

IAS Quad Canine collection and processing kit



Intended Use

- Blood bag intended for the collection of 450ml +/- 10% whole blood.
- The multi bag system allows closed system preparation and subsequent storage of blood components including packed red cells and plasma products (including fresh frozen plasma, cryoprecipitate and cryosupernatant).



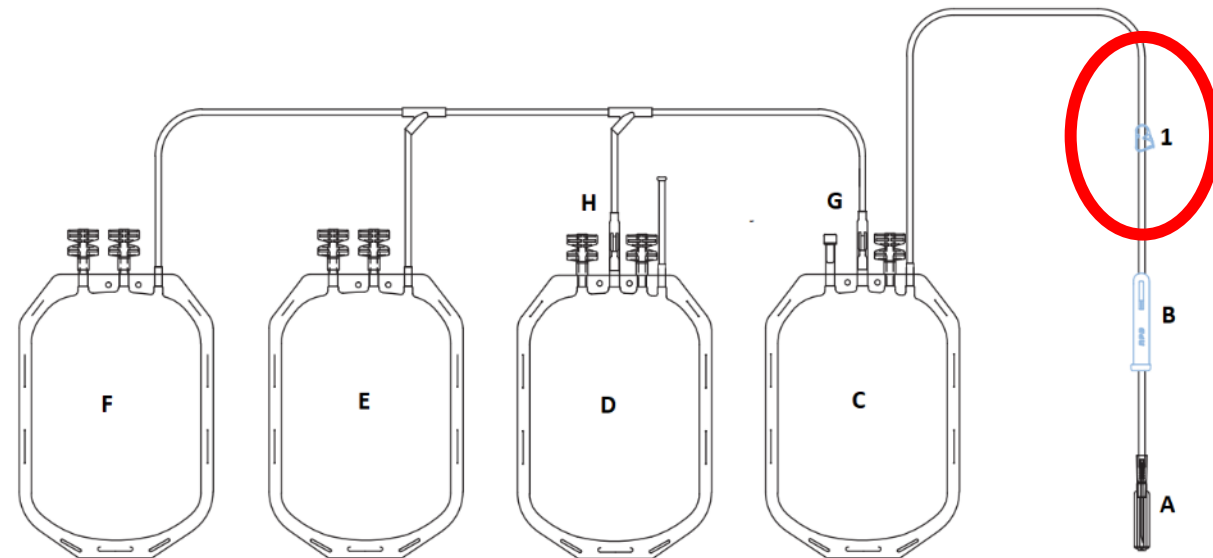
The outer packaging

- The canine kit is supplied foil-wrapped with notches in the packaging to aid opening. This additional foil overwrap is designed to reduce loss of fluids over the storage period and is necessary to achieve the stated expiry of the kit.
- Note that the foil overwrap should not be removed until just before use. In the event that the foil has been removed and the kit has not been used, we recommend that the kit (in its clear plastic overwrap) is used within 10 days.
- The inner packaging consists of a bag which has a tear-down section in the top corner.
- Carefully tear open the plastic bag and remove the collection kit.



Kit preparation

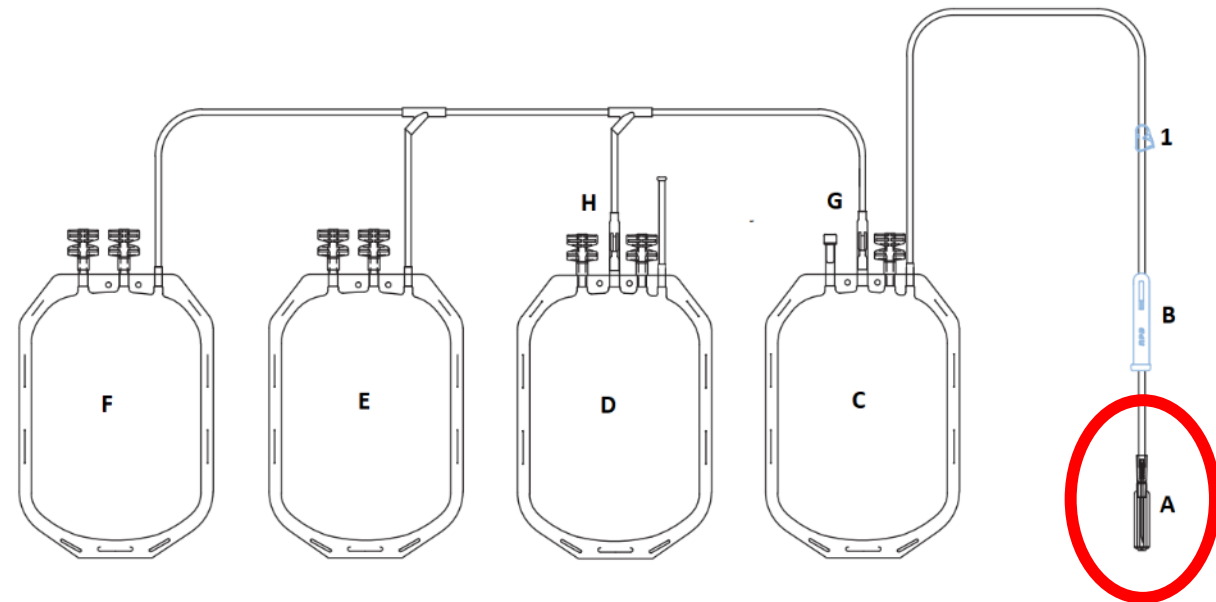
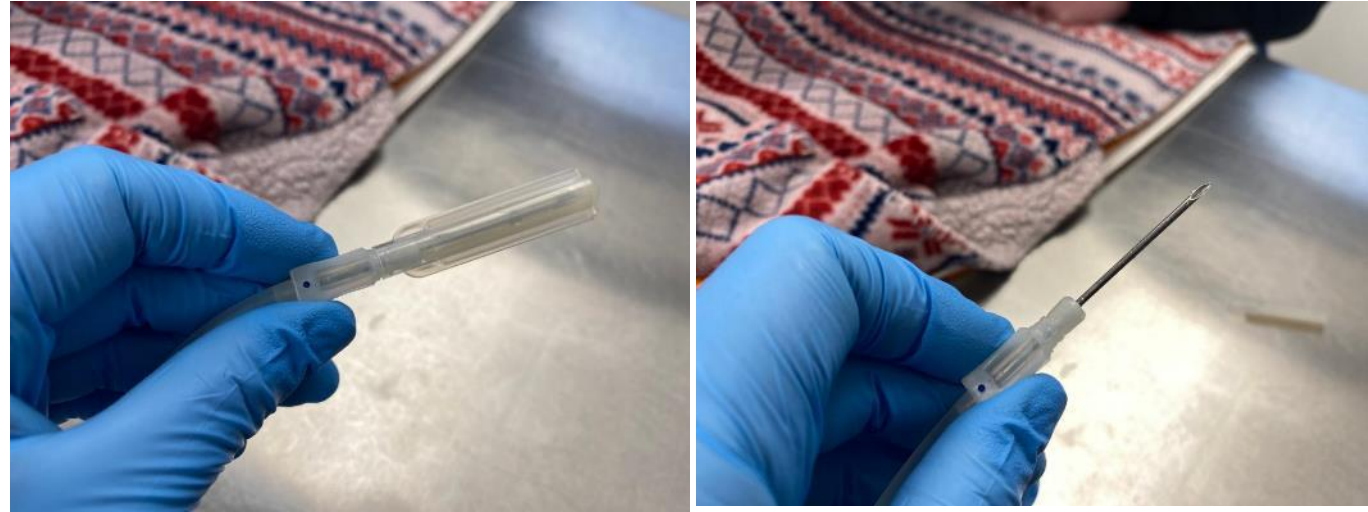
- Place the collection system on a clean dry surface and inspect for any signs of damage prior to use.
- After inspection, place the collection bag on flat surface/weighscale/automatic rocker or in a suction chamber. To use gravity donation technique the bag must be seated below the phlebotomy site. To achieve maximal blood draw speed (if this is appropriate for the bodyweight of the donor), this is recommended to be 50cm or more below the donor.
- Ensure the clamp (1) on the collection line is closed.
- Ensure that the collection line is not twisted or kinked.



Kit preparation

- Prepare phlebotomy site according to your validated procedure.
- Twist the needle cap (A) to break the seal
- Lift the cap off the needle in a straight line taking special care not to touch the bevel of the needle in the process.
- Keep hands behind the needle at all times during set use and disposal.

Note: the needle is a 16G needle.



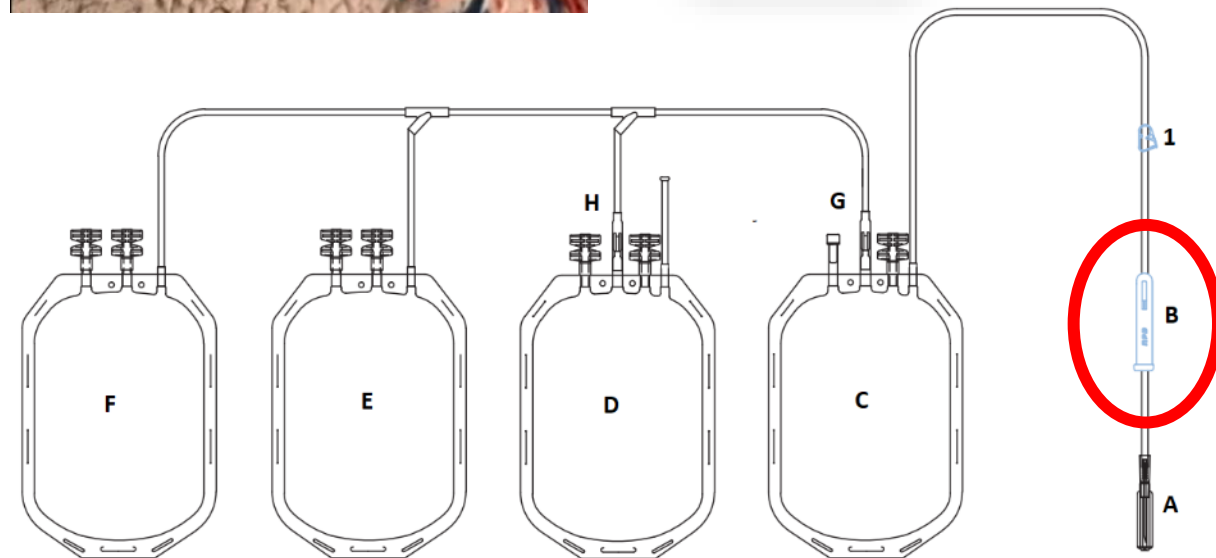
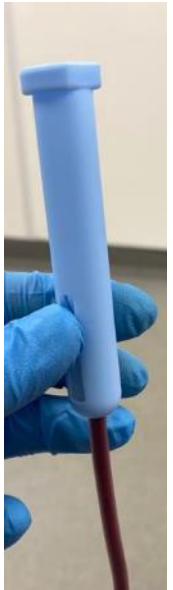
Venupuncture

- Have an assistant raise the vein appropriately
- Perform the venipuncture.
- Ensure the needle placement is smooth and the length of the needle is centrally placed within the lumen of the distended vein, and there is no tension on the line. Use a technique that allows secure placement of the needle such as curving the proximal collection line.
- Open the collection line clamp (1) and observe immediate blood flow or re-clamp (1), re-site the needle, until on unclamping the line clamp (1) achieves expected blood flow.
- Ensure that a regular steady flow is established using a flow monitor or weigh scale.
- If not using an automated rocker, then it is advisable to gently mix the contents of the collection at short intervals during collection to ensure the whole blood is well mixed with the anticoagulant.



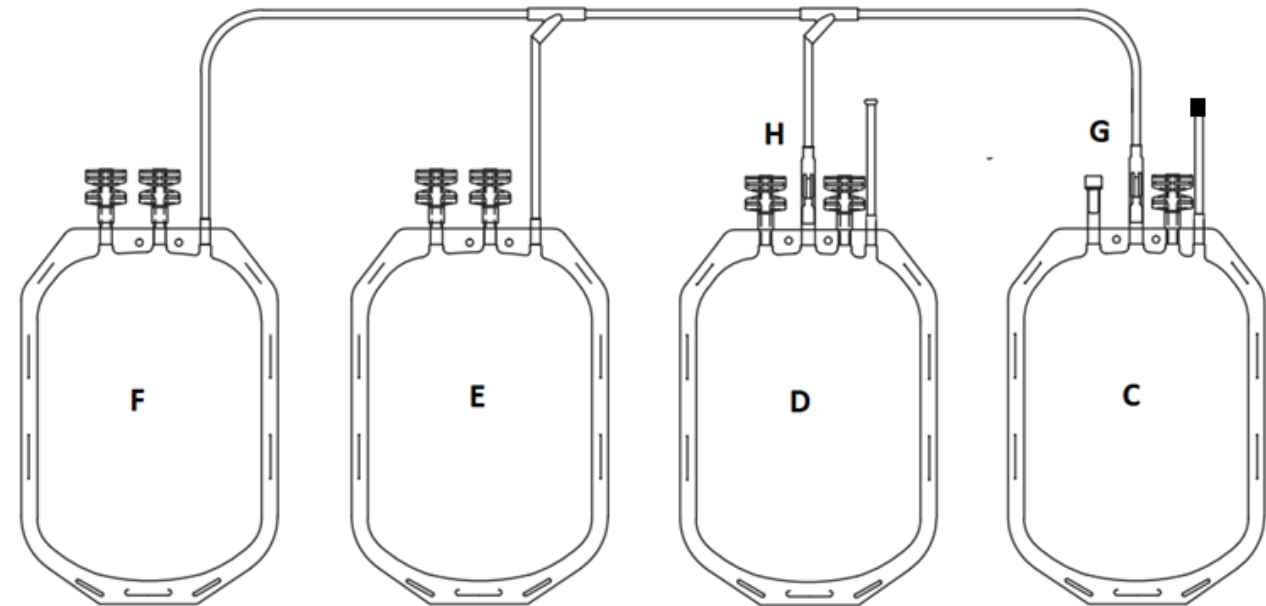
End of Collection

- Once the required volume of blood has been collected, close the clamp (1) on the collection line, have an assistant ready to apply a sterile pressure pad on the venipuncture site and remove the needle.
- Hold the collection line approximately 6 inches behind the needle hub and allow the needle (A) and needle guard (B) to hang freely.
- Hold the needle guard (B) in the other hand and slowly but firmly pull on the collection line to withdraw the needle hub (A) into the guard (B) until an audible <<click>> is heard as the needle locks into place inside the needle guard (B).



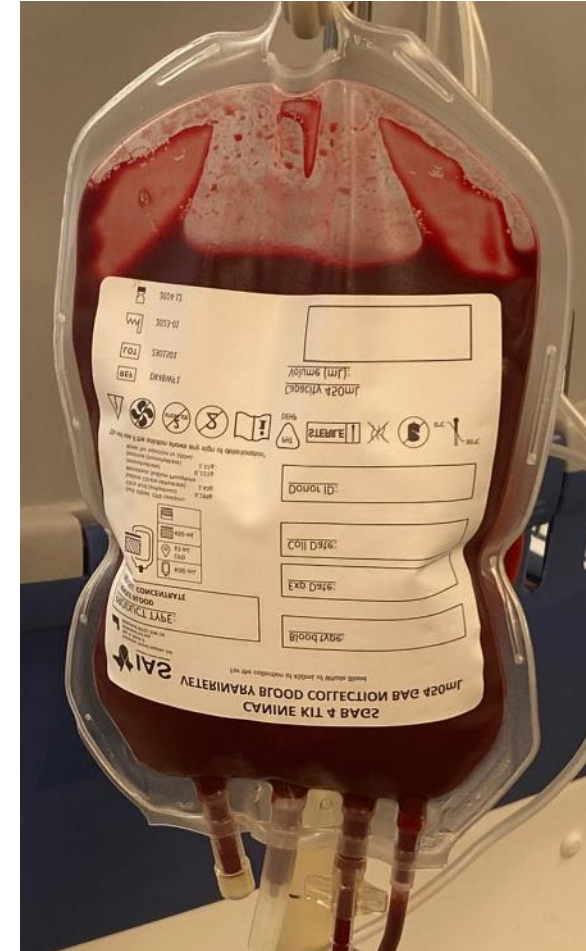
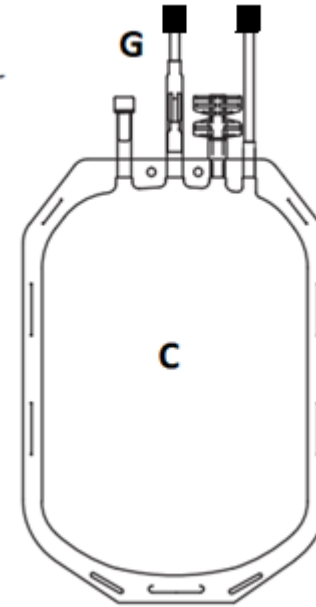
End of Collection

- Apply an additional secure sealing clamp or heat seal the collection line. If the blood in the collection line is to be used for quality control, place the seal at the end of the tube nearest the needle guard (B). In this case, use tube strippers to strip the blood from the collection line into the main bag within 30 seconds of finishing donation, repeat three times, mixing well between each strip of the tube. Ensure that there is no air at the entrance to the collection line when allowing the collection tubing to refill as this will ensure that the line does not part back fill with air reducing the volume of whole blood in the collection line for quality control or sampling aliquots. If the blood is to be used immediately place a permanent seal (heat seal or other permanent sealing device) on the collection tubing 2cm from the collection bag (C) and remove and discard the collection line and capped needle in a “sharps” container.
- To ensure an optimal mixing of the whole blood with the CPD, once the collection line has been sealed or stripped, grasp each end of the bag (C) and perform end-over-end mixing of the bag contents at least 6 times.



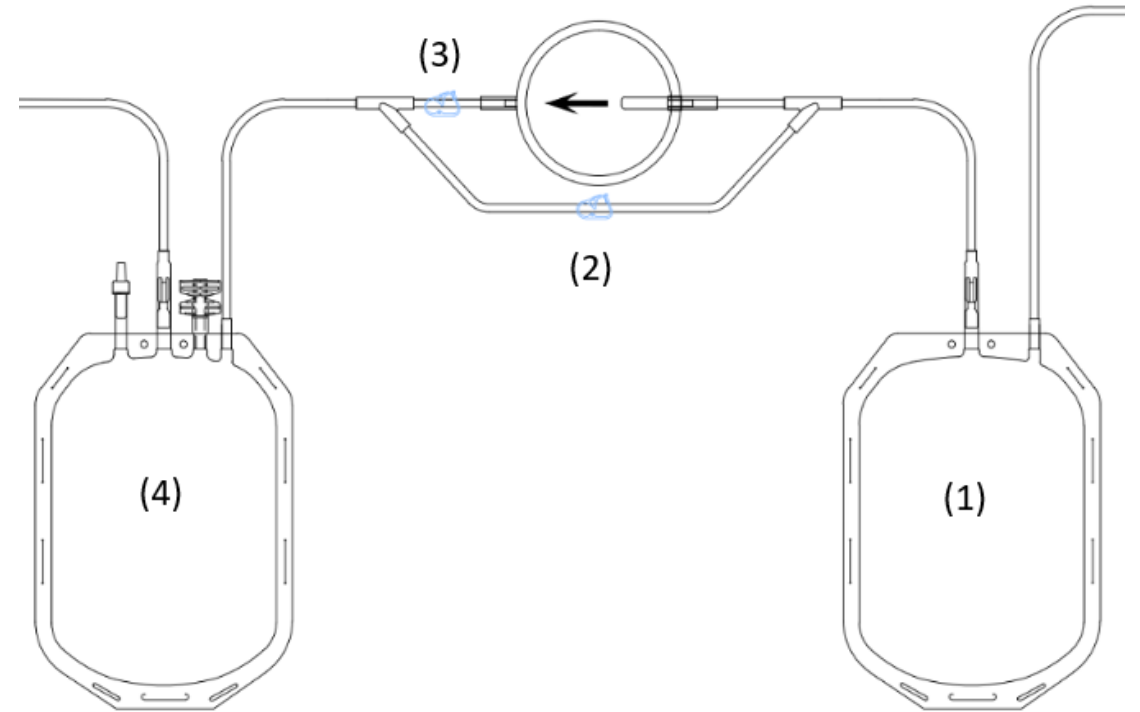
Whole Blood Storage

- Seal and separate the blood collection bag (C) from the other bags in the collection system using a heat sealer or other validated device.
- Store whole blood according to validated conditions.
 - For Fresh whole blood containing viable white cells, platelets and all coagulation factors, use within 4-6 hours after keeping the bag at room temperature ($22^{\circ}\text{C} \pm 2^{\circ}\text{C}$).
 - For Stored whole blood (depleted in viable white cells, platelets and some labile coagulation factors) allow the blood to equilibrate to room temperature in a clean environment (transport bag, designated storage box etc.) after collection for a maximum of 24 hours and then store at 4°C . for a maximum of 21 days.



If you are using an inline filter kit

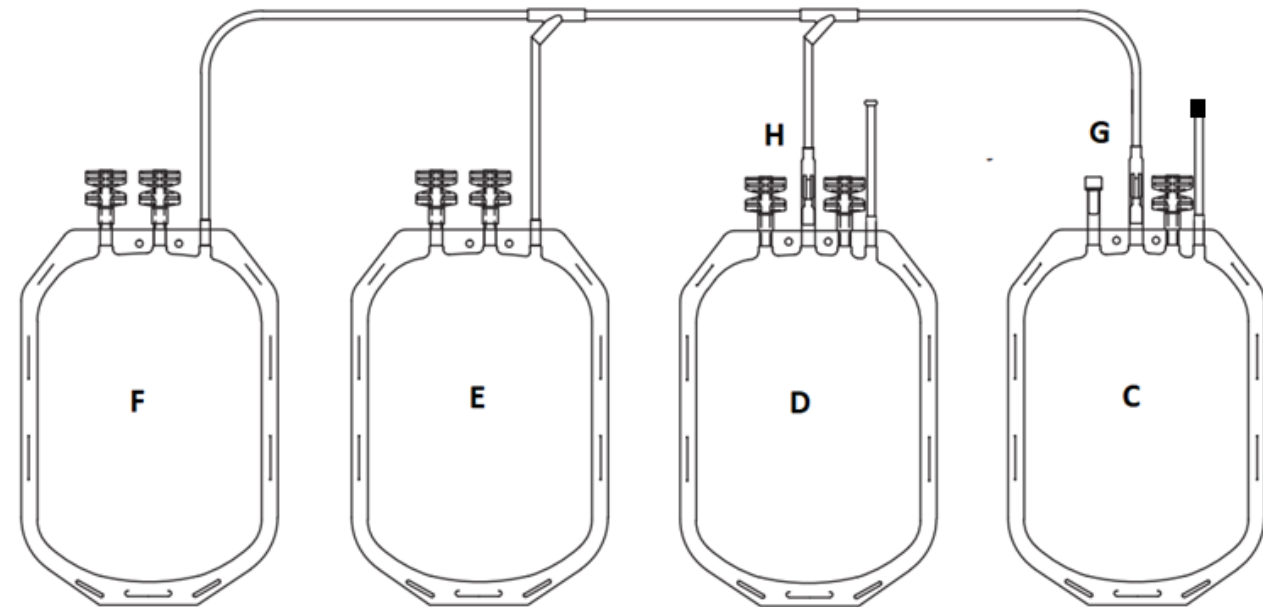
- Ensure the clamp number (2) is closed and the clamp number (3) is opened.
- Snap the break canula of the bag (1)
- The blood will go through the filter for around 15 minutes
- Once the filtration is done (no more blood in the (1) bag), close the clamp number (3) and open the clamp number (2)
- Remove the air from the bag (4) to the bag (1) and close the clamp number (2) when it is done
- Seal and separate the filter and the bag (1) from the other bags using a heat sealer or other validated device.



Plasma & Red Cell Concentrate Processing

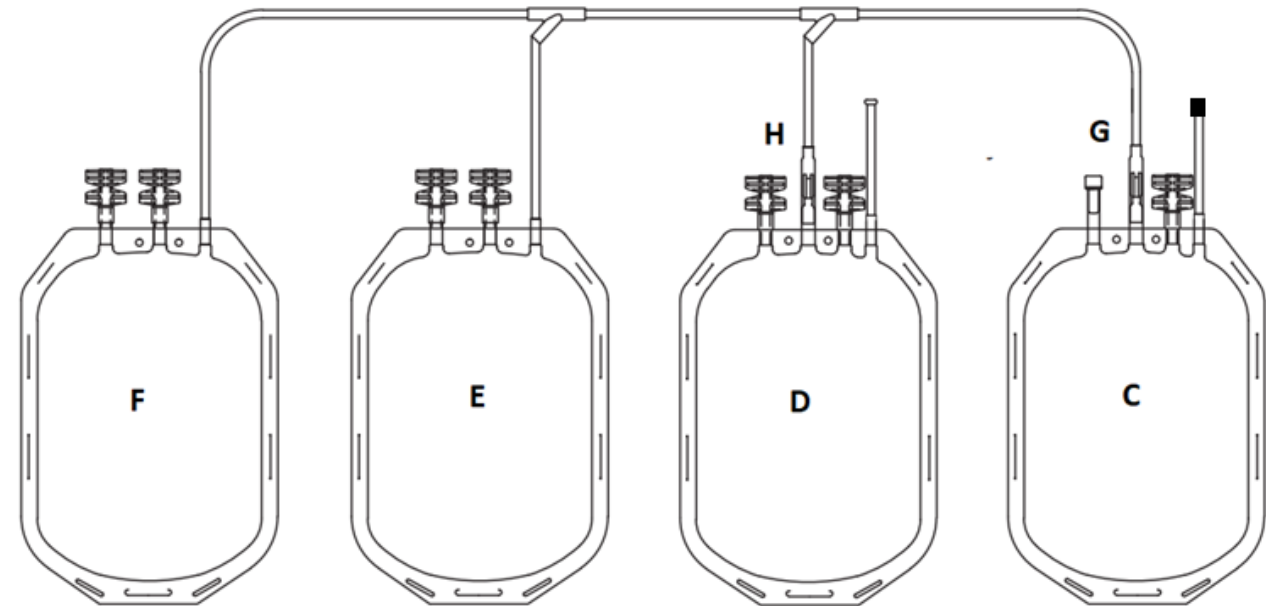
- Pack the system for centrifugation as per your standard operation procedure (SOP).
- Centrifuge the whole blood bag, satellite bags (E & F), and additive solution bag (D) together under conditions designed to produce a separation of Plasma or Platelet Rich Plasma and Red cell concentrates

The IAS quadruple bag system may be used to prepare all of the above components. Also note that different centrifuge protocols will be needed for each of the above processes. If you need further advice on this please contact IAS.



Plasma & Red Cell Concentrate Processing

- After centrifugation remove the unit carefully and gently load the whole blood bag (C) on a separator.
- Ensure there are no red cells trapped in the ports, if there are, resuspend the unit and re-centrifuge taking care with the position of the ports.
- Care must be exercised to prevent red cells entering the plasma component and adversely affecting the plasma quality.

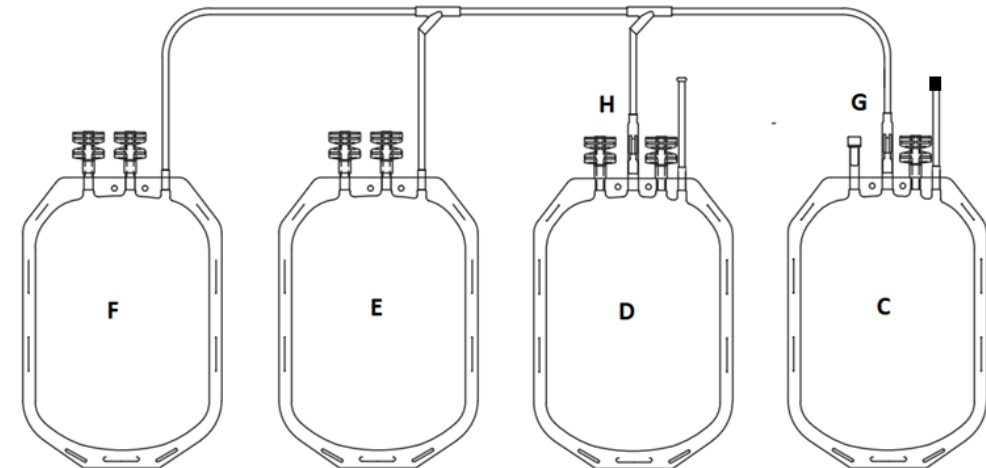


Plasma & Red Cell Concentrate Processing

- Make sure there are no kinks in the transfer tubing between the whole blood bag (C) and the Plasma storage bag (E).
- Clamp the access to the Plasma bag (E) using secure external scissor clamps or similar. Open the fluid pathway by snapping the break cannula (G) by bending it firmly through 90° with a firm side-to-side motion. It is usual to hear/feel a click during each sideways bend.
- Express the Plasma / PRP into the PRP bag (F). Note that it is important to ensure you transfer the PRP into the correct bag as the PVC used to make this particular bag is specially designed to support platelets and is of a different material from the other three bags in this collection kit.

Note: If there is a flow restriction: Ensure that the breakaway cannula (G) is properly broken. Check that the tubing is not kinked.

- When the red cells are nearing the top of the bag (C) in the separator stop the separation by releasing the pressure on the separator and placing a clamp between the primary bag (C) and PRP bag (F)



Plasma & Red Cell Concentrate Processing

- Seal or place an external clamp on the tubing between bag (D) and bag (E), which will ensure the fluid pathway is retained between the primary bag (C) and the red cell nutrient solution (D).
- Unload the red cell unit (bags C and D) from the extractor.
- Suspend the RBCs additive solution bag (D) above the red cell concentrate bag (C) without delay.
- Snap the break cannula (H) and allow the additive solution to flow completely by gravity into the red cell concentrate (C).
- When the additive solution bag (D) is empty, seal the tubing or place an external clamp between the RBCs additive solution bag (D) and the red cell concentrate bag (C).
- Mix thoroughly the additive solution and red cell concentrate by gentle end-over-end mixing of the unit as described previously.
- If half units are required, mix well and then split the red cell concentrate between the nutrient bag and the red cell bag and split the plasma with the remaining dry bag.



Plasma & Red Cell Concentrate Storage

- If needed, half-dose of Red Cell Concentrate and Plasma can be performed by splitting the RCC and Plasma volume in two bags.
- Seal and separate the blood bags from the other bags in the collection system using a heat sealer or other validated device.
- For the Red Cell Concentrate, keep the bag at cold ($4^{\circ}\text{C} \pm 2^{\circ}\text{C}$) and use within 42 days.
- For the Plasma, keep the bag below -18°C and use within 1 year as fresh frozen plasma and 5 years as frozen plasma.

Note: These bags have a unique design for veterinary practitioners. The red cell unit has one spike port for inserting giving sets and one rubber needle access sampling port. This port is for aseptic sampling of the unit prior to transfusion to obtain a representative sample for haemolysis testing to ensure that bags are only used if supernatant haemolysis is $<1\%$. Strict aseptic technique should be used when collecting these samples. These ports should not be used to inject anything into the red cell bag or for any other reason than pre transfusion testing.

