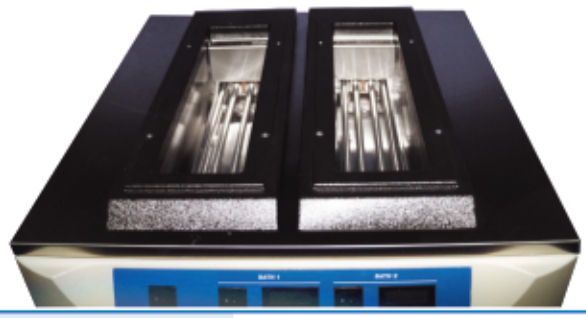
Freezemobile Shell Baths

Efficient, Convenient and Easy To Use

A product "stub frozen" to a thickness greater than 3/4 of an inch on the bottom of a flask causes prolonged drying times, or worse, melt back. The vapor is trapped far below the ice surface and must follow a long and tortuous path to escape.

Shell freezing is the classic method for preparing samples for freeze drying. Flasks are automatically rotated by motor driven rollers in a refrigerated bath containing alcohol or any other appropriate fluid.
A thin coating of product is evenly frozen around the inside "shell" of a flask, permitting a greater volume of material to be safely processed during each freeze drying run. These automatic, refrigerated units provide a simple and efficient means of pre-freezing many flasks at a time, producing the desired coatings inside.



One or two bath units can be mounted in a streamlined cabinet giving capacities up to two each 2000ml flasks at one time or six each 150ml flasks at one time.

Two motor driven stainless steel rollers rotate freeze drying flasks in the -50°C (or -75°C) bath and evenly distribute a thin coating of liquid product around the inside "shell" of the flask until it is solidly frozen. A greater volume of material may be processed during each freeze drying cycle, as shell freezing permits flasks to be filled half full with little increase in drying time because moisture does not have to migrate through the ice interface and a thick layer of dried product. Flask lift devices elevate flask caps, forming conical coating inside the flasks as they rotate, and preventing fouling of the lid, filter and stoppering plug.

Freezemobile Dual Shell Bath

Two 600 ml Flasks in Bath

2000 ml Flask in Bath

Specifications:

Cabinets:

Easily cleaned removable vinyl-clad aluminum side panels and sturdy ABS front and instrument panels allow free access to all internal components which are mounted on the heavy steel base plate. Our welded steel framing provides full perimeter strength and rigidity. The entire cabinet is corrosion resistant and comes with a reinforced stainless steel top work surface.

Shell Bath Modules:

4.25" (10.8cm) wide x 17.25" (43.8cm) long x 6.125" (15.56cm) deep. Stainless steel, insulated with "drop-in" roller drive.

Can handle: (3 ea) 150ml flasks, (2 ea) 300ml flasks, (2 ea) 600ml flasks, (1 ea) 1200ml flask, (1 ea) 2000ml flask.

Unit is furnished with conveniently located panel mounted rocker switches to control refrigeration and each bath independently.

Instrumentation:

All shell baths come with a refrigeration switch to turn on the refrigeration system and start cooling the bath or baths. There is a temperature display that shows the temperature of each bath. The rollers are activated using the rocker switches and can be turned off independently from the refrigeration system.

Cabinet Dimensions:

Freezemobile – Narrow Cabinet: 25" (63.5cm) wide x 26.5" (67.3cm) deep x 36.5" (92.7cm) high.

Temperature and Refrigeration System:

SL-50°C	Single Compressor
EL-75°C	Dual Compressor ("Cascade")

All Models use CFC-free refrigerant.

Electrical:

When ordering, please state voltage, and frequency of current.

Standard electricals are:

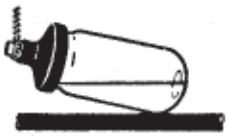
115/60	220/50
208/60	240/50
230/60	

Cascade model not available for 115V service.

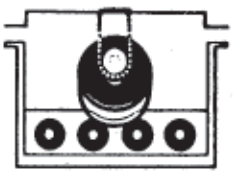
To Shell Freeze: Fill flasks slightly less than halfway with product. Place flasks in the alcohol bath and attach the lift device. Make sure the product level is low enough so the filter won't get wet, freeze over, and block vapor flow. The rollers will rotate the flasks while the refrigerated bath freezes the product, resulting in a thin even coating of frozen material on the inside of the flask. The increased product surface area permits vapor to escape quickly and easily, shortening drying time.

A Flask, halfway filled with product...

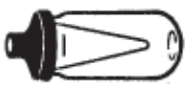
A Flask Lift Device, supporting the flask on an angle...



in the bath...



will produce a Conical Coating.



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