



**DE-GROOT** LABORATORY EQUIPMENT LTD.  
דה-גרוט ציוד מעבדות בע"מ

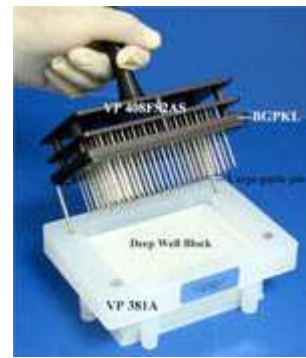


## Frozen Specimen Sampling Replicators

### Spring Loaded E-Clip Slot Pin Replicators

#### VP 408FS2AS

Many of our customers asked us to make a replicator that could be used to obtain samples from frozen library stocks of bacteria and yeast cultures without thawing the whole plate. One of the problems encountered in collecting specimens was the the height of the frozen cultures often varied between wells. Our spring loaded E-Clip replicator solves that problem by applying equal pressure to all the pins regardless of the volume in the well. By pressing the replicator onto the frozen culture the springs keep firmly pushing all the pins into the ice at the same pressure and melting it at the same rate. The resultant liquid is then picked up in the slot and transferred to the recipient plate.



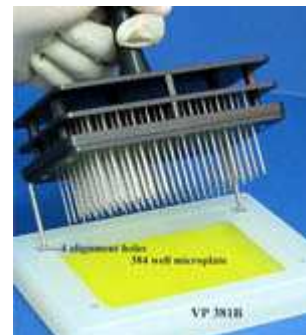
The springs compensate for wells that have different volumes of frozen culture and would not be sampled if we used a fixed pin replicator. The photo on the right illustrates how by pushing down on the replicator the springs are compressed up and thereby apply equal pressure on all the pins to the frozen substrate below. This is superior to just having a gravity floating pin as it will melt the ice faster.



These replicators can be used manually with a handle or on any of the [34 robotic systems](#) we have mounting plates for. The replicators can be autoclaved or sterilized with bleach or alcohol dipped and flamed.

The VP 408FS2AS replicator on the right has a 2 ul slot in the tip of the pin to collect the sample by capillary action.

Samples obtained from a 96 well microplate can be manually inoculated into a 384 well microplate as the **VP 408FS2AS** all ready comes equipped with our unique guide pin kit ([BGPKL](#)). When the guide pins on the Frozen Specimen Replicator are inserted into the proper alignment holes of a deep well library Copier ([either VP 381A or VP 381B](#) depending upon the type of recipient plate used) the sampling pins will be positioned in the middle of the appropriate wells.



The photo to the right illustrates how the Frozen Specimen sampler can be used to remove frozen specimens from a 96 well

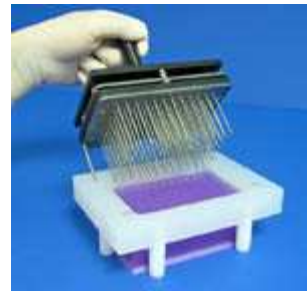
microplate or to deliver specimens to a standard 96 or 384 well microplate.



## VP 408FS2AS-1

The VP 408FS2AS-1 Frozen Specimen Replicator has 45mm exposed pins which was made to work with deep well microplates.

**Technical Documents:**  
[How to Attach an E-Clip](#)  
[General Cleaning Procedures for Pin Tools](#)  
[Assembly of a Frozen Specimen Pin Tool](#)  
[Care & Use of Floating Pin Replicators](#)



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