



OPERATING MANUAL

Performer III 3in Sieve Shaker SS-3



Rev: 06/17/2014

SAFETY INSTRUCTIONS

Review and completely understand the operating and safety instructions before using this machine.

WARNING!

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

1. The Performer III is designed for operation on 115V/60Hz power supplies. Connection to other power sources will damage this machine and void the warranty. Contact Gilson Technical Support 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 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!

- **ALWAYS** unplug or disconnect machine from the power source when the unit is not in operation.
- **ALWAYS** wear safety glasses 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 Performer III 3in (76mm) Sieve Shaker 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—No.200 (4.75mm—75µm) using woven wire sieves. Extended size ranges are possible with some materials.

The High frequency, 3,600vpm, 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 Performer III 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 Performer III 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:

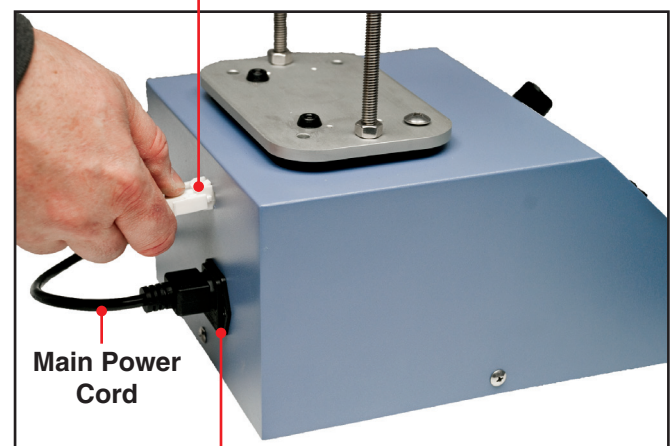
Carefully inspect the Performer III as soon as it arrives and check all package contents. See Figure 7 for an illustration of Performer III components and accessories. If there is damage or if parts are missing, contact Gilson Customer Service immediately at 800-444-1508 or 740-548-7298 for instructions. Save all packing materials for inspection by the freight claims adjuster if damage is reported.

The Performer III is packaged in two pieces to minimize potential damage during shipping. Place the Performer III 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 Performer III is now ready for use.

Tapper Power Cord & Tapper Connector Housing



Power Entry
Module

Figure 2

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 Performer III. 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.



Figure 3

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 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

*Contact Gilson Technical Support for operation of this device on other power supplies.

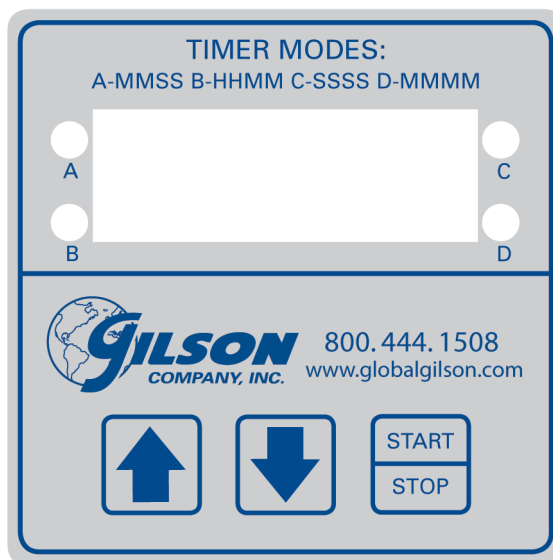


Figure 5
Performer III Timer

6.0 PARTS DIAGRAMS:



Figure 6
Performer III Control Panel

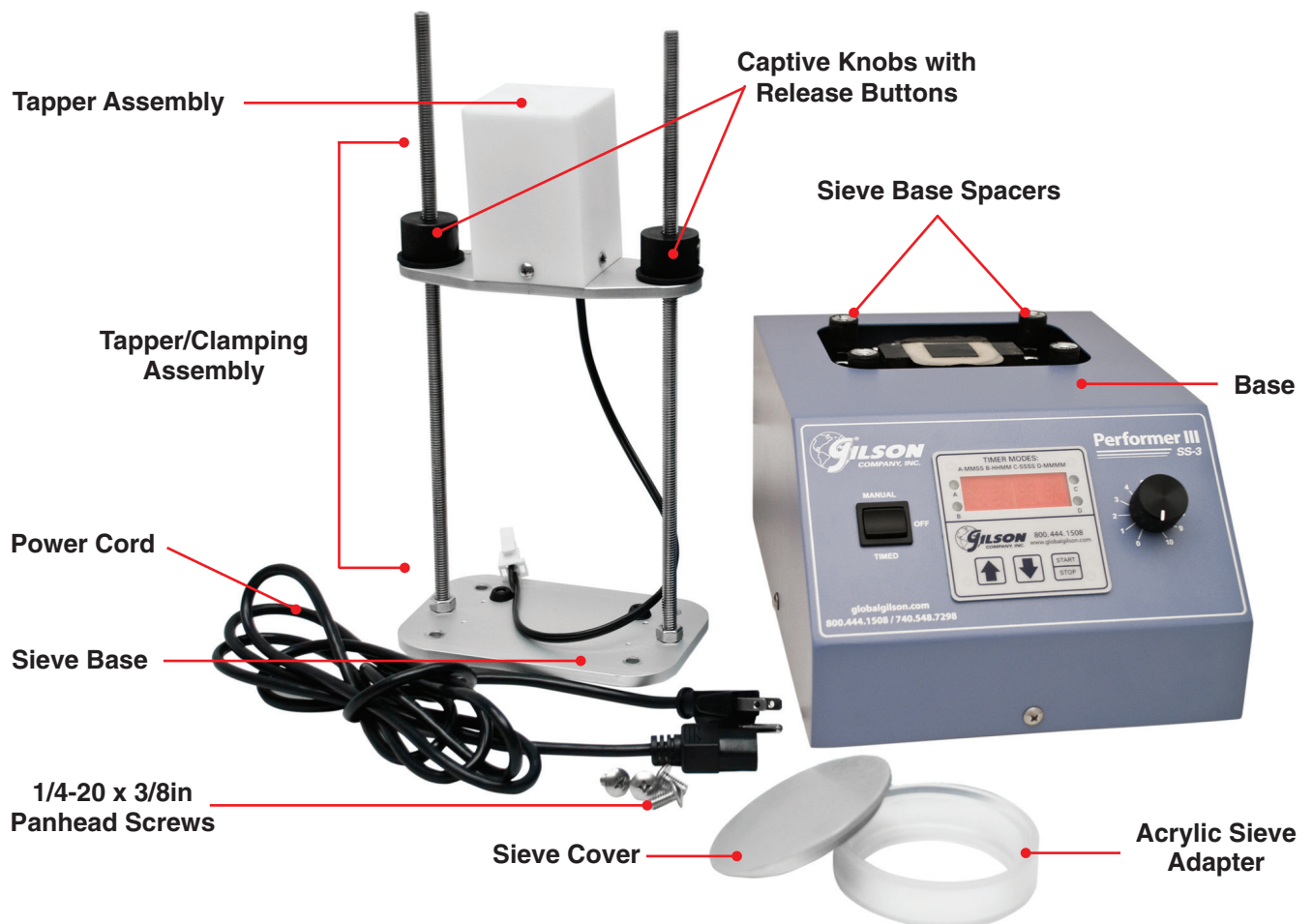
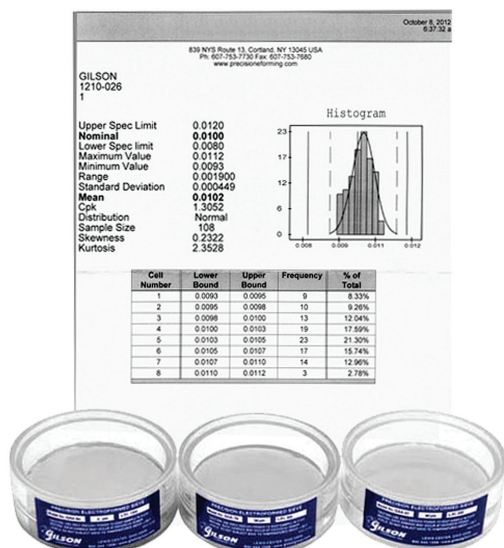


Figure 7
Performer III Components & Accessories

7.0 ACCESSORIES:



Acrylic Frame Sieves with Stainless Steel Mesh



Acrylic Frame Precision Sieves with Electroformed Mesh

GILSONIC AUTOSIEVER ACRYLIC FRAME SIEVES

Sieves for the GA-6 GilSonic AutoSieve have clear acrylic frames and are 3in (76mm) in diameter. They are available fitted with conventional ASTM E 11 stainless steel Woven-Wire cloth or ASTM E 161 Precision Electroformed nickel mesh.

The accuracy, efficiency, and size range of Precision Electroformed Sieves often make them a better solution for precision particle sizing operations. Opening tolerances of Electroformed Sieves are $\pm 2\mu\text{m}$, while ASTM E 11 woven-wire tolerances are two to ten times higher in comparable sizes. Opening sizes are available to $5\mu\text{m}$, considerably below the $20\mu\text{m}$ smallest available woven-wire size, and a number of sizes are equivalent to E 11. When calibrated with glass beads or other means, electroformed sieves can serve as a reliable reference standard.

The GilSonic AutoSieve holds seven Woven-Wire or three Precision Electroformed Sieves in the fixed-height Stack Assembly. Each sieve is supplied with a Certificate of Compliance to the appropriate ASTM Standard. Clear Acrylic Spacers are available if fewer sieves are used in the stack.

GILSONIC AUTOSIEVER ACRYLIC FRAME SIEVES

ASTM		Stainless Steel Mesh	Precision Electroformed Nickel Plate
5.60mm	No.3-1/2in	GAA-20	—
4.75mm	No.4	GAA-21	—
4.00mm	No.5	GAA-22	—
3.35mm	No.6	GAA-23	—
2.80mm	No.7	GAA-24	—
2.36mm	No.8	GAA-25	—
2.00mm	No.10	GAA-26	—
1.70mm	No.12	GAA-27	—
1.40mm	No.14	GAA-28	—
1.18mm	No.16	GAA-29	—
1.00mm	No.18	GAA-30	—
850 μm	No.20	GAA-31	—
710 μm	No.25	GAA-32	—
600 μm	No.30	GAA-33	—
500 μm	No.35	GAA-34	—
425 μm	No.40	GAA-35	—
355 μm	No.45	GAA-36	—
300 μm	No.50	GAA-37	—
250 μm	No.60	GAA-38	—
212 μm	No.70	GAA-39	—
180 μm	No.80	GAA-40	—
150 μm	No.100	GAA-41	GAA-62
125 μm	No.120	GAA-42	GAA-63
106 μm	No.140	GAA-43	GAA-63A
105 μm	—	—	GAA-64
100 μm	—	—	GAA-65
95 μm	—	—	GAA-66
90 μm	No.170	GAA-44	GAA-67
85 μm	—	—	GAA-68
80 μm	—	—	GAA-69
75 μm	No.200	GAA-45	GAA-70
70 μm	—	—	GAA-71
65 μm	—	—	GAA-72
63 μm	No.230	GAA-46	GAA-72A
60 μm	—	—	GAA-73
55 μm	—	—	GAA-74
53 μm	No.270	GAA-47	GAA-74A
50 μm	—	—	GAA-75
45 μm	No.325	GAA-48	GAA-76
40 μm	—	—	GAA-77
38 μm	No.400	GAA-49	GAA-77A
35 μm	—	—	GAA-78
32 μm	No.450	GAA-50	GAA-78A
30 μm	—	—	GAA-79
25 μm	No.500	GAA-51	GAA-80
20 μm	No.635	GAA-52	GAA-81
15 μm	—	—	GAA-82
10 μm	—	—	GAA-83
5 μm	—	—	GAA-84

3IN DIAMETER ASTM TEST SIEVES							
	ASTM		Brass Cloth Brass Frame	Stainless Cloth Brass Frame		Stainless Cloth Stainless Frame	
			Intermediate Ht.	Full Ht.	Half Ht.	Full Ht.	Half Ht.
C O A R S E S E R I E S	4in	100.0mm	—	—	—	—	—
	3-1/2in	90.0mm	—	—	—	—	—
	3in	75.0mm	—	—	—	—	—
	2-1/2in	63.0mm	—	—	—	—	—
	2.12in	53.0mm	—	—	—	—	—
	2in	50.0mm	—	—	—	—	—
	1-3/4in	45.0mm	—	—	—	—	—
	1-1/2in	37.5mm	—	—	—	—	—
	1-1/4in	31.5mm	—	—	—	—	—
	1.06in	26.5mm	—	—	—	—	—
	1in	25.0mm	—	—	—	—	—
	7/8in	22.4mm	—	—	—	—	—
	3/4in	19.0mm	—	—	—	—	—
	5/8in	16.0mm	—	—	—	—	—
	0.530in	13.2mm	—	—	—	—	—
	1/2in	12.5mm	—	—	—	—	—
	7/16in	11.2mm	—	—	—	—	—
	3/8in	9.5mm	—	—	—	V3SF 3/8"	—
	5/16in	8.0mm	—	—	—	V3SF 5/16"	—
	0.265in	6.7mm	—	—	—	V3SF .265"	—
F I N E S E R I E S	1/4in	6.3mm	—	—	—	V3SF 1/4"	—
	No.3-1/2in	5.6mm	—	V3CF #3-1/2	V3CH #3-1/2	V3SF #3-1/2	V3SH #3-1/2
	No.4	4.75mm	—	V3CF #4	V3CH #4	V3SF #4	V3SH #4
	No.5	4.0mm	—	V3CF #5	V3CH #5	V3SF #5	V3SH #5
	No.6	3.35mm	—	V3CF #6	V3CH #6	V3SF #6	V3SH #6
	No.7	2.8mm	—	V3CF #7	V3CH #7	V3SF #7	V3SH #7
	No.8	2.36mm	V3Bl #8	V3CF #8	V3CH #8	V3SF #8	V3SH #8
	No.10	2.0mm	V3Bl #10	V3CF #10	V3CH #10	V3SF #10	V3SH #10
	No.12	1.7mm	V3Bl #12	V3CF #12	V3CH #12	V3SF #12	V3SH #12
	No.14	1.4mm	V3Bl #14	V3CF #14	V3CH #14	V3SF #14	V3SH #14
	No.16	1.18mm	V3Bl #16	V3CF #16	V3CH #16	V3SF #16	V3SH #16
	No.18	1.0mm	V3Bl #18	V3CF #18	V3CH #18	V3SF #18	V3SH #18
	No.20	850µm	V3Bl #20	V3CF #20	V3CH #20	V3SF #20	V3SH #20
	No.25	710µm	V3Bl #25	V3CF #25	V3CH #25	V3SF #25	V3SH #25
	No.30	600µm	V3Bl #30	V3CF #30	V3CH #30	V3SF #30	V3SH #30
	No.35	500µm	V3Bl #35	V3CF #35	V3CH #35	V3SF #35	V3SH #35
	No.40	425µm	V3Bl #40	V3CF #40	V3CH #40	V3SF #40	V3SH #40
	No.45	355µm	V3Bl #45	V3CF #45	V3CH #45	V3SF #45	V3SH #45
	No.50	300µm	V3Bl #50	V3CF #50	V3CH #50	V3SF #50	V3SH #50
	No.60	250µm	V3Bl #60	V3CF #60	V3CH #60	V3SF #60	V3SH #60
	No.70	212µm	V3Bl #70	V3CF #70	V3CH #70	V3SF #70	V3SH #70
	No.80	180µm	V3Bl #80	V3CF #80	V3CH #80	V3SF #80	V3SH #80
	No.100	150µm	V3Bl #100	V3CF #100	V3CH #100	V3SF #100	V3SH #100
	No.120	125µm	V3Bl #120	V3CF #120	V3CH #120	V3SF #120	V3SH #120
	No.140	106µm	V3Bl #140	V3CF #140	V3CH #140	V3SF #140	V3SH #140
	No.170	90µm	V3Bl #170	V3CF #170	V3CH #170	V3SF #170	V3SH #170
	No.200	75µm	V3Bl #200	V3CF #200	V3CH #200	V3SF #200	V3SH #200
	No.230	63µm	V3Bl #230	V3CF #230	V3CH #230	V3SF #230	V3SH #230
	No.270	53µm	V3Bl #270	V3CF #270	V3CH #270	V3SF #270	V3SH #270
	No.325	45µm	V3Bl #325	V3CF #325	V3CH #325	V3SF #325	V3SH #325
	No.400	38µm	—	V3CF #400	V3CH #400	V3SF #400	V3SH #400
	No.450	32µm	—	V3CF #450	V3CH #450	V3SF #450	V3SH #450
	No.500	25µm	—	V3CF #500	V3CH #500	V3SF #500	V3SH #500
	No.635	20µm	—	V3CF #635	V3CH #635	V3SF #635	V3SH #635
	Regular Pan		—	V3BFXPN	V3BHXP	V3SFXPN	V3SHXP
	Extended Rim Pan		—	V3BFXPE	V3BHXPE	V3SFXPE	V3SHXPE
	Regular Cover		V3BFXCV	V3BFXCV		V3SFXCV	
	Cover with Ring		V3BFXCR	V3BFXCR		V3SFXCR	