SacchAAr 880

- **High Accuracy**
- **Sodium Yellow and Near Infrared wavelengths**
- **Sample Temperature Monitoring**
- **Fast Reading Times**
- **Full GLP capability**
- **Choice of reading modes**
- **No need for Lead Acetate**

The SacchAAr 880 is a patented Duplex-NIR High Penetration Saccharimeter, the first Saccharimeter that can measure samples at both the standard sodium yellow wavelength and also in the near infrared (NIR), for high penetration of dark samples.

The NIR wavelength is set at about 880nm operating to an optical density of 4.5OD, which eliminates the need to clarify tarehouse and factory sugar samples using poisonous lead acetate.

The SacchAAr 880 offers the user a choice of measuring scales, I.S.S. (International Sugar Scale degrees Z), temperature corrected degrees Z and Angular degrees at 589nm. When measuring at sodium yellow (589.44nm) if the sample transmission falls below 3%, the display shows the message 'Dark sample - switch to IR'.

Data entry is performed using a large and lockable alphanumeric keypad with user-programmable built-in features including Good Laboratory Practice (GLP) sample identification, temperature monitoring and user defined stability parameters.

Accuracy of the SacchAAr 880 is ±0.001 Angular degrees between 0 to 10° and for the International Sugar Scale ±0.01 degrees Z between 0 to 25°Z. Each reading takes on average only 25 seconds.

The SacchAAr 880 has a stable quartz halogen lamp light source, coupled with precise optical interference filters to select the sodium or IR wavelengths.

For calibration purposes, it does not matter if the quartz plate value is not known precisely at the IR wavelength, as the basic calibration check of the SacchAAr 880 is via a standard quartz plate at 589.44nm. Clear sugar samples, of arbitrary rotation, can then be used to check the NIR calibration. This patented feature enables the user to confirm calibration easily and at any time. Should a recalibration be necessary, Optical Activity can supply UKAS Certificate of Calibration for all our Quartz Control Plates to use as a reference standard.

The SacchAAr 880 uses any standard sample tube (with 30mm diameter collars) including a wide range of stainless steel or glass, single sample or flow tubes. Full details of all Optical Activity sample tubes are available in a separate brochure.

SacchAAr 880

SACCHAAR 880 – 3 Series Technical Specification

Scales	I.S.S. (International Sugar Scale 1988 – °Z), temperature corrected °Z, also angular degrees at 589nm
Special Feature	Computes and displays apparent sugar purity if connected to an Index Instruments refractometer
Range	Full circle polarimeter, reading range ±90 angular degrees, in excess of ± 130°Z
Accuracy	±0.01°Z (0 to 25°Z), ±0.001 angular degrees (0 to 10°) ±0.02°Z (above 25 °Z), ±0.01 angular degrees (10 to 90°)
Wavelength	Sodium yellow (589.44nm) AND infrared (IR), switchable
Light Source	20 watt tungsten halogen lamp, typical life 2000 hours
OD Tolerance	OD 4.5 at IR i.e. 99.997% absorbance, (OD 3.0 at 589nm), warning issued if sample too dark
Reading Time (continuous mode)	Approximately 25 seconds
Reading Modes	Continuous Autoprint – reads continuously, outputs at set times or on data change One shot and lock – user sets readout time, display locked after time delay Stability – readout when stable, user sets stability parameters
Sample Compartment	Accepts standard sample tubes with 30mm diameter collars Maximum path length 200mm, bores 8mm down to 1.5mm Ventilated – temperature rise above ambient does not exceed 3°C
Thermometers	One temperature sensor fitted inside sample compartment plus socket for alternative sample tube temperature sensor. Temperature sensor range 0°C to 100°C, accuracy ±0.25°C. Digital display resolution 0.1°C
Outputs/Inputs	2 x RS232 (25-way D sockets), 1 x remote (9-way D socket)
Data Output	Rotation reading, units, time and date, polarimeter serial number, wavelength, temperature, pre-set parameters, sample number
Additional Sample Identification Feature	User selection and definition of output parameters for GLP (Good Laboratory Practice): in addition to the standard data output, up to 6 user defined sample identifiers
Controls	Power ON/OFF. Alpha-numeric keypad, plus function keys including print, zero and scale selection
Calibration	UKAS* (see footnote) calibration certificate available if required (Order code 10-01)
Power Requirements	86 to 265v AC, 47 to 63 Hz, 40 watts maximum
Size	Length 515mm, Depth 380mm, Height 198mm
Weight	15.7kg
Packed Weight	23kg (All sizes and weights are approximate)

Sugar Purity System

For a complete Sugar Purity System, the SacchAAr 880 can be connected to an Index Instruments Ltd. GPR or TMR Automatic Refractometer which will then give a direct reading of the apparent sugar purity.

Illustrated with the SacchAAr 880 is a GPR12-70 Refractometer, LTD6 Thermocirculator and digital printer. Combined, these instruments form a powerful Apparent Sugar Purity System.

Optical Activity Ltd. reserve the right to amend specifications without notice.

*FOOTNOTE

Optical Activity Ltd is a UKAS (United Kingdom Accreditation Service) accredited calibration laboratory and all SACCHAAR 880 – 3 series polarimeters can be supplied, if required, with a UKAS certificate of calibration. The UKAS mark on a calibration certificate is your assurance that the laboratory issuing the certificate has been stringently assessed by independent experts and that the measurements are traceable to national and international standards. You may also purchase Optical Activity quartz control plates with UKAS accredited calibration certificates for routine checking of your own polarimeters. Further details can be found in our Quartz Control Plate leaflet.

UKAS CALIBRATION
0527

Your Local Distributor

OPTICAL ACTIVITY LIMITED

Leaflet No: 99/A8

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