Small Universal Polarimeter

Visual circle polarimeter

- with a large measuring range
- which can be equipped with various light sources
- with can possibility of variable wavelengths
- all-round use

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The Small Universal Polarimeter has circular scale of ± 180° divided into full degrees. Together with the Vernier scale rotations can be measured to an accuracy of 0.1° and with a little practice they can be estimated to an accuracy of 0.05°.
The analyser is adjusted by rotating the Vernier scale, which, due to it's large diameter, permits a most sensitive comparison of the half shadows.The scale, polariser, analyser and the channel for the samples are tilted 15° from horizontal, making operation more convenient and observation through the eye-piece more comfortable.
Polarising filters are used for the polariser and the anlyser. The polariser is fitted with a thin twopiece quartz disc which produces a divided field of view, whose half shadow angle is dependent on the light used. With sodium light, /\ = 589 nm it is 8° and with mercury light, /\ = 546 nm it is 9.5°.
There are two possible light units. The less expensive halogen lamp for instructional purposes – it has a longer life and is ready for use immediately upon witching on – or the spectral lamp unit for higher absolute accuracy.
The lighting unit with halogen projector lamp is especially recommended for instructional purposes and for general measurements. Do to the low price of the unit and the long life of the halogen lamps, the unit is particularly economic. A further advantage is that the unit is already for operation immediately upon switching on.
A transformer is needed to connect the unit to the normal mains supply.
Halogen lamps produce white light, and an interference filter is required to produce the monochromatic light of the desired wavelength. The filter is inserted into the light admission opening the sample channel. In this way measurements can be made at different wavelengths without time-consuming alterations to the apparatus (the halogen lamp does not need to be changed). Thus, for example, the nature of Optical Rotatory Dipersion can be very conveniently demonstrated.
Spectral lamps emit light of a defined wavelength (line spectrum). In order to block out undesired sidespectra, coloured glass filters should be used. Such unit may be used for any type of spectral lamp.
To connect spectral lamp lighting units to the mains, a current limiting ballast unit should be used. Such unit may be used for any type of spectral lamp.

Technical data:

Measurement range:	± 180°
Resolution:	0.1°
Pecision:	± 0.1°
Light source:	halogen or spectral lamps
Wavelengths:	546 or 589 nm
Measuring tubes:	With bubble trap or filler cup, up to 200 mm
Mains adapter:	110/220 V / 50/60 Hz11