

Procedure Type: **General Equipment Procedure**

Title: **Beckman SW 32 Ti Swinging Bucket Rotor**

1. Risk Assessment:

This Risk Assessment is to be used as a general guide and as such, cannot accommodate all the varying factors that may be encountered when using this equipment. Therefore, personnel are requested to conduct their own Risk Assessment before using this equipment to include any extra hazards introduced by the task performed.

TASK PERFORMED
1. Centrifugation in the Beckman Optima L-XP Preparative Ultracentrifuge.

HAZARDS
1. Rotor imbalance leading to machine destruction and possible injury to those in the vicinity
2. Rotor fracturing during operation.
3. Exposure to biohazards/hazardous substances as a result of broken/leaking vessels
4. Use of incorrect buckets with rotor.

RISK ASSESSMENT
1. The risk of machine imbalance is present while ever the equipment is in use. These risks are increased if the user is not trained or if the centrifuge is not regularly maintained.
2. The risk of the rotor breaking during operation is low if the rotor has been properly maintained.
3. Risk of exposure to biohazards due to broken/leaking vessels is present while ever the machine is in use.
4. The risk of use of incorrect buckets can be minimized by training and labeling.

RISK CONTROL
Only staff trained specifically in the use of this centrifuge are to use this equipment. Training is to be recorded in Staff training folder and names of authorized personnel are to be displayed on the wall in the centrifuge room.
1.1 Tubes must be balanced by weight before inserting into the buckets.
1.2 Only tubes especially made for centrifugation are to be used.
1.3 Establish a safety zone of 30cm around the centrifuge and ensure that no personnel or

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hazardous substances enter the zone during centrifugation.

2.1 Clean rotor thoroughly after each use.

2.2 Store rotor upside down in a cool dry area when not in operation.

2.3 Check rotors regularly for signs of irregular wear/damage.

2.4 The rotor should be checked by the manufacturer on a regular basis for pitting or hairline fractures.

3.1 Use only centrifuge tubes specifically designed for operation in this rotor and ensure they are properly sealed before centrifugation.

3.2 Thin-walled centrifuge tubes must be filled to within 5mm of top of tube to avoid tube collapsing.

3.3 In the event of a spill, decontaminate rotor immediately - follow spill procedures (GDP 011) and disinfecting instructions.

3.4 Wear appropriate personal protective equipment including lab gown and fully enclosed shoes.

3.5 Check that o-rings are in good condition and seated correctly. Broken or absent o-rings may result in the vacuum extending inside the rotor, and the sample being sucked out of the rotor.

3.6 This centrifuge has been fitted with a Hepa-filter to prevent biohazardous material escaping into the environment. Ensure that the Hepa-filter is changed as required and that appropriate decontamination procedures are carried out.

4.1 Check that the swinging buckets can swing up into position on the rotor spindle and properly fit the support framework.

4.2 Label the racks on which the buckets are stored to indicate the rotor to which they belong.

4.3 Buckets come in a weighed set and only this set of buckets should be used together in the rotor. Do not introduce buckets from another set.

4.4 It is not required that all six buckets are used together on each run of the rotor. However symmetrical positioning is required, and if only 2 or 4 buckets are being used, then the positions should be rotated to prevent long-term distortion of the rotor.

2. Calibration: N/A

3. Monitoring:

3.1 Frequency: Whenever in use.

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- 3.2 **Method:** Listen carefully to the centrifuge when this rotor is in use, to ensure its operating sounds are characteristic to the particular machine. If there is any unfamiliar sound coming from this equipment when it is in operation it could possibly mean that the rotor is unbalanced and the centrifuge must be turned off immediately. This is to avoid major damage to the centrifuge and possible safety hazards. When in operation, remain with the centrifuge and monitor until the maximum desired speed has been achieved.
- 4. General Operation:**
- 4.1 Read the 'Safety Notice' on page 2 of the Beckman/Coulter SW 32 Ti and SW 32.1 Ti Instruction Manual (Attachment 10.1).
- 4.2 For General Operation Instructions on use of the rotor refer to page 4-21 of the Beckman/Coulter SW 32 Ti and SW 32.1 Ti Instruction Manual (Attachment 10.1).
- 4.3 For selection criteria for use of tubes, bottles and accessories refer to the Rotors and Tubes User's Manuals in the CD attached. (Attachment 10.2).
- 5. Cleaning:**
- 5.1 **Frequency**
- 5.1.1 Cleaning must be carried out when required and immediately in the case of a spill.
- 5.2 **Method**
- 5.2.1 Refer to page 22 of the Beckman/Coulter SW 32 Ti and SW 32.1 Ti Instruction Manual (Attachment 10.1).
- 5.3 **Records:** Record all cleaning details on the Maintenance Record Sheet (Illustration 9.1).
- 6. Maintenance:**
- 6.1 **Method:** Refer to page 21 of the Beckman/Coulter SW 32 Ti and SW 32.1 Ti Instruction Manual (Attachment 10.1).
- 6.3 **Records:** Record all Maintenance details on the Maintenance Record Sheet.
- 7. Instruction Manual:**
- 7.1 Available – Copy attached.

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8. Repairs:

- 8.1 Check ERN for Service Company and warranty details
- 8.2 Contact the University Workshop for advice and repairs

9. Illustrations:

- 9.1 Maintenance Record Sheet

10 Attachments:

- 10.1 Beckman/Coulter SW 32 Ti and SW 32.1 Ti Instruction Manual
- 10.2 Beckman/Coulter Rotors and Tubes, User's Manual CD:
 - 10.2.1 Section 2: Tubes, Bottles and Accessories.
 - 10.2.2 Section 3: Using Tubes, Bottles and Accessories.
- 10.3 Beckman Coulter Rotor Safety

11. Change History:

- 11.1 Issue Number: 1st Issue
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- 11.2 Issue Number:
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