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Product Name :	Product Code :
Batch Enzyme Reactor	ALABS-A121-003

Description :

Batch Enzyme Reactor

A bench top unit comprising a vacuum formed ABS plastic plinth with integral electrical console onto which is mounted the stirred reactor vessel sampling circuit with peristaltic pump, tubular coil heat exchanger and polarimeter device.

- A temperature sensor and heater mounted in the reactor vessel and linked to a PID controller for accurate reaction temperature control.
- A polarimeter device measuring optical transmission and angle of rotation.
- Protection devices for all electrical circuits.
- Three displays: PID temperature control (reactor temperature), display for angle of rotation, display for optical transmission or temperature at polarimeter.
- Sensor signals are routed to the I/O port for connection to a PC

- Comprehensive instruction manual with detailed laboratory teaching exercises

Description:

This is consists of a bench-top unit
onto which are mounted two 250mm long, 10mm diameter borosilicate glass chromatography columns. Both are equipped with adjustable end pieces to allow different bed heights to be investigated. On the top of each column are septum injectors to allow introduction of a sample onto the column surface. The columns are fed by a 3 channel peristaltic pump of an 8 roller design in order to give smooth flow. The pump has variable speed drive and a wide range of tube bores can be used thus giving a very wide flow rate range. Switching valves allow the operator to easily select the desired column for operation. A bubble trap is fitted before the inlet to the columns to prevent air from entering. The outlet from the column passes to a UV optical flow cell for on-line measurement of sample elution. Liquid exiting the flow cell can either be led to drain or collected using the fraction collector. The fraction collector, which has capacity for forty-eight 3 ml test tubes, is timer controlled.

Capabilities:

- Determination of Michaelis-Menten constants and specific enzyme activity through Michaelis-Menten and Lineweaver-Burke plots
- Determination of glucose and fructose concentrations through polarimetry
- Effect of environmental conditions (pH and temperature) on enzyme activity
- Demonstration of Biot’s law