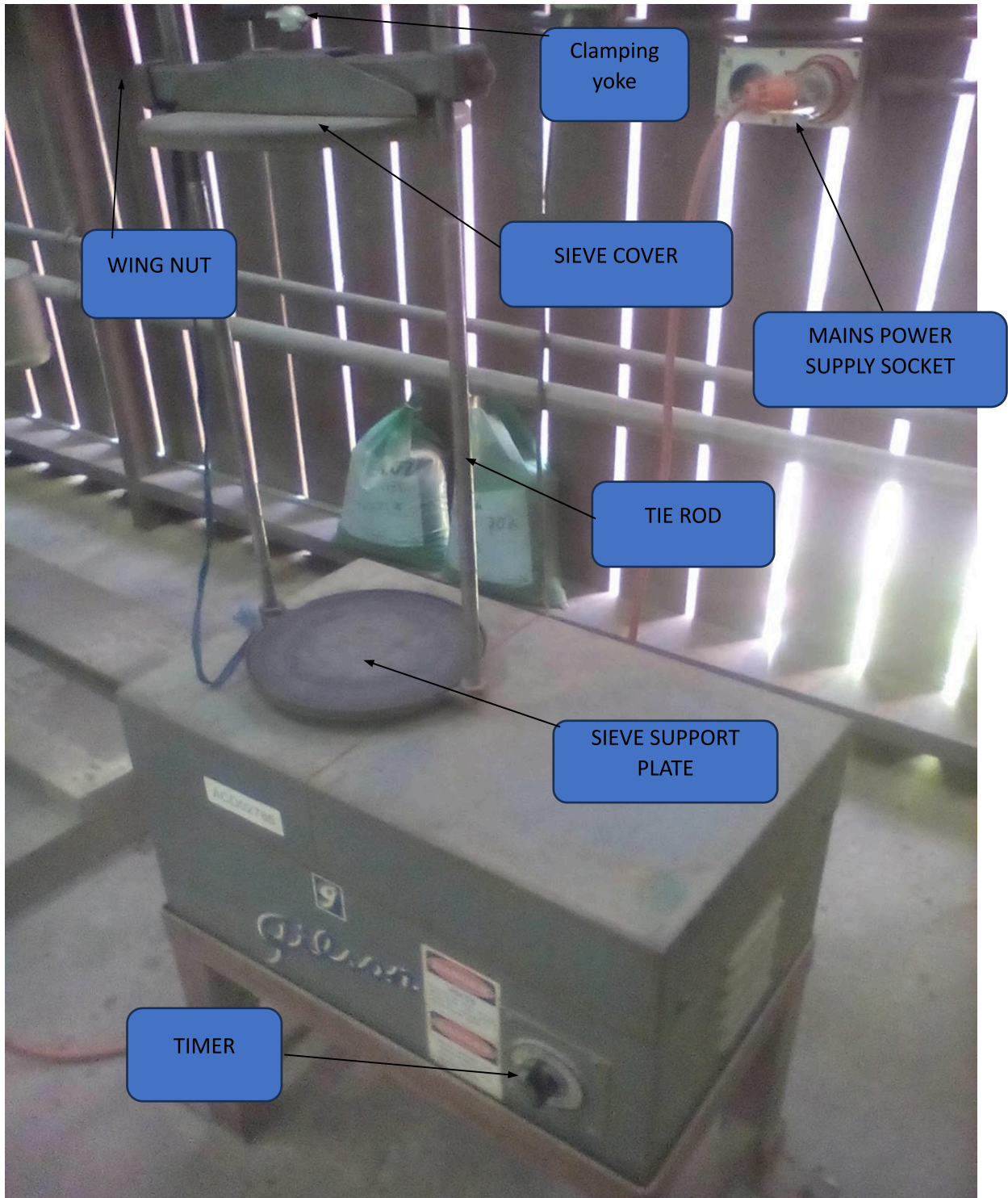


# STANDARD OPERATING PROCEDURE (SOP) GILSON SIEVE SHAKER



**OBJECTIVE**

This Standard Operating Procedure (SOP) is specifically designed for the purpose of safe operation of the LABORATORY equipment '**GILSON SIEVE SHAKER**'. The equipment operator must read through the procedure carefully and should fully understand it before operating the equipment and or otherwise consult the senior laboratory personnel for any clarifications prior to the operation.

## **HAZARDS**

- Moving parts – Moving parts with risk of injuring fingers
- Compressed air – Use of compressed air under very high pressure
- Ergonomics – Improper stance during sample loading and unloading may cause server muscle strain or back injury
- Noise – As the sieve shaker is mounted on an open stand without a sound proof cabinet, the noise created is moderately high that could induce stress or hearing impairment over an extended period of exposure

## **SAFETY – Personal Protective Equipment (PPE)**

The following safety gears must be worn when operating the Ro TAPRX-29-10 SIEVE SHAKER. It is a standard safety requirement that every person who is participating in the laboratory experiments or engage in any other activities in the laboratory **MUST** wear appropriate Personal Protective Equipment as listed below for this particular equipment;

- Clear safety glass
- Safety boots
- Rubber hand gloves
- Ear muffs or plugs

## **APPARATUS & MATERIALS REQUIRED**

- Bench top electronic balance
- Metal scoop
- Spatula
- Paint brush
- Sample trays
- Lab funnels
- Plastic bags
- Note pad and biro

## **STANDARD OPERATING PROCEDURE (SOP)**

### **Prestart Check**

1. Ensure that the work area is clear of any obstructions that may cause safety hazard in the work area
2. Select a set of sieves with the coarsest sieve opening at the top with a pan at the bottom
3. Ensure that the sieves are clean from any locked particles in the sieve apertures that will affect the sieving efficiency

4. **DO NOT** turn on the main power supply switch to the Gilson Sieve Shaker at the wall socket until you set the test run time on the sieve shaker

When excessive particles are locked in the sieve openings, screen binding occurs.  
Using blind sieves to carry out size analysis will cause erroneous results

#### **GILSON SIEVE SHAKER OPERATION**

5. Place the pre-weighed sample into the top sieve
6. Place the set of sieves on the sieve support plate in the sieve shaker
7. While supporting the sieve cover assembly with one hand, loosen the wing nuts and carefully slide the cover onto the top of the sieve net
8. Press down firmly on the sieve cover assembly and hand tighten the two wing nuts, then turn the York assembly bolt clockwise till it stops
9. Set the test run time by turning the setting knob clockwise till it is pointing to the desired time on the dial. If the test run time is less than 4 minutes, turn the knob arrow past 4 then turn back to the desired time on the dial
10. Turn on the main power supply switch to the Gilson Sieve Shaker at the wall socket
11. The sieve shaker will automatically start up and stop when the test run time has lapsed
12. When the shaker stops, turn the clamping yoke handle counter clockwise three full turns to loosen the clamp tension
13. Turn the two wing nuts counter clockwise and raise the clamping assembly up to get working clearance, then tighten the wing nut to secure in place
14. Carefully remove the sieve set, ensuring the bottom pan is supported then place it next to the electronic weighing balance
15. Weigh the retained particles on each sieve and stake up the empty sieves away
16. The size fractions can be packed into a labelled plastic bags for further tests or discarded as per conditions of the laboratory test procedure
17. The sieve shaker is now ready for the next test
18. **Report any issues regarding the shaker immediately to the Laboratory Technician**
19. Do HOUSEKEEPING around the work area before you leave