Technical Data Sheet

111 Platform Shaker

#34502

Freeze Substitution Kit

Freeze substitution is a process for low temperature dehydration and fixation of rapidly frozen cells that usually takes days to complete.

With this unique kit researchers are now able to achieve excellent freeze substitution results in as little as 90 minutes for cells of small volume such as bacteria and tissue culture cells. For those cells of greater volume or that have significant diffusion barriers such as cuticles or thick cell walls, one can extend the time to 3 hours simply by putting a lid on the box.

Product Specifications for the Platform Shaker

Speed	User adjustable from 50 rpm to 300 rpm
Orbit size	19mm (.75 in.) in diameter
Time	User settable up to 100 hours or continuous
Motor	Electronically controlled brushless motor (no carbon brushes to replace)
Platform load capacity	Up to 5 lbs.
Flask platform capacity	5 lbs. (non-adding): 4 x 1L; 6 x 500ml; 8 x 250ml; 12 x 125ml; 209 x 50ml
Dimensions (W x D x H)	11.4 x 10.6 x 4.7 in. (290 x 270 x 120mm)
Weight	12.5 lbs. (5.67 kg)
Electrical	100-240 VAC; 50/60Hz; 1A; CE compliant
Operating environment	4°C (cold room) to 65°C; 70% RH

Setting up the Platform

1. Place the shaker on a clean, sturdy surface.
2. Make sure that the suction feet are secured to the bench surface.
   Note: You may consider placing a flat rubber mat underneath the unit to prevent any moving during operation.
3. Ensure that the power switch is OFF.
4. Mount the platform using the four screws and Phillips screwdriver included with the unit.
5. Be sure to tighten the screws well.
6. Plug the unit into the proper electrical outlet.
7. Confirm that nothing is blocking the unit from performing properly.

Loading and Balancing the Platform

To avoid any unwanted vibration and walking, it is important that the platform is loaded in a balanced manner. If you are using flask clamps and flasks, be sure to position the flasks so they form a balanced load on the platform. If needed, use flasks with water, which will counter balance flasks with samples. This will create a balanced load on the platform.

Operation

1. Load the platform.

2. Turn ON the unit by using the switch on the back.
   Note: The unit will go through a start-up process in which it will light up each digit on the display. When this process is complete, the display will show a pre-set time on the time and the word "OFF" for speed.
3. Push in the knob and hold it down. This will start the shaker.
   Note: The shaker will increase speed up to the prior speed setting. The timer will begin counting down if a prior time was set. The two dots in the center of the timer will blink as the unit times down and/or when the unit is shaking. When the desired time is reached, the unit will stop shaking and the timer will display the word "oVEr".
   Note: If a time was not set, the unit will continue shaking until stopped. You can stop the unit by pressing and holding down the knob.

Setting up the Speed and Time

Shaker speed can be set between 50 and 300 rpm. Setting the speed below 50 rpm can causes the display to show the word "oFF". The timer can be set up to 100 hours in one minute increments. Setting the time to all zeros (00:00) will allow the shaker to operate continuously. To set the shaker speed and time, press the knob briefly and release. You will see one of the speed digits flashing.

1. Rotate the knob clockwise to increase the speed setting and counterclockwise to decrease the speed setting.
2. Once the speed is set, press the knob briefly again and the time minute digit will begin to flash.
3. Rotate the knob to set the desired number of minutes, then press the knob briefly again to set the desired number of hours.
4. When done, press the knob briefly one more time and the display will show both the speed setting and the time setting.
5. Press and hold down the knob to being operation.

Care and Maintenance

Other than cleaning, no routine maintenance is necessary. To clean, we recommend using a damp cloth. Be sure to avoid using any solvents as they may attack the housing or display.