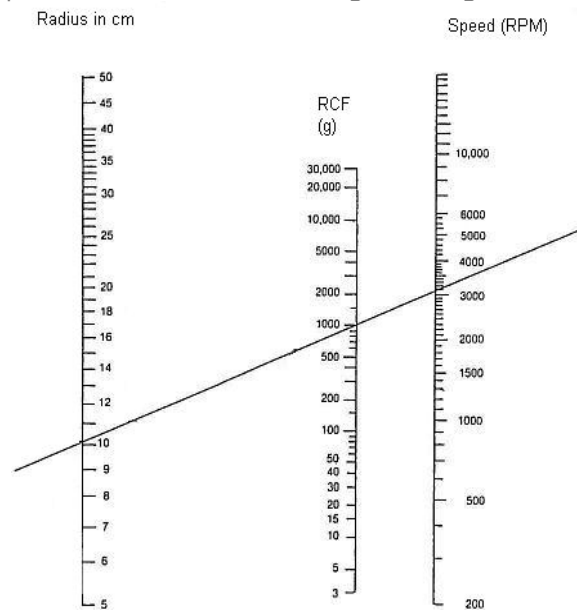


CENTRIFUGATION
Equipment and Required Matériel

1. Centrifuge (example) Drucker Horizon model B6148 is equipped with a fixed angle rotor which allows you to centrifuge 6 tubes.
2. Equipment required for maintenance :
 - Personal protective equipment: gloves, goggles, etc.
 - Isopropyl; alcohol 70%, mild detergent or bleach 10%.
 - Paper towel or clean damp cloths.
 - Papier towel or dry damp cloths.
 - Tweezers.
 - Rigid container for biohazard waste (e.g. Sharps container).


General Information

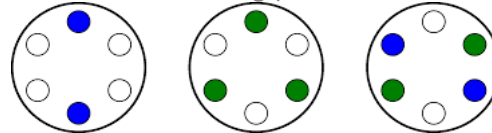
1. Centrifugation is an important pre-analytical step, which is used mainly to separate serum or plasma from blood samples or to obtain urine sediment.
2. Optimal centrifugation should allow for a good separation of blood components without losing the blood cells.
3. In general, it is recommended to centrifuge:
 - Serum: between 1000 g and 1300 g for 10 minutes.
 - Plasma: 2500 g for 15 minutes (minimum).
4. The duration and speed of centrifugation depends on the type of sample, the type of tube (refer to the manufacturer's instructions) as well as the centrifuge used (rotor radius).
5. **Centrifugation speed:**
 - The number "g" indicates the force required to obtain optimal centrifugation.
 - The RFC or Relative Centrifugation Force makes it possible to calculate the rotation speed necessary for a tube and centrifuge.
 - Centrifugation speed can be determined using a nomogram (See graphic below).



- Identify the centrifuge force (between 1000 and 2000).
- Determine the radius of the centrifuge used (cm).
- On the nomogram, draw a line that connects the measured radius and the centrifugation force (g).
- Extend the line to intersect the intersection point on the RPM scale.
- The point of intersection on the RPM scale constitutes the centrifugation force of the centrifuge used.

Centrifugation Instructions
1. Loading the tubes:

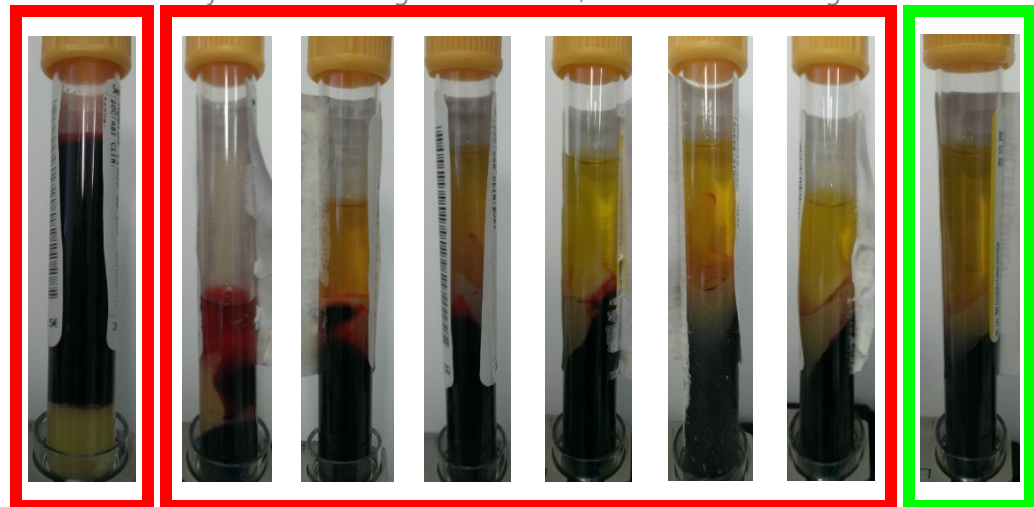
- **The tubes must be placed in such a way as to avoid any imbalance** which could damage the centrifuge and cause injury to personnel.
- If the number of centrifuge tubes is odd, a tube containing an identical volume of water can be placed opposite the single tube.
- Refer to the illustration below for loading possibilities:


2. Close the centrifuge lid.
3. Select the rotation time.

- The rotation time takes into account the calculation of the centrifugation speed in RPM, as illustrated above.

4. Wait until the centrifuge has completely stopped BEFORE opening the lid.
Notes :

- **Tubes with a gel separator (SST) should NEVER be re-centrifuged**, as gel particles can break off and mix with the serum.
- However if re-centrifugation is necessary, it is recommended to transfer the serum to another tube and re-centrifugate.
- To identify a well-centrifuged tube or not, refer to the following table:


 NOT
CENTRIFUGED

 CENTRIFUGED
INCORRECTLY

CENTRIFUGED

5. In case of tube breakage or imbalance

- Activate the emergency stop button.
- Wait at least 30 minutes before opening the lid.
- Clean according to the maintenance and cleaning procedure below.

Maintenance & Cleaning

To extend the life of the centrifuge, it is recommended to clean the rotor and accessories every every 6 months or when a spill or tube breakage occurs.

1. Required material :

- Refer to the section *Equipment and Required Material*.

2. Cleaning the accessories and the rotor:

- **Unplug the centrifuge.**
- Remove the accessories : Tube protectors (if applicable) and rotor.
- Clean with cold water and mild soap or with a 70% isopropyl alcohol solution.
- Rinse with paper towel or damp cloths.
- Dry the rotor and accessories thoroughly with paper towel or dry cloths to prevent corrosion.

	<ul style="list-style-type: none"> • Verify (once a month) to ensure the rotor and accessories are not damaged by corrosion. <p>3. Cleaning the centrifuge bucket :</p> <ul style="list-style-type: none"> • Clean the centrifuge bucket regularly with a clean cloth, dampened with water. • Dry thoroughly before using the centrifuge.
Calibration	The centrifuge must be calibrated once a year at the client's expense.
Breakage and Return of the Centrifuge	<p>If the centrifuge is broken, it is essential to return it to the laboratory and:</p> <ul style="list-style-type: none"> • Complete the Equipment Loan and Repair form (IC-20-FM-020), indicating the condition of the centrifuge ; • Clean AND decontaminate the centrifuge; • Place the centrifuge in a double bag and attach the repair form; • Return the centrifuge to the laboratory for verification OR repair.