OPERATING MANUAL

Performer III 3in Sieve Shaker

SS-3

Rev: 09/2021

PHONE: 800-444-1508
740-548-7298

P.O. Box 200, Lewis Center, Ohio 43035-0200
Email: customerservice@gilsonco.com **Product Web Page:**globalgilson.com

FAX: 800-255-5314
740-548-5314

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.635 (4.75mm—20µm) 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.

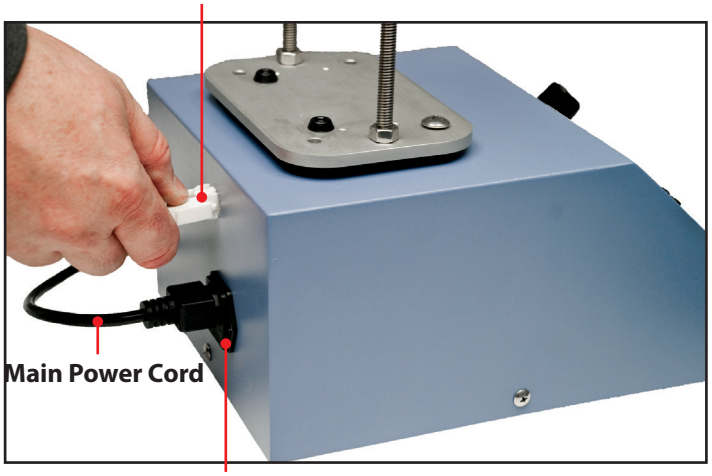


Figure 2

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 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 tapper 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.

Mode Letter:

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

Figure 3

Figure 4

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

6.1 SS-3 Control Panel

Figure 6
Performer III Control Panel

6.2 SS-3 Components & Accessories

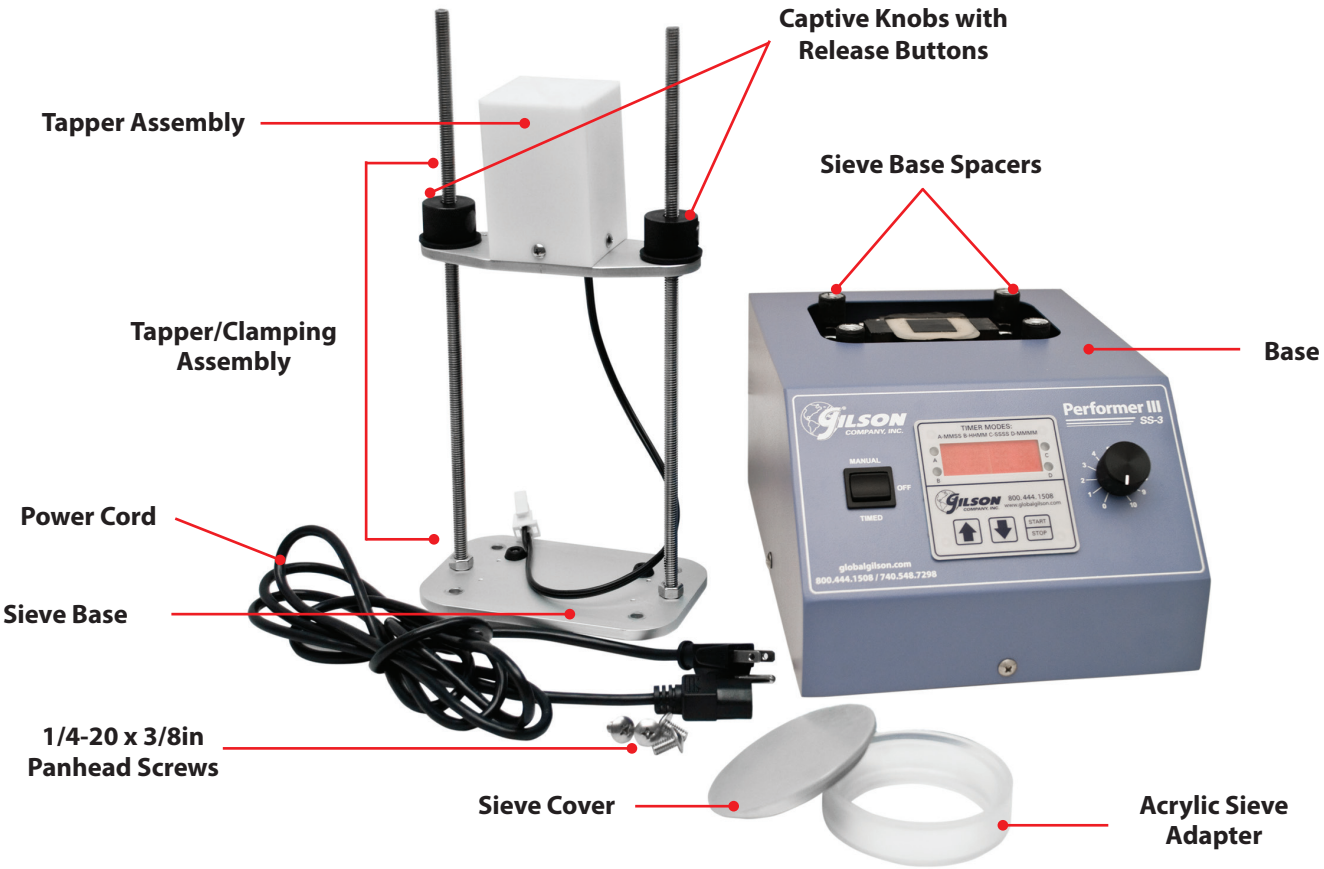


Figure 7
Performer III Components & Accessories

6.3 SS-3 Replacement Parts Diagram

EZ KNOB Assembly

WGVS-T-NUT-WASHER
#5/8 Rubber Washer

WGVS-MOD THUMBNUT
EZ Clamp Knob

WGVS-E CLIP
5/8 Retaining Clip

WGVS-THUMB_SPRING
Release Button Spring

WGVS-THUMB_BUTTON
Release Button

WGVS-SUB4
Tapper Assembly

WGVS-SUB3
Vibratory Sifter
Base Plate

TSA-325A
Digital Timer

Accessories

SSA-18 Sieve Cover

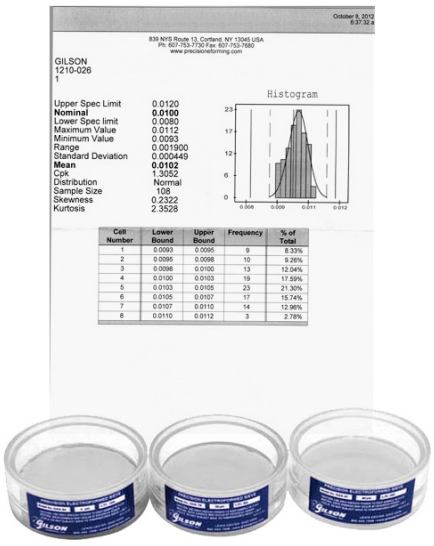
SSA-17 Acrylic Sieve Adapter

GAA-18 Acrylic Spacer for Acrylic Sieves

SSA-15 Acrylc Spacer for Metal Sieves

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 AutoSiever have clear acrylic frames and are 3in (76mm) in diameter. They are available fitted with conventional ASTM E11 stainless steel Woven-Wire cloth or ASTM E161 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 ±2µm, while ASTM E11 woven-wire tolerances are two to ten times higher in comparable sizes. Opening sizes are available to 5µm, considerably below the 20µm smallest available woven-wire size, and a number of sizes are equivalent to E11. When calibrated with glass beads or other means, electroformed sieves can serve as a reliable reference standard.

The GilSonic AutoSiever 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
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	12No.	GAA-27	—
1.40mm	No14.	GAA-28	—
1.18mm	No.16	GAA-29	—
1.00mm	No.18	GAA-30	—
850µm	No.20	GAA-31	—
710µm	No.25	GAA-32	—
600µm	No.30	GAA-33	—
500µm	No.35	GAA-34	—
425µm	No.40	GAA-35	—
355µm	No.45	GAA-36	—
300µm	No.50	GAA-37	—
250µm	No.60	GAA-38	—
212µm	No.70	GAA-39	—
180µm	No.80	GAA-40	—
150µm	No.100	GAA-41	GAA-62
125µm	No.120	GAA-42	GAA-63
106µm	No.140	GAA-43	GAA-63A
105µm	—	—	GAA-64
100µm	—	—	GAA-65
95µm	—	—	GAA-66
90µm	No.170	GAA-44	GAA-67
85µm	—	—	GAA-68
80µm	—	—	GAA-69
75µm	No.200	GAA-45	GAA-70
70µm	—	—	GAA-71
65µm	—	—	GAA-72
63µm	No.230	GAA-46	GAA-72A
60µm	—	—	GAA-73
55µm	—	—	GAA-74
53µm	No.270	GAA-47	GAA-74A
50µm	—	—	GAA-75
45µm	No.325	GAA-48	GAA-76
40µm	—	—	GAA-77
38µm	No.400	GAA-49	GAA-77A
35µm	—	—	GAA-78
32µm	No.450	GAA-50	GAA-78A
30µm	—	—	GAA-79
25µm	No.500	GAA-51	GAA-80
20µm	No.635	GAA-52	GAA-81
15µm	—	—	GAA-82
10µm	—	—	GAA-83
5µm	—	—	GAA-84

3in Diameter Stainless Steel Test Sieves

SS-3 shown with 3in Stainless Steel Sieves

3in Diameter ASTM E11 Test Sieves

	Sieve Designation			Stainless Cloth Stainless Frame		Stainless Cloth Brass Frame	
	Alt.	Std.	Supplemental	Full Ht.	Half Ht.	Full Ht.	Half Ht.
COARSE SERIES	3/8in	9.5mm	—	V3SF 3/8"	—	—	—
	—	—	9.0mm	V3SF 9M	—	—	—
	5/16in	8.0mm	—	V3SF 5/16"	—	—	—
	—	—	7.1mm	V3SF 7.1M	—	—	—
	0.265in	6.7mm	—	V3SF .265"	—	—	—
	1/4in	6.3mm	—	V3SF 1/4"	—	—	—
	No.3-1/2in	5.6mm	—	V3SF #3-1/2	V3SH #3-1/2	V3CF #3-1/2	V3CH #3-1/2
	—	—	5.0mm	V3SF 5M	V3SH 5M	V3CF 5M	V3CH 5M
	No.4	4.75mm	—	V3SF #4	V3SH #4	V3CF #4	V3CH #4
	—	—	4.5mm	V3SF 4.5M	V3SH 4.5M	V3CF 4.5M	V3CH 4.5M
FINE SERIES	No.5	4.0mm	—	V3SF #5	V3SH #5	V3CF #5	V3CH #5
	—	—	3.55mm	V3SF 3.55M	V3SH 3.55M	V3CF 3.55M	V3CH 3.55M
	No.6	3.35mm	—	V3SF #6	V3SH #6	V3CF #6	V3CH #6
	—	—	3.15mm	V3SF 3.15M	V3SH 3.15M	V3CF 3.15M	V3CH 3.15M
	No.7	2.8mm	—	V3SF #7	V3SH #7	V3CF #7	V3CH #7
	—	—	2.5mm	V3SF 2.5M	V3SH 2.5M	V3CF 2.5M	V3CH 2.5M
	No.8	2.36mm	—	V3SF #8	V3SH #8	V3CF #8	V3CH #8
	—	—	2.24mm	V3SF 2.24M	V3SH 2.24M	V3CF 2.24M	V3CH 2.24M
	No.10	2.0mm	—	V3SF #10	V3SH #10	V3CF #10	V3CH #10
	—	—	1.80mm	V3SF 1.8M	V3SH 1.8M	V3CF 1.8M	V3CH 1.8M
	No.12	1.7mm	—	V3SF #12	V3SH #12	V3CF #12	V3CH #12
	—	—	1.60mm	V3SF 1.6M	V3SH 1.6M	V3CF 1.6M	V3CH 1.6M
	No.14	1.4mm	—	V3SF #14	V3SH #14	V3CF #14	V3CH #14
	—	—	1.25mm	V3SF 1.25M	V3SH 1.25M	V3CF 1.25M	V3CH 1.25M
	No.16	1.18mm	—	V3SF #16	V3SH #16	V3CF #16	V3CH #16
	—	—	1.12mm	V3SF 1.12M	V3SH 1.12M	V3CF 1.12M	V3CH 1.12M
	No.18	1.0mm	—	V3SF #18	V3SH #18	V3CF #18	V3CH #18
	—	—	900µm	V3SF 900U	V3SH 900U	V3CF 900U	V3CH 900U
	No.20	850µm	—	V3SF #20	V3SH #20	V3CF #20	V3CH #20
	—	—	800µm	V3SF 800U	V3SH 800U	V3CF 800U	V3CH 800U
	No.25	710µm	—	V3SF #25	V3SH #25	V3CF #25	V3CH #25
	—	—	630µm	V3SF 630U	V3SH 630U	V3CF 630U	V3CH 630U
	No.30	600µm	—	V3SF #30	V3SH #30	V3CF #30	V3CH #30
	—	—	560µm	V3SF 560U	V3SH 560U	V3CF 560U	V3CH 560U
	No.35	500µm	—	V3SF #35	V3SH #35	V3CF #35	V3CH #35
	—	—	450µm	V3SF 450U	V3SH 450U	V3CF 450U	V3CH 450U
	No.40	425µm	—	V3SF #40	V3SH #40	V3CF #40	V3CH #40
	—	—	400µm	V3SF 450U	V3SH 450U	V3CF 450U	V3CH 450U
	No.45	355µm	—	V3SF #45	V3SH #45	V3CF #45	V3CH #45
	—	—	315µm	V3SF 315U	V3SH 315U	V3CF 315U	V3CH 315U
	No.50	300µm	—	V3SF #50	V3SH #50	V3CF #50	V3CH #50
	—	—	280µm	V3SF 280U	V3SH 280U	V3CF 280U	V3CH 280U
	No.60	250µm	—	V3SF #60	V3SH #60	V3CF #60	V3CH #60
	—	—	224µm	V3SF 224U	V3SH 224U	V3CF 224U	V3CH 224U
	No.70	212µm	—	V3SF #70	V3SH #70	V3CF #70	V3CH #70
	—	—	200µm	V3SF 200U	V3SH 200U	V3CF 200U	V3CH 200U
	No.80	180µm	—	V3SF #80	V3SH #80	V3CF #80	V3CH #80
	—	—	160µm	V3SF 160U	V3SH 160U	V3CF 160U	V3CH 160U
	No.100	150µm	—	V3SF #100	V3SH #100	V3CF #100	V3CH #100
	—	—	140µm	V3SF 140U	V3SF 140U	V3CF 140U	V3CH 140U
	No.120	125µm	—	V3SF #120	V3SH #120	V3CF #120	V3CH #120
	—	—	112µm	V3SF 112U	V3SH 112U	V3CF 112U	V3CH 112U
	No.140	106µm	—	V3SF #140	V3SH #140	V3CF #140	V3CH #140
	—	—	100µm	V3SF 100U	V3SH 100U	V3CF 100U	V3CH 100U
	No.170	90µm	—	V3SF #170	V3SH #170	V3CF #170	V3CH #170
	—	—	80µm	V3SF 80U	V3SH 80U	V3CF 80U	V3CH 80U
	No.200	75µm	—	V3SF #200	V3SH #200	V3CF #200	V3CH #200
	—	—	71µm	V3SF 71U	V3SH 71U	V3CF 71U	V3CH 71U
	No.230	63µm	—	V3SF #230	V3SH #230	V3CF #230	V3CH #230
	—	—	56µm	V3SF 56U	V3SH 56U	V3CF 56U	V3CH 56U
	No.270	53µm	—	V3SF #270	V3SH #270	V3CF #270	V3CH #270
	—	—	50µm	V3SF 50U	V3SH 50U	V3CF 50U	V3CH 50U
	No.325	45µm	—	V3SF #325	V3SH #325	V3CF #325	V3CH #325
	—	—	40µm	V3SF 40U	V3SH 40U	V3CF 40U	V3CH 40U
	No.400	38µm	—	V3SF #400	V3SH #400	V3CF #400	V3CH #400
	—	—	36µm	V3SF 36U	V3SH 36U	V3CF 36U	V3CH 36U
	No.450	32µm	—	V3SF #450	V3SH #450	V3CF #450	V3CH #450
	No.500	25µm	—	V3SF #500	V3SH #500	V3CF #500	V3CH #500
	No.635	20µm	—	V3SF #635	V3SH #635	V3CF #635	V3CH #635
	Regular Pan Extended Rim Pan			V3SFXPN V3SFXPE	V3SHXPN V3SHXPE	V3BFXPN V3BFXPE	V3BHXPN V3BHXPE
	Regular Cover Cover with Ring			V3SFXCV V3SFXCVR		V3BFXCV V3BFXCVR	