

Cole-Parmer®

OPERATING MANUAL

Vibratory Sieve Shaker 3" SSH-300-SS-3 Item 59986-01



Rev: 12-19-22

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. The Vibratory Sieve Shaker 3" is designed for operation on 115V/60Hz power supplies. Connection to other power sources will damage this machine and void the warranty. Contact Cole-Parmer if operation on an alternative power source is required. **ALWAYS** make sure the available power supply matches the device requirements. Motors are **NOT** explosion-proof.
2. **ALWAYS** check electrical wiring for loose connections and for pinched or frayed wiring.
3. **ALWAYS** use the factory-installed three-pronged plug. Connect the machine to a properly wired and grounded 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!

WARNING: **DO NOT** operate the machine without having all covers and cabinet in place.

WARNING: Stop the machine immediately if excessive noise, vibration or machine movement occurs.

WARNING: The electric motor on this machine has internal thermal protection. If the motor shuts off from overload, the machine may restart by itself after cooling off, unless the machine is unplugged during cool-down.

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

WARNING: Keep all parts of your body away from moving parts of the machine while it is operating.

WARNING: **ALWAYS** wear safety glasses and recommended hearing protection when operating, maintaining, or repairing this machine.

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1.0 INTRODUCTION:

- Quiet, electromagnetic vibratory action.
- 0–100% amplitude control.
- Switchable tapping action.
- Precise digital timing.

The Vibratory Sieve Shaker 3" (76 mm) is designed for small samples of chemicals, minerals, pharmaceuticals, powdered metals, cosmetics, abrasives, ores, foods, and other fine powders. Effective size range is No.4 to No.200 (4.75 mm–75 µm) using woven wire sieves. Extended size ranges are possible with some materials.

The High frequency, 3,600 vpm, electromagnetic vibratory action with 0–100% amplitude control is ideal for fine particle separations. The solenoid actuated tapping (60 taps/min) speeds dry separations and can be used alone for tap-settling and bulk density tests.

The Vibratory Sieve Shaker 3" holds up to seven full-height metal sieves plus pan or fourteen acrylic sieves and pan. The digital timer/controller and graduated vibration control knob allow the Vibratory Sieve Shaker 3" to give reliable, repeatable results. The optional GAA-88 Acrylic Spacer is useful for observing sample action during set-up or testing.



Figure 1

2.0 UNPACKING & SET-UP:

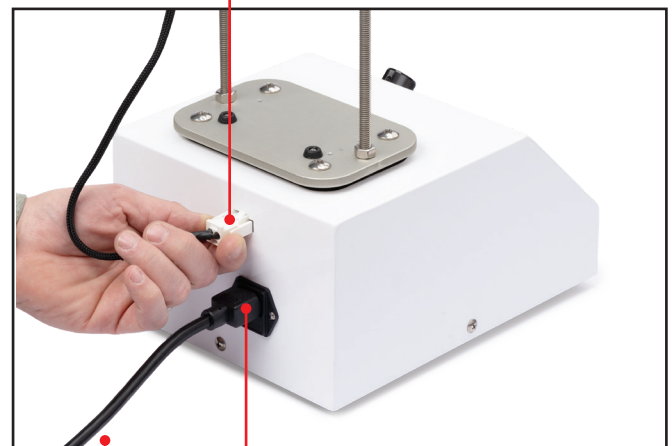
Carefully inspect the Vibratory Sieve Shaker 3" as soon as it arrives and check all package contents. See Figure 7 for an illustration of Vibratory Sieve Shaker 3" components and accessories. If there is damage or if parts are missing, notify the shipper immediately for instructions. Save all packing materials for inspection by the freight claims adjuster if damage is reported.

The Vibratory Sieve Shaker 3" is packaged in two pieces to minimize potential damage during shipping. Place the Vibratory Sieve Shaker 3" on a dry, level surface.

- To assemble, position the Tapper Clamping Assembly over the four holes in the Base with the two rubber sieve locating bumpers positioned at the rear. Insert the 1/4-20 x 3/8in panhead screws into the mounting holes and tighten snugly (see Figure 1).
- Connect the main power cord to the power entry module. The 1 amp fuse and a spare are located in a drawer in this module.

- Insert the Tapper power cord into the rear of the Tapper Connector housing (see Figure 2) and verify the connector is locked in place. The Vibratory Sieve Shaker 3" is now ready for use.

Tapper Power Cord & Tapper Connector Housing



Main Power Cord

Figure 2

Power Entry Module

3.0 ASSEMBLING THE SIEVE STACK:

Assemble the sieve stack by placing the desired sieves on the collection pan. Start with the finest mesh sieves, placing progressively coarser sieves on top (see Figures 4 and 5). A maximum of seven metal-framed sieves or fourteen acrylic sieves may be stacked on top of the pan. Use of adapters and spacers will limit the number of sieves that can be used. The sieve cover must be placed over the top sieve before placing the stack assembly in the Vibratory Sieve Shaker 3". The larger diameter side of the cover is for acrylic sieves, and the smaller diameter side for metal sieves. Check for the best fit and install.

Hold in the thumb buttons to adjust the clamping knobs on the upright rods to the height that will allow the sieve stack to slide into place. Pushing in on the integral buttons allows the threaded clamp knobs to slide freely. Position the stack using the rubber bumpers on the back of the sieve base and taper clamping assembly, then tighten the knobs. To remove the sieve stack, hold the thumb buttons in and slide the top up slightly. The clamping assembly will remain in this position, ready for the next sieve stack. This is a useful feature when using the same size stack repetitively.

4.0 OPERATING INSTRUCTIONS:

To begin testing, set the Mode Switch to MANUAL (see Figure 6). Adjust the Amplitude Control for optimum performance with the material being tested. Due to varying sample characteristics, the user should observe the minimum vibration level and time period necessary to sift particles without breaking them down. It is possible for excessive vibratory action to degrade the sample particles by abrasion.

To change the time setting on the Timer, press the <UP ARROW> key or the <DOWN ARROW> key (see Figure 5). The first digit on the right hand side should start to flash in half second intervals. Press the <UP ARROW> key or the <DOWN ARROW> key to adjust the digit to desired value. To enter the current digit and move to the next digit press the <START> key. Once the last digit on the left is entered the timer is ready to start.

To get into the adjust mode state, press and hold both the <UP & DOWN ARROW> keys at the same time until the current mode is displayed. When in this state the display will show the current mode letters, H for hours, M for minutes, and S for seconds. Once the mode letters are being displayed, press the <UP> key, or the <DOWN> key, to change between modes. Press the <START> key to accept new mode.



Figure 3



Figure 4

Mode Letter:

A-MMSS B-HHMM C-SSSS D-MMMM

To run press the <START> key.

Once running, pressing the <START> key again will pause the timer with the current amount of time remaining on screen.

When allowed to time out the timer will display DONE, press <ANY> key to continue.

The Setting and the Mode values are saved automatically and restored on power up.

5.0 SPECIFICATIONS:

Overall Size: 8x11x22in (203x279x559mm)

Vibratory Frequency: 3,600vpm

Tapping Frequency: 60 Taps/min.

Designed Particle Sizing Range:

4.75mm to 75µm (No.4 to No.200 Sieve)

Extended Particle Sizing Range:

9.5mm to 25µm (3/8in to No.500 Sieve)

Power Requirements*: 115V, 50/60Hz, 2A

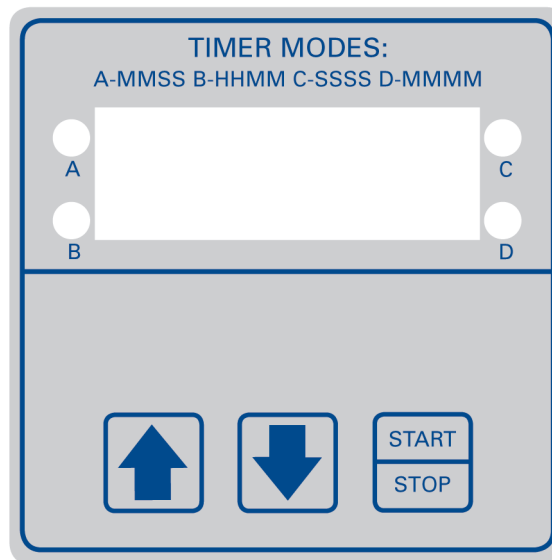


Figure 5
Vibratory Sieve Shaker 3" Timer

6.0 PARTS DIAGRAMS:



Figure 6
Vibratory Sieve Shaker 3" Control Panel

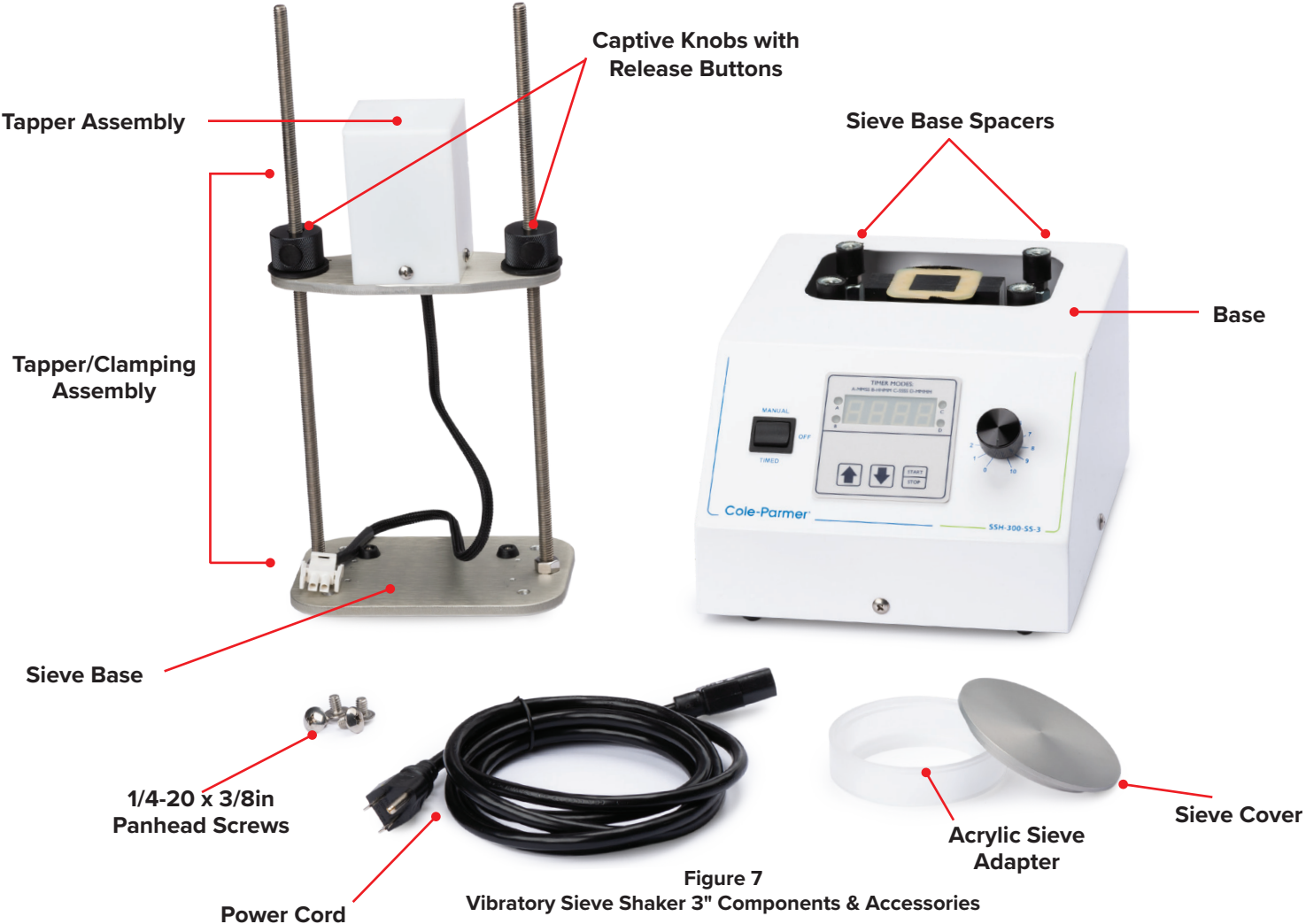


Figure 7
Vibratory Sieve Shaker 3" Components & Accessories

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