

Novaspec III Directions (B.207)

The cell holder supplied with the instrument accepts standard 10mm pathlength glass or plastic cells (adapters are available to convert it to accept 10, 12 and 16mm diameter test tubes). It can be removed for cleaning if spillages occur by undoing the screws that hold it or it can be flushed through with water in situ.

Your spectrophotometer is a simple-to-use instrument that provides rapid measurement of light absorbance and light transmission in the visible region (330 – 800 nm).

Your spectrophotometer has facilities for measurement of:

- absorbance and % transmission
- concentration, either
 - absorbance multiplied by a factor or
 - from a single point calibration using a known standard
- rate (absorbance against time) at one or two wavelengths simultaneously
 - rate results at one wavelength can be output to chart recorder

Sample handling tips

- Note that the light beam shines from RIGHT to LEFT through the cell chamber; ensure the cell is inserted in the correct alignment.
- The optical height is 15mm, and the minimum volume that can be used is approx. 700µl in a semi-micro cell.
- Align the indicator line on test tubes with the arrow on the cell compartment area to ensure **reproducible positioning** of the tube.
- Note that test tubes do not last forever, and that the surface gets scratches and blemishes through repetitive use; if this is the case they should be replaced.

Using the Instrument

The liquid crystal display is very easy to navigate around using the function/select and arrow keys on the hard wearing, spill proof membrane keypad.



Absorbance and % Transmission

This mode is for simple absorbance measurements on samples, measuring the amount of light that has passed through a sample relative to a blank (this can be air, but is usually a buffer or growth medium). The procedure is as follows:

Action	Press key	Comment
Set wavelength	◀ to get to nm ▲ ▼ to set √ to select	Ramps with increasing speed Moves to Abs/%T
Select Abs/%T	▲ to change between them	
Insert reference	□ to set reference	Used for subsequent samples until changed
Insert sample	◊ to measure sample	Value is displayed
Repeat as necessary		

*The machine will also measure Concentration, Rate, and Factor. If you need to use these features, see Dr. Humphreys for additional directions. Dr. Humphreys also has the tools and adaptors to accommodate different holders, so please ask **well in advance of your experiment** if the tube you wish to use does not fit the adaptor currently installed in the machine.*

*If you have a spill, the machine is easy to clean. Please see Dr. Humphreys to learn how to do this **before you start** using the machine in case the spill happens after hours.*