

PENNWALT LABORATORY SUPER-CENTRIFUGES

Pennwalt Laboratory Super-centrifuges are available for general purpose laboratory use, complete with electric drive motor to solve innumerable research and industrial separational problems. When required, units can be equipped with heating or cooling coils. The units can be operated at capacities for general purpose in the continuous flow range 100ml/min to 500 ml/min and upto a maximum of 800ml/min. The electric motor drive is limited to a maximum bowl speed of 25500 rpm, which achieves a gravitational acceleration of 16200 x G. The Laboratory Supercentrifuge can be used for:



- CLARIFICATION** : Removal of Suspended solids from a liquid wherein the clarified liquid is discharged continuously and insoluble solids are collected on the inner wall of the rotating bowl.
- SEPARATION** : Separation of two immiscible liquids from a mixture of liquids continuously fed to the Supercentrifuge. The separated heavy phase and light phase liquid discharge continuously with insoluble solids if any deposited on the inner wall of rotating bowl.
- CAPACITY** : The effective capacity of the machine is application specific, depending upon factors such as the nature of emulsion being processed, upon the settling characteristics of the insoluble solids and the settling characteristics of the light and heavy liquid phases.

SPECIFICATIONS

Maximum speed	Maximum Centrifugal Force	Drive	Material of construction	Accessories
25500 rpm (max.)	16200 x G (max.)	Electric Motor suitable for single phase 50/60 cycles A.C supply	Rotating Bowl, Discharge covers, feed nozzle and all contact parts in stainless steel. Cooling coils in copper or stainless steel. Frame in cast iron-epoxy coated or Stainless Steel if required	All necessary special tools, integral speed indicator with Variable Frequency Drive.

OPTIONAL EXTRAS

- Heating / cooling coils fitted to the frame.
- Self sealing rotor bottom
- Stainless Steel Frame
- Additional Bowl of the same or different types that are interchangeable.

HOW IT WORKS

The rotor is suspended from drive mechanism by a flexible spindle which is driven by an electric motor. A loose fitting guide bushing at the bottom permits the rotor to assume a centre of rotation about its own centre of mass. The liquid is fed to the rotor through a feed nozzle at the bottom. Immiscible liquids form layers within the rotating bowl with the liquid phase of higher specific gravity forming the outer layer towards the wall of the rotor and lighter liquid of lower specific gravity forming the inner layer. The rotor inner wall collects the insoluble solids. The heavy and light liquids are discharged via separate ports through covers. The complete unit is rugged and simple to operate.

TYPICAL APPLICATIONS OF THE LABORATORY SUPERCENTRIFUGE

- Manufacture of Pharmaceutical Products
- Laboratory Evaluation for Scaled-up Plant Operations
- Research on Laboratory or Semi-Plant Scale
- Virus Recovery
- Sedimentation of Bacteria
- Medical Research
- Breaking emulsions stabilised by finely divided solids
- Earth and clay Analysis
- Pathological and Pharmaceutical Work
- Paint and Enamel Analysis
- Preparation of Serums and Vaccines
- Research in development of New Innovative Products & Processes
- Blood Plasma Production on a Laboratory Scale
- Recovery of fine valuable insoluble solids
- Polishing of liquids to sparkling clarity