

Microlabequipment-Cascade Continuous Stirred Tank Reactor With Data Logging Facility manufacturer in india (MTCRE-103B/DL)



Homogeneous Reactions:

In an ideal CSTR (i.e. an ideal steady state flow reactor) the contents in reactor This set-up is used to study a non-catalytic homogeneous second order liquid phase reaction under ambient condition. The setup consists of three CSTR arranged in series and two feed tanks through which two reactants are fed to the reactor. Peristaltic pumps are provided to measure the individual flow of Chemicals. The flow rate can be adjusted by operating the knobs provided on respective pump. The compressed air is used for circulation of feed. Reactants from feed tanks enter in the first CSTR and are passed to second CSTR and so on. For analysis samples are collected from different ports provided.

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The present set-up has a facility to interface the system with computer which enables to log the experimental data using computer. The educational software and data-logging package has been developed for unit. The software environment base is of Lab view . This software is compatible to interfacing unit designed by Engineers. This software package provides a comprehensive educational software environment within which the investigations can be performed. This software is capable to

tabulate the sample readings according to the requirement of experiment under study and results obtained can be compared. The real time data acquisition can be done by interfacing the set-up with computer using software. Software allows the user to have control on data logging, printing the stored data, preparing spread sheets in Excel

EXPERIMENTATION:

To study the performance of Cascade of three equal volumes CSTR's in series for the sponification of a reaction.

- Ø To draw the performance chart for the reactor system and evaluate the reaction rate constant at ambient condition.

UTILITIES REQUIRED :

Electricity Supply,, Single Phase, 220 V AC, 50 Hz, 5-15 Amp combined socket with earth connection.
Earth voltage should be less than 5 volts.

Water Supply.

Floor Drain.

Instruments, Laboratory Glassware and Chemicals required for analysis as per the system adopted.

- Ø Computer System,, i-3 processor with DVD Drive, Windows 7/8, MS-Office pre-loaded. One USB slot required in PC for Data Acquisition Card.

Specifications :

Reactor (3Nos.)	„Material Stainless Steel, Capacity 1 Ltr
Stirrer (3Nos.)	„Stainless Steel Impeller and shaft coup
Feed Tank (2Nos.)	„Material Stainless Steel, Capacity - 20
Flow Measurement	„By Peristaltic Pump, Output 4-20 mA (2
Piping	„Stainless Steel and Silicon pipe
Product Analysis	„By using Electronic Sensor, Output 4-2
Control Panel comprising of „ _____	

An ENGLISH instruction manual consisting of experimental procedures, block diagram etc. will be

provided along with the Apparatus

The whole set-up is well designed and arranged on a rigid structure painted with industrial PU Paint.

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