



**WARNING! WHEN COLLECTING BLOOD DO NOT EXCEED -230 mm Hg VACUUM. An acrylic vacuum chamber can collapse and/or shatter under vacuum pressures in excess of the recommended maximum.**

Tests run on various animals show that vacuum pressures of -50 mm Hg to -175 mm Hg are optimum for collection of blood without damage to the red blood cells. Vacuum pressures greater than -175 mm Hg can damage blood cells and do long term or permanent damage to the animal's vein wall.



**GENERAL WARNING AND CAUTIONS! READ THE PAMPHLET SUPPLIED BY THE MANUFACTURER PRIOR TO OPERATION.**

This pump provides sufficient vacuum to operate two vacuum dependent devices simultaneously. Connected to other equipment, this pump may cause equipment or instrument damage from excessive vacuum pressure. Check the pump pressures and any device documentation for maximum recommended pressures prior to commencing operation and adjust the vacuum pressure accordingly. Pressure relief valve and pressure gauge kits are recommended on each line when more than one vacuum device is connected to this pump

### UNPACKING

Once the box top is open, gently remove the foam packaging. Remove the pump and plastic bag from the box. Keep all packing materials if warranty return is necessary. The 1/4" tubing and quick disconnect are in the plastic bag.



### Use.

#### 1. Setup.

❖ Place the vacuum pump on a strong stable surface that will not resonate sound.  
❖ Place the 1/4" tubing over the nipple. This is the vacuum side of the pump.



❖ Plug the pump into a wall socket.  
❖ Turn the pump switch on. The vacuum gauge should read nearly 0. Place a thumb over the end of the tubing to determine how much vacuum pressure is being created by the pump. Adjust the vacuum regulator valve until the vacuum gauge reads approximately -125 mm Hg.



❖ Turn off the pump.

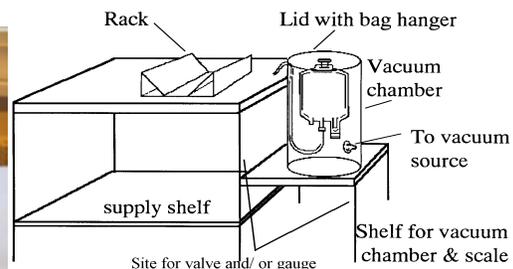


❖ Connect the chamber cylinder to the vacuum pump using the 1/4" tubing and the quick release connector provided

❖ Place the vacuum chamber on the bleed table or shelving closest to the site of blood collection. Close proximity to the animal will assure ease of collection and proper management of the collection devices.

#### • Other Supplies Needed:

- ❖ Guarded hemostat for donor tubing to insure donor tubing will not be cut or punctured by hemostat teeth.
- ❖ Blood collection bag with anticoagulant and appropriately gauged needle for the animal to be bled.
- ❖ Scale or balance capable of weighing within 2 grams.



Easy and inexpensive blood collection center.



## 2. Procedure for blood collection

- ❖ Insure that the donor bag tubing is charged with anticoagulant.
- ❖ Place the donor bag in the vacuum chamber and clamp the donor tubing with the guarded hemostat.
- ❖ Place the lid over the chamber with the donor tubing exiting via the notch.
- ❖ Place the vacuum chamber on a scale or balance and tare (set to 0) the bag and chamber assembly.
- ❖ Center the lid on the cylinder and verify the vacuum pressure by turning the pump on. Make sure that the vacuum gauge reads no greater that -127 mm Hg for the initial pressure. The vacuum pressure may be further regulated once the collection has commenced.
- ❖ A slight hissing sound may be created by air rushing through the space between the donor tubing and the notch in the vacuum chamber. This is a normal condition, however, if the lid does not seal to the body of the chamber, gently press the lid to the chamber to assure a vacuum. The tubing on some bags may be smaller than others that are used with this chamber. A good seal can be assured with the use of a thin moist cotton gauze placed in the area of the notch and tubing to seal it.
- ❖ Turn off the pump.
- ❖ Tare (set to 0) the scale for the bag and chamber.
- ❖ Insert the needle into the donor's vein and remove the hemostat.
- ❖ Restart the vacuum pump now.



- ❖ After the collection of the desired blood volume, clamp the donor tubing with the guarded hemostat, stop the pump and remove the needle from the vein
- ❖ Remove the bag from the chamber.
- ❖ Strip the blood from the donor tubing into the bag and gently rock the bag to assure a mix of the anticoagulant and the blood.



- ❖ Seal the donor tubing with sealing clips.
- ❖ When complete, clean the vacuum chamber with a nonabrasive cleaning agent and let dry or dry with a soft cloth.



Should you have any questions or would like additional information on vacuum assisted blood collection, please contact us.



### Quick Reference to Vacuum Pressure

In Hg.	kPa	mm Hg.
-1	-3.39	-25.40
-2	-6.77	-50.80
-3	-10.16	-76.20
-4	-13.55	-101.60
-5	-16.93	-127.00
-6	-20.32	-152.40
-7	-23.70	-177.80
-8	-27.09	-203.20
-9	-30.48	-228.60

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