If you have additional questions regarding this piece of equipment, its operation, safety requirements, or constraints, DO NOT OPERATE and contact the Lab Coordinator (3675) for assistance.
General Operations

NOTE:

The Geno/Grinder® is designed to effectively disrupt cellular materials by oscillating two or more deep-well titer plates vertically.

Before operating this equipment, it is expected that you are familiar with its technical features. If not, You MUST please read the instruction manual located on the shelf above the equipment.

Fig.1 Front view of the Geno/Grinder

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To use the equipment please follow the instructions below:

1. Fill in the logbook located above the equipment.

**Controls**

1. To change the timer settings, press and hold the timer knob and turn it left or right to increase or decrease by increments of 5 seconds. Once the desired run time is achieved release the knob. **The motion of the Geno/Grinder is very energetic so start the run time between 10 seconds and 2 minutes and increase only if needed.**

2. To change the rate control press and hold the rate control knob while turning left or right to decrease or increase the rate in increments of 10 strokes/minute. Once the desired rate is reached, release the rate control knob.

3. When you press the START button the Geno/Grinder will begin the programmed run and stop after completion. To stop at any point during the run press the STOP button.

**Loading the Clamp**

**Loading the adjustable Clamp (2189G)**

*Note:* the clamp is crucial to proper operation of the Geno/Grinder. Sample holders must be held securely in the clamp during operation to prevent damage and leakage.

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Vials in Holders or Cryo-Blocks

1. Place the sample vials in the clamp base. Ensure the sample load is evenly distributed from front to back in the clamp. Ensure vials are placed in such a way that the clamp lid has an even surface to rest on (ex. If running 4 vials place at all 4 corners).
2. Press and hold the button on the lid handle and slide the lid onto the threaded rod and the guide onto the upright at the back of the clamp (see figure below).
3. While holding the button down move the clamp lid down to rest on the samples.
4. Release the button and press down on the lid handle.
5. Turn handle clockwise until finger tight and ensure the button has popped out. If the samples cannot move side to side within the clamp they are sufficiently secure.
6. Close the Geno/Grinder cover and run the unit.

Note: the max sample load is 4lb. this limit includes vials, samples, grinding media, holders and nesting trays. If a load exceeds 2 lbs. the max operating rate is 1500 rom.
If you have additional questions regarding this piece of equipment, its operation, safety requirements, or constraints, DO NOT OPERATE and contact the Lab Coordinator (3675) for assistance.
Releasing the Clamp

1. When the Grinder comes to a complete stop open the cover.
2. Turn the clamp lid handle counter clockwise until it rotates freely.
3. Press and hold the button and slide lid up the threaded rod.

Loading the Large Capacity Clamp

1. Place a loaded, sealed tier plate on each side of the clamp base; if only processing one titer plate, place an empty one on either side.
2. Place clamp lid on the top of each titer plate.
3. Flip clamp latches up to engage strike plates on both ends of the lid and push down the latches.
4. Place spaces as required until the titer plates are firmly in position.
5. Lift up latches to ensure they have properly locked.

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Vials in Holders or Cryo-Blocks

1. Place capped tubes into the tube holder or cryo-block.
2. The the tube holder on the bottom plate of the large clamp and set the clamp lid on top. Ensure the load is equal from front to rear. Empty tubes can be used as placeholders.
3. Clamp the lid in place. Use spacers if necessary.

Releasing the Clamp

1. Press the safety catch while lifting the latch.
2. Release all four latches and unhook.
3. Titer plates or vials can now be removed.

Operation

1. Load and seal the titer plates, or load and cap the sample vials.
2. Clamp the titer plates/vials in place, using nesting trays as needed.
3. Close top cover.
4. Set the timer.
5. Set the clamp stroke rate.
6. Press START.
7. When run is complete, lift cover.
8. Unclamp titer plates/ vials.

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Safety Recommendations

- Wear appropriate PPE (Lab Coat, Safety Glasses, full shoes and gloves)
- Do NOT use glass vials in the grinder.
- Ensure the clamp has a flat surface to rest on.
- Ensure all vials are secure and cannot be moved prior to operation.
- Ensure top cover is always down prior to operation.
- All PPE MUST be removed prior to exiting the lab.
- NEVER operate the machine if you are unsure or have questions regarding ANY point of operation.

If you have additional questions regarding this piece of equipment, its operation, safety requirements, or constraints, DO NOT OPERATE and contact the Lab Coordinator (3675) for assistance.
Mentoring

If you are in need of mentoring or help troubleshooting, please contact one of the following mentors:

Jarvis Stobbs – Support Scientist
Phone: 306-657-3527
Email: jarvis.stobbs@lightsource.ca

Danielle Veikle – Industrial Support Scientist
Phone: 306-657-3769
Email: Danielle.veikle@lightsource.ca

Erika Bergen – Industrial Science Operations Coordinator
Phone: 306-657-3867
Email: erika.bergen@lightsource.ca

If you have additional questions regarding this piece of equipment, its operation, safety requirements, or constraints, DO NOT OPERATE and contact the Lab Coordinator (3675) for assistance.