



Langmuir-Blodgett Troughs are used to measure the Surface Phenomena during the Formation of Monolayer by compressing Molecules on the Surface of a Sub-phase (usually De-ionized Water) as well as for fabricating Single & Multi-layered Thin Films (LB Films) of Mono-molecular Thickness on a Solid Substrate

What We Offer

Apex offers Langmuir-Blodgett Troughs with Film Deposition System (LB System) for fabricating Thin Films at the Liquid-liquid Interface & Gas-liquid Interface with Accurate Precision of Thickness. Apex LB Systems also allow the Formation of Multi-layer Thin Films with Minimal Effort

Special Features of Apex LB Systems

- ▶ Trough & Barrier made of Pure PTFE
- ▶ Double-barrier for Symmetric Compression
- ▶ Liquid Circulating Jacket available with all Troughs for Trough Temperature Variation
- ▶ Real-time Display of Control Processes
- ▶ Compression Isotherm Recording
- ▶ Sub-phase Cleaning Module
- ▶ User-friendly Windows® XP, Windows® 7, Windows® 8, Windows® 8.1



Benefits of using LB System

- ➔ Thin Film Thickness can be controlled precisely even in Nanometer Order
- ➔ Homogeneous Thin Film can be obtained over Large Areas
- ➔ Molecular Packing Density can be controlled accurately
- ➔ Thin Film Coating Quality can be Pre-monitored
- ➔ Can be applied to Different Set of Substrates & Samples
- ➔ Multi-layer Thin Films can also be obtained with Varying Layer Composition

Application of LB Technology

- ➔ Creation of Thin Film Coatings of Nano-particles, Graphene, Lipids & Phospholipids, Proteins, Peptides and other Amphiphilic Molecules
- ➔ Creation of Thin Polymer Films for the Study of Polymer Crosslinking, Stability, Degradation & other Parameters
- ➔ Study of Interactions, Adsorption, Desorption, Interfacial Stability & Structure of Amphiphilic Molecules
- ➔ Fabrication of Sensor Surfaces with a Multi-component Structure

Parameters measurable by Apex LB Systems

- ▶ Pressure Area Isotherm Measurement
- ▶ Surface Pressure vs. Time Measurement at Constant Area
- ▶ Hysteresis Measurement

Technical Specification of Apex LB Systems

HSN Code	90278030		
Product Name	Double-barrier Langmuir-Blodgett Trough with LB Film Deposition System		
Model No.	LBXD-EMT	LBXD-MT	LBXD-NT
Product Code	LBXD04	LBXD02	LBXD01
Trough Type	Extra Mini	Mini	Normal
Barrier Type	Double		
Trough & Barrier Material	PTFE		
Inner Working Dimension [L X W X H (in mm)]	305 X 105 X 3	305 X 105 X 3	530 X 165 X 3
Outer Trough Dimension [L X W X H (in mm)]	365 X 165 X 30	365 X 165 X 30	590 X 225 X 30
Deposition Well Dimension [L X W X H (in mm)]	105 X 40 X 15	105 X 40 X 60	165 X 60 X 60
Trough Volume [in ml]	146	335	827
Sensor Resolution	0.01 mg		
Surface Pressure Range	Up to 80 mN/m		
Surface Pressure Sensitivity	Better than 0.005 mN/m		
Measurement Accuracy	±0.1 mN/m		
PC Connectivity	✓		
Programmable Compression	✓		
Compression Type	Symmetric		
Compression Speed	0.5-250 mm/min		
Compression Speed Resolution	0.01 mm/min		
Programmable Mono & Multi Layer LB Film Deposition	✓		
Substrate Dipping & Lifting Speed	0.5-250 mm/min		
Substrate Dipping & Lifting Speed Resolution	0.01 mm/min		
Deposition Cycle Numbers	Unlimited		
Program Numbers	Unlimited		
Drying & Wetting Time	Infinite		
Liquid Circulating Jacket Module for Trough Temperature Variation	✓		
Dust-preventing Chamber	✓		



Recommended Standard Accessories

- De-ionized Water Purification System
- Contact Angle Meter
- Branded Desktop with comparatively High RAM & Graphics Card
- Multi-parameter Tester [pH, Temperature, Salinity, Conductivity & TDS]
- Ultrasonicator
- Liquid Circulating Programmable Temperature Controlling System
- Probe Sonicator
- Langmuir-Schaefer Deposition Kit (Manual)
- Dust- preventing Hood
- Multi-substrate Holder
- USB Power Hub

Our Other Products

- Contact Angle Meters
- Dip Coating Systems
- SILAR Coating Systems
- Spin Coating Systems
- UV Exposure Chambers cum UV Curers
- Ultrasonicators
- Muffle Furnaces
- Electric Furnaces
- Drying Ovens
- Magnetic Stirrers with Hot-plates
- Hot-plates
- Magnetic Stirrers

Products We Supply

- De-ionized Water Purification Systems
- Semi-micro & Analytical Balances
- Oil-free Vacuum Pumps
- Micro-syringes
- Liquid Circulating Programmable Temperature Controlling Systems
- Probe Sonicators
- Multi-parameter Testers

Contact No.: +91-9903314444
+91-7603044660
+91-7603044666

Apex Instruments Co. Pvt. Ltd.
82C Ibrahimpur Rd., Jadavpur, Kolkata-700032
West Bengal, India



ES France - Département Bio-tests & Industries
127 rue de Buzenval BP 26 - 92380 Garches



Tél. 01 47 95 99 90
Fax. 01 47 01 16 22



e-mail : bio@es-france.com
Site Web : www.es-france.com