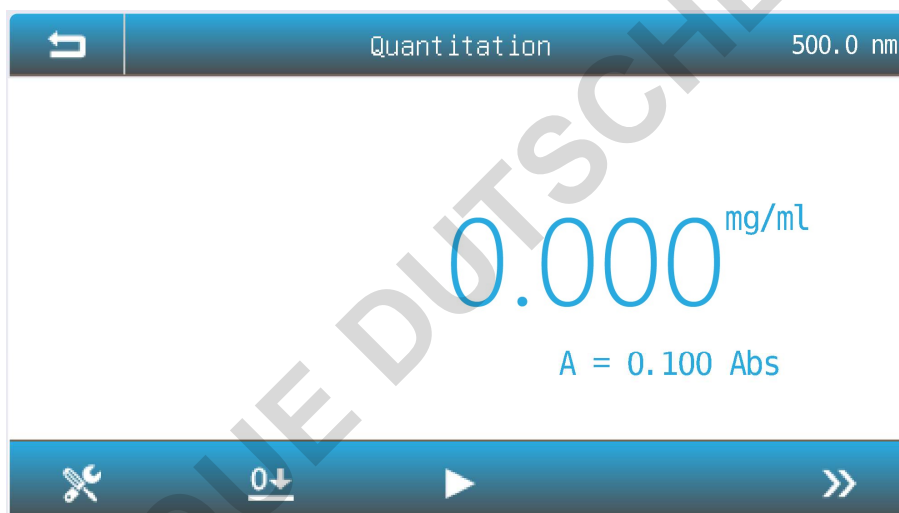
- (1) Press the item **Abs** and **Conc** to input absorbance and concentration of standard samples, press the button **Next**.





2.4 Finished establish method. Press the button **Save** to save the method, press the button **Measure** to accept the new method and go to the **measurement interface**, Press the button **Finish** to exit.



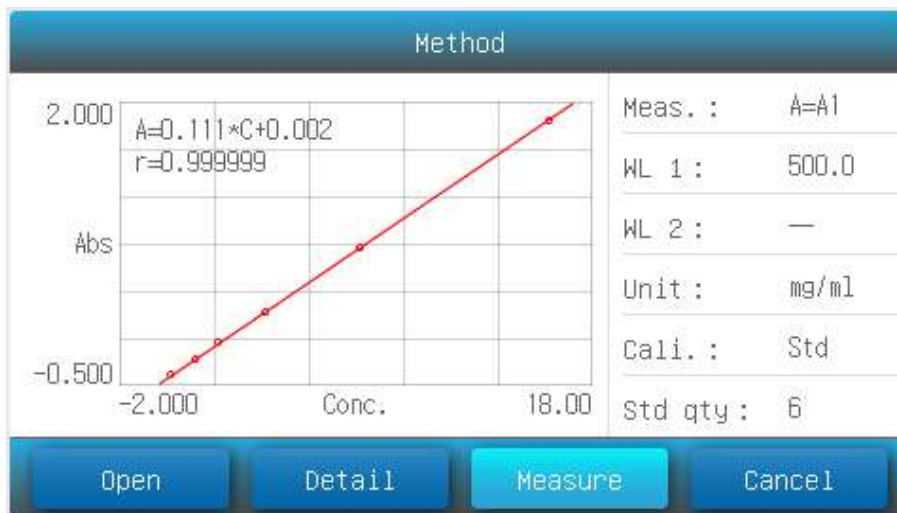
### 3 Measure Sample

3.1 **Quantitation** interface, press the button **Measure sample**.




|   |   |
|---|---|
|  | <b>Method</b> Select measurement method.              |
|  | <b>Zero</b> Do 0Abs/100%T.                            |
|  | <b>Read</b> Measure the sample and record the result. |
|  | <b>List</b> View the result(s) list.                  |


3.2 Press the icon  to select method.



3.3 Press the button **Open** to load measurement method stored in the internal memory/USB disk.

3.4 Press the button **Measure** to accept the new measurement method and back to **measurement interface**.

3.5 Put the reference in the measurement channel, press the icon  to do zero.

3.6 Put the sample in the measurement channel, press the icon  to measure a sample and record the result.

3.7 Press the icon  to browse the result(s).

The 'List' interface shows a table of measurement results. The table has the following columns: Name, Abs, Result, Date, and a checkmark icon. The data is as follows:

| Name    | Abs   | Result | Date              |   |
|---------|-------|--------|-------------------|---|
| Spl - 1 | 0.002 | 0.012  | 14/04/01 12:00:03 | ☑ |
| Spl - 2 | 0.003 | 0.018  | 14/04/01 12:01:12 | ☑ |
| Spl - 3 | 0.010 | 0.060  | 14/04/01 12:01:58 | ☑ |
| Spl - 4 | 0.353 | 0.706  | 14/04/01 12:02:07 | ☑ |
| Spl - 5 | 0.357 | 0.714  | 14/04/01 12:02:49 | ☑ |

At the bottom of the interface are four icons: a folder, a document, a printer, and a close button (X).

## Troubleshooting

Review the information in the table below to troubleshoot operating problems.

| Problem               | Cause                                 | Solution             |
|-----------------------|---------------------------------------|----------------------|
| Power on, no response | Power cord connection is not reliable | Improve connectivity |
|                       | Fuse burning                          | Replace fuse         |

|                                    |  |                                      |
|------------------------------------|--|--------------------------------------|
| Measurement uncertainty            | Sample is not Stable                                 | Improve the sample                   |
|                                    | Glass cuvettes used in UV Range                      | Use quartz cuvettes                  |
|                                    | The concentration of sample is too high              | Diluted sample                       |
|                                    | Power Supply Voltage Low or not Stable               | Improve the Power Supply             |
|                                    | Lamp damage or lamp life maturity                    | Replace lamp                         |
| Dark Current Error when self-check | The lid of the compartment is open during self-check | Close the lid, restart               |
| System Calibrate Failed            | Something block the Light path                       | Remove it, calibrate again           |
| Measurements inaccurate            | Cuvettes were contaminated                           | Clean cuvettes                       |
|                                    | Samples were contaminated                            | Improve samples                      |
|                                    | Worse matching of the cuvettes                       | Improve the matching of the cuvettes |
|                                    | Dark current error                                   | Resample dark current                |

## Repair and Maintenance

### Daily Maintain

#### Check the compartment

After measurement, the cuvettes with sample solutions should be taken out of the compartment in time. Or the volatilization of the solution would make the mirror go moldy. Users must pay more attention to the corrosive sample and liquid easy to volatilize. Any solution remains in the compartment should be wipe off immediately.

#### Surface clean

The cover of the instrument is with paint. Please use wet towel to wipe off the drips on the surface immediately. Organic solution is forbidden to be used to clean the cover. Please wipe off the dirt on the cover timely.

#### Clean the cuvettes

After every test or after a solution change, the cuvettes should be cleaned carefully, or the remains on the surface would cause measuring error.

### Spare Parts Replacement

#### Replace the fuse



***Danger!***  
***replacement!***

***Be sure to switch off the power and unplug the socket before***

#### 1. Tools preparation

Prepare a 3×75 Flat Blade screwdriver.

#### 2. Switch Off the power supply

Switch off the power supply, and unplug the socket.

#### 3. Take out the Fuse Seat

Push the fuse case by using the screwdriver, and turn it counterclockwise, the fuse seat will pop out when released.



#### 4. Replace a new fuse

Pick out the spare fuse (3.15A/250V) and replace it.



#### 5. Reset the fuse seat

Replace the fuse seat in the power socket. Push the fuse case by using the screwdriver, and turn it clockwise, the fuse seat will be locked when released.



#### 6. Switch on the power

Plug the socket and switch on the power.

#### Replace lamps



**Hot!**  
scald!

*Wait 20 minutes before open the lamp chamber after power off to avoid*

#### 1. Tools preparation

Prepare a 6×150mm Flat Blade screwdriver and a pair of glove.

## 2. Power Off

Switch off the power supply and unplug the socket.

## 3. Open the cover

Loosen the indicated two screws and remove the lamp cover.



## 4. Replace the D2 lamp

*If your spectrophotometer is visible model, please skip to step 5.*

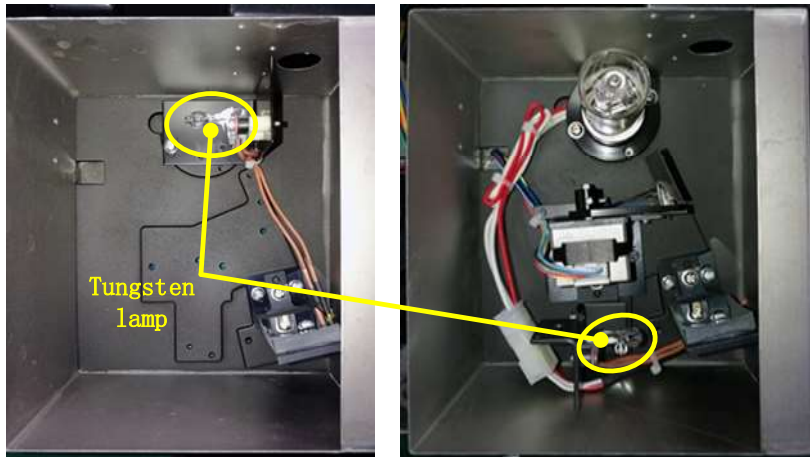
Unplug the connector (No. 2) .Unscrew the 2 screws on the D2 Flange (No.1) and remove the D2 lamp. Draw on the cotton glove and replace a new lamp. Fix the 2 screws and plug the connector again.



## 5. Replace W lamp

*The Tungsten lamp is equipped with a blue-grey silicon coating by manufacturer. This coating is only a transport safety device. It can be removed with the first exchange of lamp.*

Pull out the defected W lamp and draw on the cotton glove. Insert the new W lamp as deep as possible on the lamp seat. Be sure to keep the filament in the same direction as the old one face.

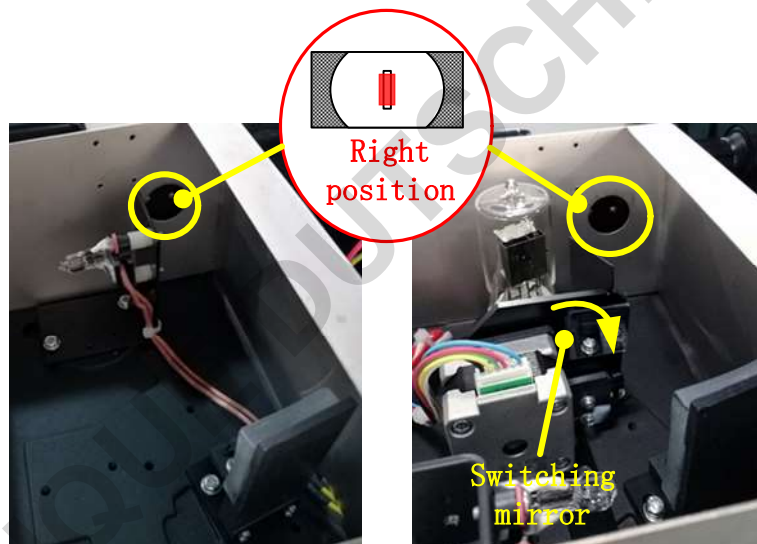


Visible models

UV/Visible models

#### 6. Adjust the position of the W lamp

Switch on the power(the Switch Mirror should be placed to the position as indicates). Observe the entrance facular, and it should be in the center of the entrance hole. If the facular deviate to Left or Right, then loosen the two screws and move the lamp seat to Left or Right until it focus on the center of the slot. Then fix the screws.



Visible models

UV/Visible models

#### 7. Finish

Reset the cover of the light chamber and fix the screws. Reset the cover of the lamp room and fix the screws.

## Warranty

We warrants that this product will be free from defects in material and workmanship for a period of one (1) year from date of delivery except the lamps. Lamps have a warranty of 1000 h lamp usage time or 6 months max. If a defect is present, WE will, at its option and cost, repair, replace, or refund the purchase price of this product to the customer, provided it is returned during the warranty period. This warranty does not apply if the product has been damaged by accident, abuse, misuse, or misapplication, or from ordinary wear and tear. If the required maintenance and inspection services are not performed according to the manuals and any local regulations,

such warranty turns invalid, except to the extent, the defect of the product is not due to such non-performance.

Items being returned must be insured by the customer against possible damage or loss. This warranty shall be limited to the aforementioned remedies. IT IS EXPRESSLY AGREED THAT THIS WARRANTY WILL BE IN LIEU OF ALL WARRANTIES OF FITNESS AND IN LIEU OF THE WARRANTY OF MERCHANTABILITY.

### **Compliance with local laws and regulations**

The customer is responsible for applying for and obtaining the necessary regulatory approvals or other authorizations necessary to run or use the Product in its local environment. WE will not be held liable for any related omission or for not obtaining the required approval or authorization, unless any refusal is due to a defect of the product.

## **Equipment Disposal**



This equipment is marked with the crossed out wheeled bin symbol to indicate that this equipment must not be disposed of with unsorted waste.

Instead it's your responsibility to correctly dispose of your equipment at lifecycle -end by handling it over to an authorized facility for separate collection and recycling. It's also your responsibility to decontaminate the equipment in case of biological, chemical and/or radiological contamination, so as to protect from health hazards the persons involved in the disposal and recycling of the equipment.

For more information about where you can drop off your waste of equipment, please contact your local dealer from whom you originally purchased this equipment.

By doing so, you will help to conserve natural and environmental resources and you will ensure that your equipment is recycled in a manner that protects human health.

Thank you!

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