

## CRE-7 ISOTHERMAL PLUG FLOW REACTOR



**DESCRIPTION:** Plug flow reactor is characterized by the fact that the flow of fluid through the reactor is orderly no element of fluid overtaking or mixing with any other element ahead or behind

## **RANGE OF EXPERIMENTS**

- 1. To study of Isothermal Plug flow reactor.
- 2. To calculate the reaction rate constant k for given reaction in Isothermal Plug flow reactor

## **EXPERIMENTAL SETUP:**

Reactor : Material Stainless steel (SS) ,
Flow Measurement : 2 No. Pre calibrated Rota meter
Feed Tank : 2 No. of stainless steel feed tank

Feed Circulation : By Compressed Air

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

Pressure Gauge : Bourdon type0 – 2 kgf / cm2
Water Bath : Material SS , Double Wall ,
: Insulated with glass Wool

Nichrama wire heater

Heater : Nichrome wire heater

Digital Temp Indicator: 0 – 200 0 C ,Indicator cum Controller

Temp Sensor : CR /AL Type.
Stop watch : Electronic
Piping : SS , PVC
Product receiver : 1 No. SS tank

Setup Mounting : On sturdy MS stand with powder

coated

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CHEMICALS REQUIRED: NaOH, Ethyl Acetate ,HCL ,

Phenolphthalein indicator, Distilled water

SERVICE REQUIRED: Air Supply: @ 6 CFM at 4 Kg /cm<sup>2</sup>

Water Supply: @ 2 lpm

Power Supply: 230 V, 50 Hz, A.C.

**SPACE REQUIRED**: 1.5 m. (L) x 1.0 m (W) X 1.5 m (H).

**WEIGHT** : @ 50 Kg