

Product Name : Continuous Stirred Tank Reactor	Product Code : NLAB-EDUCATIONTVET16023
Description : Continuous Stirred Tank Reactor	
Technical Specification : Continuous Stirred Tank This type of reactor is known as mixed flow reactor. School Lab Instrument 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. 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.

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.

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 Details:-

Feed Circulation: By compressed air.

Flow Measurement: Rotameter 2Nos.

Feed Tank: Material Stainless Steel.

Capacity - 20 Ltrs.

Pressure Regulator: 0-2 Kg/cm²

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/cm²

Stop Watch: Electronic

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

Piping: Stainless Steel and PVC.

Reactor -

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