

OPERATING MANUAL

One-Touch Vibratory Sieve Shaker



Rev 02/2020

SAFETY INSTRUCTIONS

Whether you are the owner, employer, operator, or maintenance person for this machine, safety is your responsibility. You are responsible for operating and maintaining this equipment in compliance with these instructions and for using common sense. Review and completely understand the operating and safety instructions before using this machine.

WARNING!



This device operates on electric current. Improper operation could result in electric shock, electrocution, or an explosion!

1. **ALWAYS** make sure the motor and other electrical components are appropriate and properly configured for your intended use and available power source. The One-Touch Vibratory Sieve Shaker is configured to operate on 115V/60Hz power supplies. This unit is **NOT** explosion-proof.
2. **ALWAYS** check electrical wiring for loose connections and for pinched or frayed wiring.
3. **ALWAYS** use a properly-wired, three-pronged plug, or otherwise ground the machine. Connect the machine to a properly-wired, three-pronged receptacle. Make sure the cord is located where no one will trip or get tangled in it.
4. **ALWAYS** disconnect and lock out power supply before performing maintenance and repairs.

WARNING!

DO NOT operate the machine without having all covers and case in place.

ALWAYS unplug or disconnect machine from the power source when the unit is not in operation.

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1.0 INTRODUCTION:

The new **One-Touch Vibratory Sieve Shaker** for 8in and 200mm sieves combines the latest in electronic control with proven particle sizing technology for fast, accurate separations. Three-dimensional sieving action evenly distributes and continuously reorients particles across the mesh surface to insure optimum sieving performance. The *One-Touch* Vibratory Sieve Shaker is suitable for a variety of materials with particle sizes from No.10 (2mm) to No.635 (20 μ m). Fast-acting sieve clamps adjust quickly with little effort. Power level, sieving time and interval pauses are all controlled and programmed on the Touch Screen. Up to 99 testing profiles can be stored in memory to insure exact repeatability.

2.0 UNPACKING & SET-UP:

1. The *One-Touch* Vibratory Sieve Shaker weighs approximately 90lb (40kg). Use appropriate equipment and manpower to uncrate the sieve shaker. Wear safety glasses and work gloves.
2. Examine the shipping carton for signs of damage before opening. Report damage to the shipper immediately. Leave the carton as intact as possible to facilitate return shipping, if necessary.
3. Lift the Base Assembly (Item (1). See the Parts Diagram in Section 5.0) from the carton, and position it on a solid, level work surface. Examine the unit again for damage that may have been concealed.
4. The plastic Clearance Spacer (2) is secured for shipping to the top of the Sieve Shaker Base Assembly with three 1/4-20 x 1.75 stainless steel flat-head screws (4). Using the included Allen key wrench, remove the three screws and set aside. Leave the spacer on top of the base assembly.
5. The Sieve Stack Assembly includes the two Clamp Rods (5), bottom and top Covers (3 and 6), Clamps (9), and top and base Gaskets (12 and 13), shipped partially assembled. To complete assembly, rotate the Clamps so that the tabs are facing outward. Slide the Top Cover Plate up and secure it to the clamps by installing the 10-32 x 1 Shoulder Bolts (10) through the bottom of the plate into the threaded holes in the bottom of each clamp. Tighten Securely.
6. Place the Sieve Stack Assembly on top of the plastic Clearance Spacer, aligning the three holes in the spacer and base plate with the threaded holes in the top of the base assembly. Install the three stainless steel flat-head screws, and tighten securely.
7. Install the adhesive-backed, peel and stick Base Gasket (13) into the recess in the Bottom Cover (3).
8. Move the assembled Sieve Shaker into place on a solid, substantial, and level work surface capable of supporting the machine during operation.
9. Insert the female end of the included power cord into the power connection on the back of the Sieve Shaker. Power ON/OFF is controlled by the rocker switch adjacent to this connection.

3.0 CLAMPING SYSTEM

These sieve clamps are designed for efficiency, ease of use, and rugged dependability. They allow fast, easy insertion and removal of sieve stacks, while insuring that sieves are tightly secured in place during testing. Considerable time and effort is saved over conventional clamping systems, especially when processing multiple samples.

DO NOT lubricate the guide rods or internal contact surfaces of the clamps. If slippage occurs during operation, clean and degrease, then lightly sand the guide rods.

Each clamp has two levers; the bottom is red and the top one is light gray (see Figure 3.1). To rapidly reposition the stack cover on the guide rods, maintain slight upward pressure on both the red levers at once while sliding the clamps up or down. When moving the stack cover, keep the clamps at an even height to prevent binding. Once the cover is at the desired position, release pressure on the levers and the cover will stay in place.

Once the stack cover is seated over the top of the sieve stack, press downward on the gray levers several times until sufficient pressure is applied to clamp the stack tightly (see Figure 3.2).

To release the stack, lift up on both red levers simultaneously. Slide the cover up slightly to clear the top of the sieve stack. Once the cover is out of the way, release the pressure on the red levers (see Figure 3.3).

One-Touch Vibratory Sieve Shaker Clamps



Figure 3.1

Clamping down the sieve stack



Figure 3.2

Releasing the stack of clamped sieves



Figure 3.3

4.0 TOUCH SCREEN OPERATION:

Inputting data on the Touch Screen is as simple as pressing the designated area with your finger. A gentle, momentary pressure usually works better than a hard push with the finger. Using other objects on the screen is not recommended and may damage the screen, voiding the warranty.

The Touch Screen is used both to input and display information controlling operation of the Sieve Shaker:

- The five upper displays show **Test Time**, **Power Level**, **Interval Time**, **Pause Time**, and **Test ID**.
- The six lower sections function as control buttons to start or stop a test cycle, enable or disable vibration intervals, lock the screen, and select a test ID. The + and – buttons are used to input values for the various fields (see Figure 4.0).

NOTE: The Touch Screen display is not moisture-resistant. Avoid the use of liquids in its vicinity and use caution when cleaning the display. Moisture damage to the Touch Screen is not covered by warranty.

4.1 Test Time

Test Time is the amount of time the sample will be actively vibrated. It is a count-down timer adjustable from 00:00 to 99:59 minutes:seconds. When the timer reaches zero, the unit will stop vibrating and beep.

4.1.1 Editing the Test Time Display

To adjust, press the **Test Time** display once. The outline and numbers inside turn yellow and the first digit will flash (see Figure 4.1.1). The flashing digit is adjusted using the +/- buttons. Once adjusted to the desired value, press the **Test Time** display again. The next digit will begin to flash and is now adjustable with the +/- buttons. Continue until all the Test Time digits are set. When changes are complete, press the **Test Time** display box once while the last digit is flashing to accept the changes and return the screen to idle.

NOTE: Pressing the Touch Screen anywhere other than the **Test Time** box, or the +/- buttons at any time during editing will quickly accept any changes made, and return the screen to idle.

One-Touch Vibratory Sieve Shaker Touch Screen

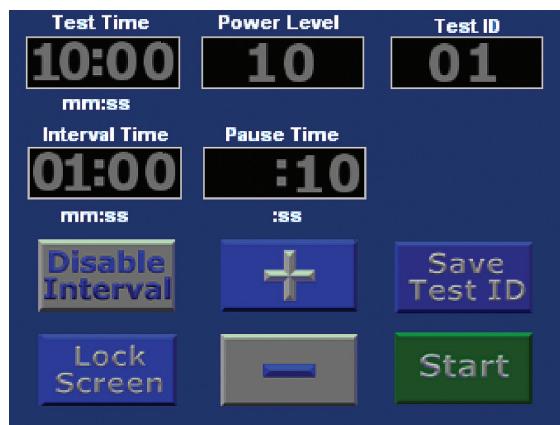


Figure 4.0

Editing the Test Time Display

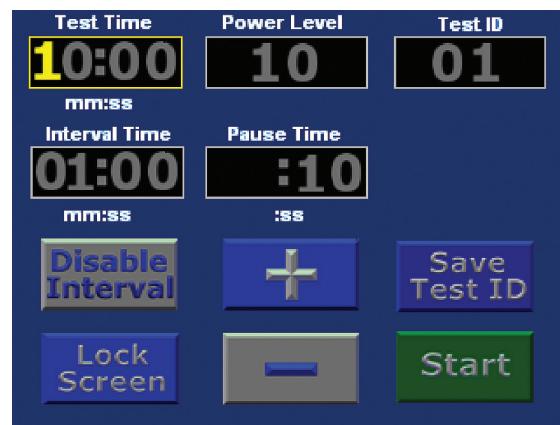


Figure 4.1.1

4.2 Interval & Pause Time

The Interval feature allows timed pauses to be introduced into cycles of active vibration. Separation of some materials is improved by interruptions in the vibration cycle that promote particle reorientation. Optimization of interval and pause times is usually determined experimentally for a given material.

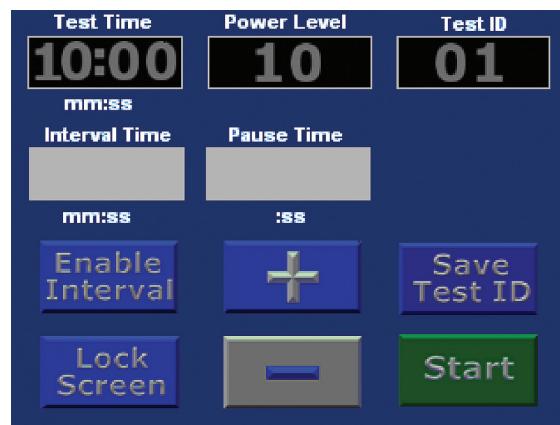
- **Interval Time** refers to the period of active vibration between pauses, and **Pause Time** is the time that the unit is not vibrating. Both take place within the period specified by the **Test Time** setting.
- The Interval feature is toggled on and off using the **Enable/Disable Interval** button. When disabled, the Interval Time and Pause Time displays are solid grey and the **Enable Interval** button is displayed (see Figure 4.2). When enabled, the Interval Time and Pause Time boxes, display settable digits and the **Disable Interval** button is displayed. Editing the Interval time is similar to editing the Test Time.
- With the Interval feature enabled, times must be entered in the **Interval Time** and **Pause Time** displays. Interval times can be any value up to the period selected for Total Time, and typically range from a few seconds to a few minutes in length. Pause times are typically only a few seconds, but can be set up to 99 seconds, if desired.

4.2.1 Editing the Interval Time & Pause Time Displays

Enable the **Interval** button. Press the display box of the **Interval Time** or **Pause Time** box once. The outline and numbers inside turn yellow and the first digit will flash (see Figure 4.2.1). The flashing digit is adjusted by pressing the +/- buttons. Once adjusted to the desired value, press the display box again. The next digit will begin to flash and is now adjustable with the +/- buttons. Continue until you have all the digits set. Pressing the display box once while the last digit is flashing accepts the changes and returns the screen to idle.

NOTE: Pressing the Touch Screen anywhere other than the edited display box or the +/- buttons at any time during editing will quickly accept any changes made, and return the screen to idle.

Figure 4.2



Editing the Interval Time & Pause Time Displays



Figure 4.2.1

4.3 Power Level

Power Level is the amount of vibration produced by the unit. Vibration intensity on a relative scale between 1 (low) and 10 (high) can be selected. Actual vibration amplitude and acceleration forces on the specimen particles will vary and are influenced by the bulk density and total mass of the sample, as well as the height of the sieve stack.

4.3.1 Editing Power Level Settings

Press the Power Level box once. The outline, units of measure and title of the box will turn yellow and begin to flash (see Figure 4.3.1). Pressing the +/- buttons will adjust the value. The selectable values range from 1 (Low) to 10 (High) on a relative scale. When the desired value is displayed, press the display again to accept.

NOTE: Pressing the Touch Screen anywhere other than the edited display box or the +/- buttons at any time during editing will quickly accept any changes made, and return the screen to idle.

4.4 Test ID

The **Test ID** display and the **Save/Delete Test ID** toggle button are used to save and retrieve display settings. The **Test ID** display shows the current selected location, from 0 to 99. If nothing has been saved in that location, zeros are displayed, and the blue **Save Test ID** button is shown. If values are already stored at this location, they will be displayed and the red **Delete Test ID** button will be shown. Pressing Delete will remove stored information. The display does not change until new data is entered.

To create a new ID, start at a location that has no data stored in it, or delete stored values to clear the memory space. Press the **Test ID** display box. The outline and first digit will turn yellow and flash. Set the value using the +/- buttons and press the display again. Repeat the process to set the second digit and press to save the test ID location. Proceed to the other locations and set the values as described above. When done, press the blue **Save Test ID** button to save all information at that location.

Editing Power Level Settings

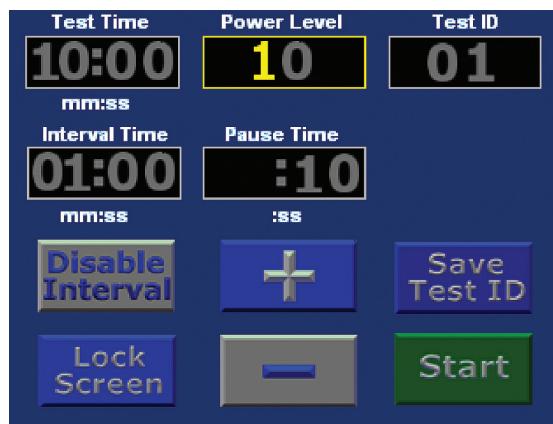


Figure 4.3.1

4.5 Lock/Unlock Screen Button

The **Lock/Unlock Screen** button protects against unintentional changes to the settings. To activate, press the blue **Lock Screen** button. The button will then change to display **Unlock Screen**. When the screen is locked, only the **Start/Stop** and **Unlock** buttons function. When the screen is unlocked, all buttons can be used to adjust and save values.

4.6 Start/Stop & Pause/Resume Buttons

The **Start/Stop** button controls the test cycle. Pressing the green **Start** button activates vibration and the count-down timer to the selected values. Pressing the red **Stop** button stops the machine immediately and resets the timer. Once started, the **Save/Delete Test ID** button is converted into a **Pause/Resume** button. Pressing **Pause** temporarily halts the test cycle and timer. Pressing **Resume** continues the test at the time remaining.

The Sieve Shaker accepts up to eight full-height or sixteen half-height round test sieves of 8in (203mm) or 200mm diameter plus pan.

NOTE: 8in and 200mm sieves **CANNOT** be used in the same stack.

The Sieve Shaker can test a wide variety of materials. Because of differing characteristics of these materials, optimum combinations of power levels, test times and interval times must be determined experimentally. Low initial power and time settings are recommended when testing an unfamiliar material. Settings may be increased gradually until complete separation is achieved without physically degrading the material.

Inserting the optional Clear Acrylic 8in Sieve Spacer in a sieve stack allows visual observation of specimen action to determine optimum settings for a given material. There must be enough energy to consistently move the largest particles and reorient them to different mesh openings.

Complete separation can be assumed when additional one minute increments of operation at higher power levels produce less than 1% of total weight difference in material passing a given sieve.

In addition to material type, power input and time, differences in sieve stack height and specimen weights may also cause performance variations. Using similar sieves, stack heights and sample weights will help maintain consistent separation results.

Start/Stop & Pause/Resume Buttons

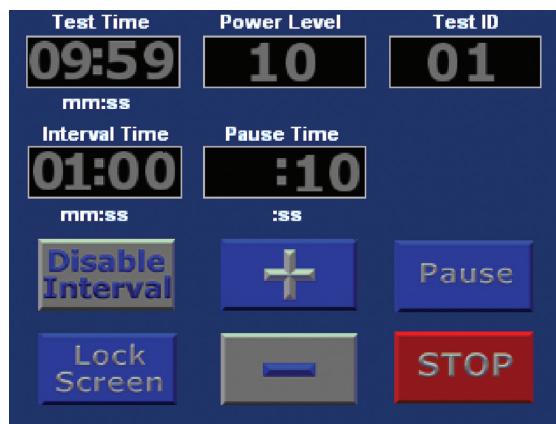
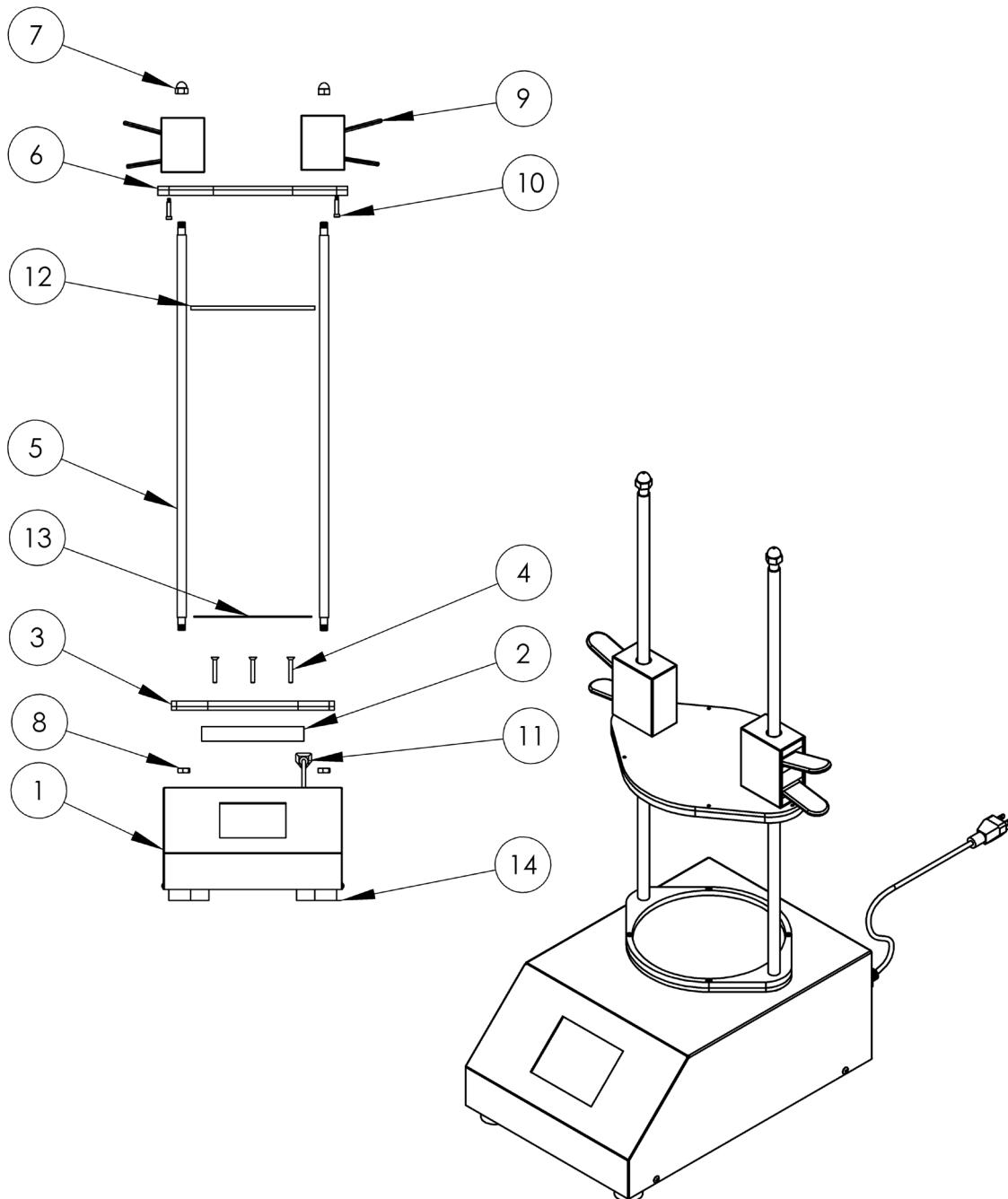


Figure 4.6

NOTE: Occasionally, the unit may exhibit a pronounced rhythmic surging of the vibration level during operation. This can be prevented by stopping the machine and resetting the power level, changing the number of sieves in the stack, or changing the weight of the specimen.

5.0 PARTS DIAGRAM:

**One-Touch Vibratory Sieve Shaker
Parts Diagram**

6.0 PARTS LIST:

Item No.	Part No.	No. Req'd	Description
1	WGV8-BASE_ASSY	1	Base Assembly
2	WGV8-SPACER	1	Clearance Spacer
3	WGV8-BOTTOM_COVER_ASSY	1	Bottom Cover Assembly
4	WGSW-252175FAMSS	3	1/4-20 x 1.75 Flat Head Allen (Stainless)
5	WGV8-CLAMP_ROD	2	Clamp Rod
6	WGV8-TOP_COVER_ASSY	1	Top Cover Assembly
7	WGNT-513ACNOSS	2	1/2-13 Acorn Nut (Stainless)
8	WGNT-513HJNOSS	2	1/2-13 Hex Jam Nut (Stainless)
9	WGSC-CLAMP	2	Sieve Clamp
10	WGSW-SB-03210025CSNSS	2	Shoulder Bolt 10-32 x 1in
11	WGAS-PP-SK0129	1	Power Cord
12	WGV8-TOP_PLATE_GASKET	1	Top Base Plate Gasket
13	WGV8-PLATE_GASKET	1	Base Plate Gasket
14	WGUS-1-1/2" FOOT	4	1-1/2in Rubber Foot



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