



**Product Code . EL-TWL-11779**

## Continuous Stirred Tank Reactor

### Description

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#### Continuous Stirred Tank Reactor

##### Description:-

The flow rate can be adjusted by operating the needle valves provided on respective Rotameter.

The compressed air is used for circulation of feed.

An ideal steady state flow reactor the contents in the reactor are well mixed and have a uniform composition throughout.

The exit stream has the same composition as the fluid within the reactor.

This type of reactor is known as mixed flow reactor.

Educational Lab Equipments CSTR is fitted with a stirrer for proper mixing.

This set-up is used to study a non-catalytic homogeneous second order liquid phase reaction under ambient condition.

From the top outlet of it, samples are collected for analysis.

Pressure Regulator, Pressure Gauge, and Safety Valve are fitted in the compressed air line.

The set up consists of two feed tanks through which two reactants are fed to the reactor.

Rotameters are provided to measure the individual flow of Chemicals.

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## Experimentation:-

To study the progress of a suitable Chemical Reaction Engineering Lab Equipments CSTR.

To determine the Reaction Rate Constant.

## Utility Required:-

Electricity Supply: 1 Phase, 220 VAC, 0.5 kW.

Water Supply.

Compressed Air Supply at 1 HP, 2 CFM.

Drain.

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

## Technical Detail:-

Feed Tank: Material Stainless Steel.

Capacity - 20 Ltrs.

Feed Circulation: By compressed air.

Flow Measurement: Rotameter 2Nos.

Pressure Regulator: 0-2 Kg/cm<sup>2</sup>

Reactor: Material Stainless Steel, Capacity 2 Ltrs (Approx).

Stirrer: Stainless Steel Impeller and shaft coupled with FHP Motor.

Pressure Gauge: Bourdon type 0-2 Kg/cm<sup>2</sup>

Stop Watch: Electronic

Control Panel comprises of Standard make the on-off switch, Mains Indicator etc.




Piping: Stainless Steel and PVC.

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