



FreeZone® 6, 12 & 18 Liter Freeze Dry Systems

FEATURES & BENEFITS

Optional built-in mini vacuum drying chamber holds small samples, either in bulk or in small containers such as serum bottles. It is used in conjunction with other drying accessories mounted on the attachment port. A separate drying accessory is required (sold separately). Its 50-watt heater is microprocessor-controlled from the front panel to +60° C (+140° F). (The chamber is not cooled. The only cooling is from the frozen sample.)

Rear-mounted electrical receptacle allows connection of the vacuum pump (sold separately).

Attachment port makes connection of accessories easy. Select from accessory drying chambers and manifolds (sold separately).

Upright, stainless steel collector chamber speeds and simplifies defrost. Models are available with PTFE-coated collector coil and chamber for additional corrosion resistance.

Vacuum and temperature graphs display relative system vacuum and collector temperature. Amber LED "waves" illuminate when vacuum and temperature levels are out of range for adding samples. Green LED lights indicate that conditions are right to add samples.

Red alarm light flashes and beeper sounds to indicate that an abnormal system event has occurred. Pressing the Menu Switch displays the alarm message on the LCD.

Moisture sensor protects the vacuum pump by preventing refrigeration or vacuum start-up when moisture is detected in the collector chamber area.

Durable console cabinet. Cabinet, mounted on 3" diameter casters, is powder-coated steel with a removable brushed stainless steel front panel. The roomy interior accommodates a vacuum pump (sold separately).

Vacuum control valve maintains setpoint vacuum level to speed the freeze drying process.

Vacuum break valve protects the system from oil backstreaming by bleeding air into the system when power to the freeze dryer or vacuum pump is shut off. If a brief power outage occurs (approximately 5 minutes), the freeze dryer will restart and the refrigeration and vacuum system will resume operation once power is restored. If the power failure is long (approximately 5 minutes) and the collector warms above safe limits, the freeze dryer will not automatically restart, which prevents melted samples from being drawn into the collector and liquid from harming the vacuum pump.



LCD displays system set-up and operating parameters and alarm messages.

Easy-to-follow operating instructions are printed on the left-hand side.

Automatic start-up is quick and easy to use. Pressing one button initiates the collector cool-down and vacuum pull-down sequence. Or, manually override this feature at any time using the separate switches for manual refrigeration and vacuum.

Collector drain hose is accessible from the front for convenient defrost. It extends about 9 inches and retracts within the cabinet when not in use.

HCFC/CFC-free refrigeration system ensures rapid, environmentally-safe cooling. The condensing module cools the collector coil to -50° C (-58° F), ideal for freeze drying aqueous samples. The system uses a non-flammable refrigerant that contains no ozone-damaging hydrochlorofluorocarbons (HCFCs) or chlorofluorocarbons (CFCs).

Factory wired. All models include a 3-wire cord with 20 amp NEMA plug.

Optional purge valve isolates the vacuum pump from the freeze dry system. The pump starts and warms the oil, while the collector cools, before pulling vacuum on the system. Pump life may be extended by purging small amounts of contaminants from the vacuum pump oil. Green indicator lights when the purge valve is closed.

Optional built-in shell freezer (6 liter models only) permits sample preparation while other samples lyophilize. The bath has two rollers to rotate flasks up to 1200 ml in size in heat transfer solution. The bath's separate CFC-free refrigeration system ensures rapid pre-freezing. A drain hose is accessible from the front for easy disposal of the heat transfer solution.

Rear-mounted RS-232 port may be used to transmit data to a user-supplied computer. The time between data transmissions may be set to occur at 10, 30, 60, 300 or 600 second intervals.

Hot gas defrost. Hot gas from the compressor is circulated through the collector coil and automatically shuts off when the refrigerant reaches +65° C (+149° F).



CE marking. All 230 volt, 50 Hz models conform to the CE (European Community) directives.



ETL listed. Models for operation on 115 volts, 60 Hz or 230 volts, 60 Hz carry the ETL mark signifying they are certified to UL and CAN/CSA standards for laboratory equipment.

Exclusive feature