

INTRODUCTION AND HERITAGE



Sherwood Scientific Ltd., develops and manufactures a range of scientific instruments and apparatus with application in many industries, as well as in education and research.

Known for high quality and reliability, Sherwood Scientific products are all manufactured at the company's base in Cambridge, UK and sold and supported through an extensive distributor network covering over 80 countries. Fully equipped training and laboratory facilities enable Sherwood Scientific to offer courses to our distributors on all products and to undertake

consultancy projects in analytical measurement and process control. The history of Sherwood Scientific can be traced back more than 70 years to applications of the selenium photocell in early Flame Photometers – now the largest and most diverse of our product lines. The company's heritage also encompasses the Lab Scale Fluid Bed Dryer and Magnetic Susceptibility Balance developed under the auspices of Johnson Matthey, and the acquisition and further development of several Corning and CIBA Corning instruments: Colorimeters and Chloride Analysers.

PRODUCTS

FLAME PHOTOMETERS

Building upon the acclaimed Corning M410, we now manufacture the widest range of Instruments and Accessories: single and multi-channel, with analogue and digital outputs, free-standing and software controlled units and automated analysis packages for Sodium, Potassium, Lithium, Calcium, Barium, Cesium, Rubidium and Strontium analysis

MODEL 501 FLUID BED DRYER

This is a bench top, lab-scale, programmable Fluid Bed Dryer. The microprocessor controlled base unit accommodates the widest range of tub configurations and materials. We select inlet and outlet filters to complement a broad variety of sample types and particle sizes. With in-tub temperature and humidity feedback capability coupled to a software package providing real-time drying condition feedback. This unit allows rapid development of drying protocols and understanding of material drying behaviour.

CHLORIDE ANALYSERS

Our Chloride analysers use coulometric titration technology; offering the best available means of Chloride determination in food, pharmaceutical and industrial products etc. In addition sweat chloride measurement is also possible, (with samples as small as 20ul), as required for assistance with Cystic Fibrosis confirmation.

CHROMA COLORIMETERS

Our CHROMA Colorimeter range offers two fully open, programmable units; which may be utilised with any commercial test kits for water quality monitoring, clinical chemistry measurements and many other colorimetric determinations. We also have a digital equivalent to the renowned Corning 252, for instant, no frills, reliable Absorbance & %Transmission measurements.

MAGNETIC SUSCEPTIBILITY BALANCES

For those studying magnetic properties of materials, our Magnetic Susceptibility Balances offer unsurpassed sensitivity and reliability. We truly are world leaders in this field of analytical chemistry



Sherwood Scientific is represented by a worldwide network of distributors, details of whom can be found on our website.
Please contact us for further information or visit us at

www.sherwood-scientific.com

for full product information, application & technical advice and basic theory of principles of operation.

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SHERWOOD SCIENTIFIC UV & VIS CHROMA COLORIMETERS

PROGRAMMABLE "OPEN" SYSTEM
RUGGED, RELIABLE, PROVEN DESIGN

ABSORBANCE TRANSMISSION
CONCENTRATION FACTOR
KINETIC (RATE & END- POINT)
(SAMPLE & REAGENT BLANKS)



FOR USE WITH ANY COMMERCIALLY AVAILABLE TEST KITS
FOR QUALITY CONTROL, WATER TESTING AND CLINICAL
CHEMISTRY TESTS

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SHERWOOD SCIENTIFIC COLORIMETERS

THE CHROMA RANGE

In 2006, the Model 260 replaced the old Chroma 254 & 257 series of CHROMA Colorimeters, developed by Corning and used extensively worldwide in a wide variety of QA/QC and Clinical Chemistry Laboratories. The optical bench remains the same and has been tried and tested over 35 years in a broad range of environments and proven to be extremely rugged and reliable. To that stable foundation, the 260 instruments add programmability, together with a broader range of functionalities, through use of on-board microprocessor and firmware advances. Up to 100 methods may be programmed and stored by the operator; allowing utilisation of most commercially available test kits and

user generated reagents. The 260 unit allows quick, simple, Absorbance and %Transmission measurements together with more complex Auto-zero, Concentration with Standard Solutions or Factors as well as Kinetic Reaction (Rate and End Point) Methods. In 2012, the Model 260UV was introduced; with a Halogen light source and detector allowing operation down to 325nm and a heated cuvette holder; thermostated to maintain sample temperatures at 37°C. These features allow a number of enzyme based diagnostic tests to be performed with an accuracy that matches higher priced analysers and spectrophotometers



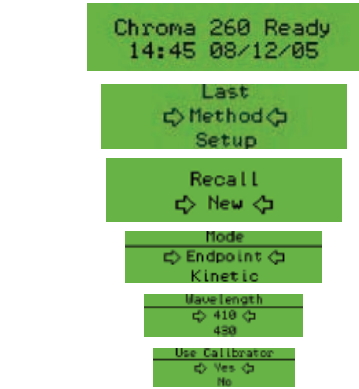
MODEL 260
The 260 replaced the CHROMA 254 and 257 optical specification and offers full programmability. Up to 100 methods can be installed by the user. This permits semi-automatic operation with the user only required to insert the prompted filter. An RS232 output allows the use of a serial printer and every result, blank and calibration is time stamped. The unit allows quick Absorbance and Transmission measurements with Auto-Zero, Concentration with Standard Solutions or Factor. In addition, Kinetic



MODEL 260 UV
Reaction Rate and End Point methods are also possible. With all the M260 features, the 260UV also has near UV capability and comes with many commonly available enzyme based test kits especially those that rely on the extinction of NADH. Sample temperature for the enzyme based tests are maintained at 37°C by use of an electrically heated and controlled cuvette holder, designed for use with semi-micro cuvettes.



MODEL 252 (Non-programmable)
The market leading analogue colorimeter has been brought into the digital age. The old familiar mirror parallax reducing combined Absorbance and %Transmission scale has been replaced by an LCD screen. It may still be used in education to establish the relationship between Absorbance and %T as both are displayed simultaneously.



PROGRAMMING THE 260 MODELS

For the Model 260 and 260UV programming is simplicity itself: each step is prompted with available choices listed. Up to 100 Methods can be edited, named with up to 8 characters, and saved. Standard values, factors, temperatures can be input and calculations include concentration by standard and factor, end point and kinetic methods with and without standards and reagent blanks. Methods can also be constructed on a computer and then downloaded to the CHROMA. Associating the correct sample/patient identity with each sample is critical in an efficient laboratory regime. The CHROMA programming allows each sample to have up to 16 alpha-numeric descriptors to be added. In the "Autoprint" mode the method parameters are printed together with the named results, each time-stamped.

SHERWOOD SCIENTIFIC COLORIMETERS

SAMPLE TEMPERATURE

The CHROMA range has two options to control the temperature of reactions. The low cost option is to use external temperature control by means of a solid block heater*. The software built into the two programmable Models; the 260 and 260UV, allows for the setting of Incubation (or lag time) and Measuring time. Towards the end of these times the user is alerted to return the cuvettes containing the blank, sample or calibrant to the colorimeter by means of a buzzer. The relevant reading is taken and the cuvette

is returned to the heating block to complete the rest of the test. Sherwood has an electrically heated cuvette holder designed specifically for semi-micro cuvettes. This is able to control the temperature to 37 ° C ± 0.1°C. Supplied as standard for use with the Model 260UV. The heated cuvette holder is available as an option for use with any of our colorimeters and is also compatible for use with any older CHROMA colorimeters.
** block heater not supplied*

TECHNICAL

	Model 252	Model 260	Model 260 UV
Order Number	252 00 009	260 00 009	260 00 109
Display	LCD	LCD Programmable	LCD Programmable
Wavelength Range	400 – 750nm	400 – 750nm	325 – 900nm
Wavelength Selection	Drop-In Filters	Drop-In Filters	Set of Eight Drop-in Gelatin Filters (410, 430, 470, 490, 520, 540, 580, 600) + 340 nm Interference filter supplied. Also range of Drop-in Interference Filters available
Bandpass	Gelatin 40nm, Interference 6 – 10nm (Optional)	Gelatin 40nm, Interference 6 – 10nm (Optional)	Gelatin 40nm, Interference 6 – 10nm (Optional)
Modes	Absorbance, Transmission	Absorbance, Transmission, Concentration, Factor, Kinetic, (Rate & End-Point), (Sample & Reagent Blanks)	Absorbance, Transmission, Concentration, Factor, Kinetic, (Rate & End-Point), (Sample & Reagent Blanks)
Methods	None	100 Programmable	100 Programmable
Sample Numbering	None	Sequential and Alpha-Numeric (16 characters)	Sequential and Alpha-Numeric (16 characters)
Absorbance Range	0.0 to 2.999	0.0 to 2.999	0.0 to 2.999
Absorbance Resolution	0.01	0.001	0.001
Transmission Range	0.1-100%T	0.1-100%T	0.1-100%T
Transmission Resolution	0.1%	0.1%	0.1%
Stability	± 0.005A in any 15 min period	± 0.005A in any 15 min period	± 0.005A in any 15 min period
Warm up	15 minutes	15 minutes	15 minutes
Photometric Reproducibility	± 1% T using same cuvette or test tube	± 1% T using same cuvette or test tube	± 1% T using same cuvette or test tube
Light Source	Pre-focused Tungsten Lamp	Pre-focused Tungsten Lamp	Pre-focused Halogen Lamp
Detector	Silicon Photo Diode	Silicon Photo Diode	Silicon Photo Diode
RS232 Output	No	Yes	Yes
Size and Weight	218L x 230W x 188D mm. 2.2Kg Net	218L x 230W x 188D mm. 2.2Kg Net	218L x 230W x 188D mm. 2.2Kg Net
Power requirements	90-264 VAC Auto-ranging or 12V DC Battery	90-264 VAC Auto-ranging or 12V DC Battery	90-264 VAC Auto-ranging or 12V DC Battery