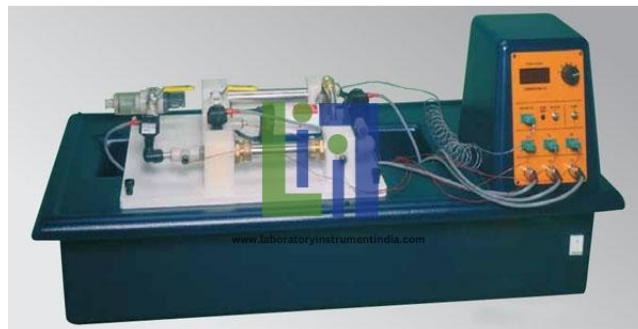




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**Product Name :**  
Recycle Loops

**Product Code :**  
LBNY-0005-11200087



#### **Description :**

The apparatus consists of a through pipe conveying water from a cold water supply to a suitable drain with a loop of pipework connected between the supply and drain connections. The heater can be switched on or off to generate step changes when investigating the transient responses of the recycle loop. This recycle loop incorporates a circulating pump and a heater to raise the temperature of the water in the loop. A bench top unit designed to introduce students to the characteristics of a recycle loop and the typical responses under steady state and unsteady state conditions. The arrangement also permits different lengths of flexible tubing to be connected in series with the loop if it is required to create further changes in residence time. A pair of self-sealing fittings enables a short length of pipe or a reservoir to be connected in series with the recycle loop to change the volume of the loop and demonstrate the effect of residence time.

#### **Technical Specification :**

A pressure regulator with filter at the inlet to the apparatus minimises the effect of fluctuations in the cold water supply pressure. Water in the recycle loop is heated by a 2kw electric heater with over temperature protection. Flow in the loop can be varied from 0 (no recycle) to 3 l/min. The through flow of water can be varied from 0 - 1.5 l/min

A bench top unit comprising a vacuum formed ABS plastic plinth with integral electrical console on to which is mounted a through pipe with a recycle loop, which incorporates a circulating pump and heater

The console incorporates a digital meter with selector switch, which displays the temperatures and flow rates measured. Corresponding signals are routed to an I/O port for connection to a PC.

Temperatures at the entry to the system, at the exit from the system and inside the recycle loop are measured using K-type thermocouples. Flow rates at corresponding locations are measured using turbine type flow

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sensors. A reservoir with self-sealing fittings enables the volume of the loop to be changed  
All electrical circuits are protected by appropriate protection devices.



**Laboratory Instrument India**