

## Emulsion Polymerization Set Up



**Product Categories:** [Chemical Reaction Engineering Lab](#), [Engineering Equipment](#)

**Product Page:** <https://www.labappara.com/product/emulsion-polymerization-set/>

### Product Description

#### Emulsion Polymerization Set Up

##### **Technical Description:**

The set-up is used to carry out the emulsion polymerization involving polymerization of a unsaturated monomer like Styrene. Emulsion is of the type: oil in water, monomer is oil soluble & the initiator is water-soluble & an emulsifier is used to create a stable emulsion. Apparatus can be used to generate the kinetic data for emulsion polymerization under various operating conditions like temperature, emulsifier concentration etc.

Polymerization is carried out under the atmosphere of air free nitrogen. The set-up consists of jacketed type SS reactor fitted with a variable speed agitator & baffles. Hot water from a digitally controlled water bath is circulated in the jacket using a pump. Metered quantity of nitrogen gas from a cylinder passes through a de-oxygenation column & allowed to enter in the reactor. Air has to be evacuated using a vacuum pump to create vacuum up to 30 mm of Hg before passing the nitrogen supply. Initiator from reservoir is supplied to the reactor under pressure. Set-up is complete & self-contained with sampling ports.

##### **Technical Specifications:**

Reactor : Material Stainless Steel, Total volume of Reactor 1.5 - 2 Ltrs. (approx.)

Agitator : Material Stainless Steel Impeller (2 paddles) fitted with Stainless Steel Shaft coupled to DC Motor with Thyristor controlled DC Drive.

Flow Measurement : Rota meter for Nitrogen Gas

De-Oxygenation Column : Compatible capacity

Hot Water Tank: Material Stainless Steel, Double Wall, insulated with ceramic wool.

Hot water circulation: Magnetic Pump made of Polypropylene. Maximum working temperature is 80°C.

Heaters: Nichrome wire heater.

Initiator Reservoir : Capacity 25-50

Temperature sensors : RTD PT-100 type 5 Nos