

Equipment Operation Procedure

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Title:	Use and maintenance of the Beckman-Coulter J6-M1 Centrifuge
Version:	v2
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SOP History		
Number	Date	Reason for Change
v1	25/11/2013	Original
V2	25/11/2018	Update
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#### 1.0 Purpose –

The purpose of this SOP is to outline the principles of the routine use of the Beckman-Coulter J6-M1 Centrifuge in Laboratory 248 at the St Andrews School of Medicine (SASoM).

# 2.0 Scope -

This SOP applies to routine use and maintenance of the Beckman-Coulter J6-M1 Centrifuge within the SASoM.

# 3.0 Responsibilities -

It is the responsibility of all users of the Beckman-Coulter J6-M1 Centrifuge within the SASoM to comply with this SOP.

# 4.0 Procedure –

# <u>ALL USERS MUST ENSURE THAT THEY HAVE ENTERED THE DATE AND TIME IN</u> <u>THE RELEVANT BOOKING SHEET BEFORE USE!</u>

#### Inspect centrifuge:

- 1. Before starting, ensure that all tubes are rated for the intended use (ie speed, temperature, and chemical resistance).
- 2. There is currently only one rotor for this centrifuge:

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# Beckman Coulter JS-4.2 Swinging bucket (6-place) with a max speed of 4,200rpm. This centrifuge must therefore NOT BE USED ABOVE 4200RPM!!!

- 3. Make sure the tubes are balanced either by using a beam balance or by weighing the individual tubes.
- 4. Ensure that the rotor is compatible with the centrifuge and seated on the drive shaft correctly.
- 5. Ensure that the rotor and safety cups/buckets are free of cracks and deformities and that there is not 'pitting' or corrosion (generally as a result of poor maintenance).
- 6. Ensure that the rotor O-ring is not cracked, missing, or worn.

#### Entering Run Parameters

If necessary, turn the active key (black) to the NORMAL position. Then enter the run parameters, following the instructions below

# Rotor

To enter the rotor code for the installed rotor:

- 1. Press ROTOR The "ROTOR" display flashes.
- 2. Use the keypad to enter the rotor code for the installed rotor.
- 3. Check the display If the entry is incorrect, press CE and re-enter the rotor code.
- 4. Press ENTER/RECALL or press another parameter key to save the rotor code.

# Speed

To enter or modify the run speed:

- 1. Press SPEED The SPEED display flashes.
- 2. Use the keypad to enter the required run speed.
- 3. Check the SPEED display if the entry is incorrect, press CE and enter the correct value.
- 4. Press ENTER/RECALL or press another parameter key to save the run speed. If the run speed is greater than that permitted for the selected rotor, the digits will flash rapidly to indicate the error (in which case Press CE and enter a valid run speed).

The run speed can be changed at any time during the run (except when the key switch is in the PROGRAM LOCK position), and the rotor will accelerate or decelerate to the new speed.

# Time

To enter or modify the run time:

- 1. Press TIME The TIME display flashes.
- 2. Use the keypad to enter the required run time (0 to 99 hours 59.9 minutes).
- 3. Check the TIME display. If the entry is incorrect, press CE and enter the correct value.

4. Press ENTER/RECALL or press another parameter key to save the run time.

In a Timed run, the TIME display will show the time remaining in the run (the display counts down in tenths of minutes, changing every 6 seconds). The time begins counting down after START has been pressed, and the run ends when the time value reaches zero.

In a Hold run, the TIME display will show the time elapsed in the run (the display counts up in minutes, changing every minute). The time begins counting up after START is pressed.

# Temp

To enter or modify the run temperature:

- 1. Press TEMP The TEMPERATURE display flashes.
- 2. Use the keypad to enter the required run temperature (-20 to 40°C).
- 3. Check the TEMPERATURE display if the entry is incorrect, press CE and enter the correct value.
- 4. Press ENTER/RECALL or press another parameter key to save the run temperature

# START RUN

Press START once all checks have been carried out and the user is satisfied with settings.

Do not leave centrifuge until full operating speed is reached and appears to be running safely without incident.

Stop centrifuge immediately if you notice any unusual noises or shaking. Confirm rotor is balanced.

# ONCE FINISHED

Once run has finished:-

- 1. Remove the tubes.
- 2. Ensure that the rotor is clean AND DRY for the next user. Failure to dry the rotor will result in corrosion or 'pitting'.
- 3. Switch off

# 5.0 Personal protection -

A Howie laboratory coat and lab gloves must be worn at all times.

#### 6.0 Spillages -

Always clean up any spills immediately after use, only you know what you have spilt and are aware of its hazard.



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Spillages should be mopped up with paper towel, disinfected with 70% ethanol and finally washed with distilled water. Do not use agents such as Virkon or Decon.

#### 7.0 Training –

All users have to be trained by a designated person before using the Instrument.

#### 8.0 Related documents -

- 8.1 Risk assessments RA/GEN/002 (Centrifuges)
- 8.2 Code of Practice for use of centrifuges University booklet on "Guidance on Chemical and Biological Safety part 2 Biological and Genetic Modification Safety."

School Handbook - Health and Safety section (online)

# 8.0 Approval and sign off -

#### Author:

Name:	Peter Mullen
Position:	Research Assistant
Signature:	Date:

# Management Approval:

Name:	Mary Wilson
Position:	Laboratory Manager

Signature:

Signature:

# QA release by:

Name:	Alex MacLellan
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Position: QA Manager

Date:

Date: