

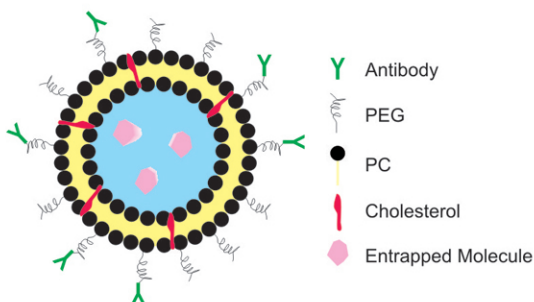
NanoLiposome Producer Apparatus

Advantages:

- ❖ Preparation process simplicity
- ❖ Low energy consumption
- ❖ Without downsizing stage to prevent liposome and entrapment molecules decomposition
- ❖ Liposome size controlling base on physicochemical, thermodynamic parameters
- ❖ Easily convert from batch process to continuous process
- ❖ Easily Scale-up from lab scale to industrial scale

Applications:

- ❖ Pharmaceutical Industries
- ❖ Food & Nutrition Industries
- ❖ Cosmetic Industries
- ❖ Agriculture Industries





Research Center for New Technologies in
Life Science Engineering, University of Tehran

Performance abilities:

- ❖ Controlling temperature: 20 to 100 °C
- ❖ Controlling stirrer rate: 60 to 400 rpm
- ❖ Controlling spray flow rate: 0.1 to 1 ml per spray
- ❖ Controlling inlet air pressure: 1 to 10 bar
- ❖ Controlling spray velocity: 1 to 60 spray per minute
- ❖ Controlling aqueous volume: 50 to 400 ml per batch
- ❖ Providing vacuum condition at final stage for ethanol removing

Scale-up Procedure

