

Single & Dual Wavelength

Colorimeters

Designed specifically for Sugar Colour Measurement



- ☉ **Conforms to I.C.U.M.S.A.**
- ☉ **Highest accuracy for White Sugars**
- ☉ **Dark & Raw Sugar test kits**

ATM X2

The measurement of SUGAR COLOUR is an important function of the laboratories of sugar refineries and raw sugar mills, and also for the users of refined sugar products.

The ATM X2 COLORIMETER is an instrument dedicated to this important quality control function.

The ATM X2 has been specially designed to make the measurement, calculation and recording of sugar colour as easy as possible.

Accuracy is improved by having fixed wavelength, very narrow bandwidth filters to select the measuring wavelength.

The highest accuracy for **White Sugars** is achieved by using the longest path length cell (163mm).

Darker Sugars can also be measured simply, quickly and accurately using our set of shorter path length cells (the sizes recommended by I.C.U.M.S.A.). These fit directly into the ATM X2 without the need for a special cell holder or adapter.

ICUMSA COLOUR

I.C.U.M.S.A. (International Commission for Uniform Methods of Sugar Analysis) recommend the use of 420nm as the wavelength for colour measurements of white and light coloured products, and a wavelength of 560nm for darker sugars. One version of the ATM X2 measures at either 420nm or 560nm (one key to select the wavelength required) and then displays the absorption and the result in I.U. (ICUMSA Colour Units) at the wavelength selected.

BOTTLERS METHOD

This is the method for colour determination commonly used in the soft drinks industry. Another version of the ATM X2 offers simultaneous measurement at 420nm and 720nm as specified by the 'Bottlers Method' and displays the absorption reading at both wavelengths along with the calculated result in RBU (Reference Basis Colour Units).

A **Single** wavelength version of the ATM X2 is also available for anyone wanting to make all measurements at one wavelength.

All displayed results can be output to a printer or computer via the ATM Colorimeter's RS232 output port.

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CAPABILITY OF THE ATM X2

Calculated ICUMSA Colour Units or RBU's depend on the cell length and the Brix of the sample. Pre-set cell lengths can be scrolled using built in keys on the basic ATM X2. Deviations from the standard 50 Brix concentration of the solution can also be scrolled, ensuring correct calculations whatever the sample.

However, the system can be extended further by use of a keyboard / interface unit allowing the date and time of every reading to be added to the output together with a short message to identify each result. The operator can also use the keyboard to select the required wavelength, type in the cell length and the Brix of the sample, ensuring accurate calculation and recording of all readings. The keyboard / interface works with any version of the ATM X2 Colorimeter.

It is also possible to further automate the readings by connecting a refractometer to the RS232 port of the ATM. Contact Index Instruments for further details.

The ATM X2 is a compact colorimeter, and having no moving parts makes the unit extremely reliable. The lamp life is typically in excess of 2,000 hours, and is easy to change upon failure.

One of the main features of the ATM X2 Colorimeter is its capability to accept long path length cells (up to 163mm) for the highest accuracy when measuring white sugar. Long glass cells are easily cracked or broken and so we have designed a 163mm long stainless steel cell specially for this instrument. The cell has been made 20mm wide with a wider top for easier filling, handling and cleaning. The shorter glass cells are also specially designed for the ATM, 20mm wide with thick walls to simplify filling and cleaning and to resist breakage or damage.

Technical Specification

Part Number:	10-0-10	10-0-20	10-0-30
Wavelength:	420nm	420nm and 560nm	420nm and 720nm
	All selected by very narrow bandwidth filters		
Scale:	Milli-absorbance units (mau)	mau and ICUMSA colour units	Mau and RBU
Range:	0 to 1000 mau		
Resolution:	1 mau	1 mau, 0.1 IU	1 mau, 0.1 RBU
Accuracy / Reproducibility	± 3 mau		
Maximum path length	163mm		
Sample compartment:	Open access for easy cleaning with simple to wipe windows which prevent spillage into optics		
Lamp:	12V 20W halogen lamp, typical life in excess of 2,000 hours		
Display:	Liquid crystal panel giving simultaneously absorption reading, calculated colour and set wavelength, cell length and Brix		
Data output:	Two RS232 ports		
Controls:	Mains ON/OFF switch three keys for ZERO, PRINT and SCROLL		
Power requirements:	90 to 260v AC, 47 to 63 Hz		
Size:	Approximately 390mm wide x 205mm deep x 90mm high		
Weight:	Approximately 6 kg net, 8.5 kg packed		
Cells and Dark & Raw Sugar Kit			
Part No. 10-1-10	163mm path length, stainless steel (316 grade). With zinc crown optical glass windows		
Part No. 10-1-11	Dark & Raw Sugar Kit - Set of 3 glass cells, path lengths 10, 20 and 50mm. Supplied with a copy of ICUMSA Method GS 1-7		
Optional Accessories			
Part No. 05-4-10	Printer 220 / 240v 80 character width RS232 input		
Part No. 05-4-15	Printer 110 / 115v 80 character width RS232 input		
Keyboard	See separate leaflet for further information		

Leaflet No. ATM 2-02

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