



POLICY #: LAB-ADM 001
EFFECTIVE DATE: 09/12/11
REVISED DATE(S): 12/27/15; 12/26/16; 1/15/18
REVIEWED DATE(S): 01/17; 1/16/18; 11/15/18

## **HORIZON PLASMAFUGE-12 OPERATING INSTRUCTIONS**

### **PRINCIPLE**

A centrifuge is a device to accelerate gravitational separation of substances differing significantly in their masses. In the clinical laboratory, centrifugation is used to separate particles from a solution in which they are suspended. Examples of this application are separating cells from blood to provide cell-free plasma or serum for analysis, concentrating cellular elements and other components of biological fluids for microscopic examination or chemical analysis, eliminating chemically precipitated protein from an analytic specimen, and separating protein-bound or antibody-bound or antibody-bound ligand from free ligand in immunochemical and other assays. Centrifugation is also used to separate two liquid phases of different densities or to separate lipid components from plasma or serum, or from each other.

The Horizon Model 853VES, Plasmafuge-12 is a medium capacity centrifuge with unmatched performance. The 853VES offers control over almost every aspect of the unit's operation from variable acceleration and deceleration to easy time and speed input. Save settings in one of 10 memory locations and recall them of a touch of a button. High speed and force capability horizontal rotor allows for quick and easy sample loading and complete horizontal separation.

### **PROCEDURE**

1. Press the OPEN /STOP button to unlock the lid and then open the lid.
2. Insert cushions (if needed) into the tube carriers (holders) for the tube size you are using.
3. Place the test tube samples into the tube carriers (holders). Make sure load is balanced.
4. Close the lid and turn the lid knob clockwise to its complete stop position. The LATCHED indicator light should illuminate to indicate that the latch is closed properly. If the lid knob is not completely latched the LATCHED indicator light will not illuminate and the centrifuge cannot be operated.
5. Begin the run by pressing the START button on the control panel.
6. The centrifuge should begin to spin. The RUNNING indicator light should illuminate.



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7. After time has elapsed the RUNNING indicator light will extinguish and the rotor will decelerate to a complete stop.
8. The UNLOCKED indicator light will illuminate and the locking mechanism will disengage, allowing entry into the rotor chamber. If the automatic unlock times out (after 60 seconds) simply press the OPEN/STOP button.
9. Turn the lid knob counter clockwise and open lid.
10. Remove the samples.
11. The centrifuge may be used immediately.

### **PROCEDURE NOTES**

1. To set the acceleration rate from minimum (1) to maximum of (10):
  - a. While the centrifuge is idle, press the PROGRAM button.
  - b. Use the UP/DOWN arrow buttons next to speed display until “ACCEL” is displayed in the speed display.
  - c. The current acceleration rate is displayed in the time display. Use the UP/DOWN arrow buttons next to the time display to adjust the acceleration rate from 1 (minimum) to 10 (maximum).
  - d. Press the PROGRAM button to exit or use the UP/DOWN arrow buttons next to the speed display to adjust additional settings.
2. To set spin time:
  - a. Press the up and down arrow next to the time display to adjust the run time. Adjustments may be made prior to a run or after a run begins.
  - b. A quick tap will adjust the time by 30 seconds. Hold down the button for 1 minute for adjustments- continue to hold for 5 minute adjustments.
3. To set speed adjustment:
  - a. Press the up and down arrow buttons next to the speed display to change to run speed.
  - b. Adjustments may be made prior to a run or after a run begins.



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- c. A quick tap will adjust the speed by 50 RPMs.
- d. Hold down the button for 100 RPM adjustments
- e. Continue to hold for 500 RPM adjustments
4. Routine chemistry specimens are generally spun for 10 minutes at 3600 rpm.
5. After time has elapsed, the RUNNING indicator light will extinguish and the rotor will decelerate to a complete stop.
6. The UNLOCK indicator light will illuminate and the locking mechanism will disengage, allowing entry into the rotor chamber.
7. An imbalance detector monitors the rotor during the run, If an imbalance is detected the centrifuge will terminate the current run and will begin to brake to a stop. The words "BALANCE" and "ERROR" will flash on the speed display.
8. With the lid switch closed, press the START button to begin run. Press the STOP/OPEN button at any time during a run to terminate it.
9. If the door latch malfunctions or a power failure occurs, perform the following procedures to retrieve the sample. Remove the latch label, use a pen to manually disengage the locking mechanism, pull the mechanism towards the control panel and then unlatch and open lid.
10. Breaking rate may be adjusted from a minimum of 0 to maximum of 9.
11. Countdown delay is turned on; the timer will not begin decrementing until the rotor has reached full speed as set by the user. The feature ensures that the samples see full force for the total run time.
12. Store a configuration in a memory location for a set speed, time and acceleration rate.



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### CARE AND PREVENTATIVE MAINTENANCE

- 1. Provide Adequate Ventilation:** For cooling purpose, the Horizon draws in ambient air through the air intake cover on top of the lid and exhausts this air in the rear of the base. The centrifuge should be placed on a hard smooth surface for good air circulation.
- 2. Always Spin Balanced Loads:** This centrifuge is equipped with imbalance detection. However, it is still possible to run loads that are minimally imbalanced, particularly at an imbalance setting of LOW SENSITIVITY. For maximum centrifuge life, set the imbalance detection to HI SENSITIVITY and always run balanced loads.
- 3. Keep the Tube Carriers/ Holders Clean:** Safety guidelines must be followed to properly clean up and/ or dispose of materials in the event that contaminated with a pathogenic microorganism is spilt in or on the centrifuge. Small glass fragments left in the tube carrier/holder after a tube breakage may adhere to the next test tube inserted in that carrier/holder. If tube breakage occurs, carefully remove the tube holder. Properly dispose of the sample and the tube fragments and thoroughly clean both the inside and outside of the tube carrier/holder. Insert new tube cushion (if needed) and replace the tube carrier/holder in the rotor.
- 4. Motor and Electrical Maintenance:** This centrifuge uses a brushless-DC motor. There are no brushes to replace and it should not need routine servicing for the life of the centrifuge. The electrical components are selected for high reliability and should not need serviced.
- 5. Keep the Centrifuge Clean:** The cabinet, rotor top and accessories shall be thoroughly cleaned using isopropyl alcohol, soap and water or a mild bleach solution. The use of fully/partially halogenated hydrocarbons, ketones, esters and all other chemicals not prescribed by the manufacturer may cause damage to the rotor and tube carriers/holders and shall not be used.
- 6. Tube Carrier/Holder Replacement:** It is recommended the tube holders be replaced after 24 months of use. Tube carriers are stamped with an expiration date and should be replaced according to stamp.



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### **REFERENCE**

1. Horizon performance series, Plasmafuge-12 Model 853VES Laboratory Centrifuge Operator's manual, The Drucker Co. 200 Shady Lane, Philipsburg, PA 16866.
2. Burtis and Ashwood, Tietz Fundamentals of Clinical Chemistry and Molecular Diagnostics, 7th edition, W.B. Saunders Company, Philadelphia, 2015.



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RETIREMENT DATE:

DISTRIBUTION: BMC Laboratory Administration Manual  
JMC Laboratory Administration Manual  
Online Policy Manager

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REVISION (ITEM):	PAGE:	DATE:	REVISED BY:
Updated Facility Name and header Updated references Moved policy to Laboratory – University healthcare manual on Policy Manager	All 4	4/13/15	Natcc
Updated Logo; Added Distribution	All; page 5	12/27/15	sb
Updated references	4	12/26/16	Natcc
Update header, medical director	All	1/15/18	Natcc