

Cole-Parmer®

OPERATING MANUAL

Cole-Parmer Tapping Sieve Shaker

SSH-250-SS-8R, SSH-250-SS-12R
(59998-60, 59998-61)



SSH-250-SS-8R

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SAFETY INSTRUCTIONS

Please read these instructions thoroughly to familiarize yourself with the operation of the SSH-250-SS-8R or SSH-250-SS-12R before attempting to run it.

The buyer is responsible for ensuring that users are properly trained, that they are aware of all of the information and instructions in this document, and that they are aware of the potential risks of operating the apparatus. The manufacturer will not be responsible for any damage to people and/or property caused by noncompliance with any instructions in this manual.

NOTE: These instructions are intended only as a guide for general operation of this device and should not be used in place of test protocol. Refer to current ATSM standards for complete and detailed test procedures.

Always ensure the motor and other electrical components are properly configured for your intended use and available power source. The standard Cole-Parmer Tapping Sieve Shaker comes with a 1/3hp motor wired for 115V,60Hz. Motors are NOT explosion-proof.

Always use a properly-wired, three-pronged plug, or otherwise ground the machine. Make sure the cord is located where no one will trip or get tangled in it.

Always check electrical wiring for loose connections and for pinched or frayed wiring.

Always disconnect and lock out power supply when the machine is not in use, especially before performing maintenance and repairs.

⚠ WARNING: This machine operates on an electric current. Improper operation could result in electric shock, electrocution, or an explosion! Motors are NOT explosion-proof!

⚠ WARNING: Do not wear loose clothing that might be caught in the machine and keep all body parts away from moving parts of the machine. ALWAYS wear safety glasses, hearing protection, and other personal protective equipment while operating, maintaining, or repairing this machine.

⚠ WARNING: DO NOT operate the machine without having all guards and covers in place.

⚠ WARNING: DO NOT perform tasks on the machine other than those for which it was designed. Only use the machine in the manner for which it was intended, as described in this instruction manual.

WARNING

 **Moving Parts**
Can Crush and Cut.
Operate Carefully

CAUTION

 Wear safety glasses when using equipment.

1.0 INTRODUCTION

This manual applies to Cole-Parmer Tapping Sieve Shaker for 8" Sieves (model SSH-250-SS-8R) or for 12" Sieves (model SSH-250-SS-12R). Platform adapter for 8" Sieves is only included on the SSH-250-SS-12R.

2.0 UNPACKING & SETUP

2.1 Inspection of Shipment

1. The SSH-250-SS-8R and SSH-250-SS-12R weigh approximately 135lb and 162lb, respectively. Use appropriate equipment and manpower to uncrate the Sieve Shaker. Wear safety glasses and work gloves.
2. In most instances, the simplest method of uncrating is to cut the carton away from the machine. Leave the carton intact as much as possible so that it can be used to return the machine if necessary.
3. Lift machine from skids and carton, using appropriate equipment to lift the machine onto a substantial, solid work surface.
4. Lay the Sieve Shaker on its side to install the leveling legs. Turn the legs into the threaded holes in the bottom corners of the outer case. Turn the legs all the way in at this point. Set the Sieve Shaker upright. Level the machine by adjusting the legs until the machine is level and rigid.

Further leveling will likely be required once the Sieve Shaker is fully assembled and ready for operation. Re-level when you move the Sieve Shaker, when the material in the test sieves does not remain evenly distributed, or when the machine becomes unstable in operation.

5. Mount threaded clamp rods (2R) by placing jam nut ends into the tapped holes in the platform until threads are flush with the platform bottom. Tighten jam nut to platform to hold clamp rods.
6. Remove the round spacers from the knobs by slightly pushing on push buttons and removing the spacers. Holding both push buttons, install lid assembly by placing the knobs upon the clamp rods. Once the lid assembly is in desired location, release the push buttons and the assembly will remain in that position.
7. Place the acorn nuts (1) on the top of the clamp rods (2R) and tighten until secure.
8. Place the Sieve Shaker on a substantial, solid work surface sufficient to provide support for this size machine.
9. Re-level prior to operating.

3.0 OPERATING INSTRUCTIONS

Please read understand all safety and operating instructions for the Cole-Parmer Tapping Sieve Shaker before putting it into service.

The Cole-Parmer Tapping Sieve Shaker efficiently separates most free-flowing materials with particle sizes from No.4 to No.635 (4.75mm to 20µm). Performance on extended size ranges can be determined by experimentation. The test specimen should be large enough to be representative, without overloading any individual test sieve. Overloading may result in incomplete separation or damage to the test sieve cloth. Maximum loading for individual test sieves No.4 and smaller should be about 200g for 8in test sieves and about 450g for 12in test sieves. Test sieves larger than No.4 should be limited to about one particle of material for each available opening.

EZ-Clamp System quickly secures sieve stacks of varying heights. This system with integral test sieve cover greatly enhances efficiency when testing multiple samples or using more than one sieve stack.

NOTE: Before conducting a test, confirm that the Sieve Shaker has been setup and leveled properly in accordance with step 4 of Section 2.0. Readjust if necessary.

3.1 Sieve Stack & EZ-Clamp Assembly

- Push the buttons on the knobs. The EZ-Clamp assembly will slide freely up or down the clamping rods. When the buttons are released, the assembly will remain in that position.
- Position the assembly slightly higher than the height of the sieve stack.
- Place the sieve stack on the platform. Push the buttons on the knobs and slide the EZ-Clamp assembly down firmly against the top test sieve.
- Tighten both knobs to securely clamp the sieve stack in place.
- When the test is complete, unscrew the knobs enough to release tension on the stack, then push the buttons and raise the assembly to the desired height to remove the test sieves.

3.2 Timer Setup & Operation

This unit is equipped with an easy-to-operate interval countdown timer. The timer has a large, 0.6in LED display and will operate in four different modes. It is powered by line voltage and will work on power supplies 100 to 120 VAC, 60 Hz, with up to 20 amps Inductive or Resistive current.

NOTE: The main device controlled by the timer may be restricted to operating on a more limited electrical supply range. Check the device carefully to ensure compatibility with your electrical supply.

Current timer mode is indicated by the four red LEDs on the timer face:

- A = MMSS (99min:59sec x 1sec)
- B = HHMM (99hr:59min x 1min)
- C = SSSS (9999sec x 1sec)
- D = MMMM (9999min x 1min)

(H is for hours, M for minutes, and S for seconds.) To adjust the timer mode, press and hold both the up and down arrow keys at the same time until the display shows the mode. Once the mode letters are displayed, press the up or down arrow to change modes. Press "START"/"STOP" to accept new mode.

To set the run time, press either the up or down arrow. The first digit on the right hand side will flash in half-second intervals. Press either arrow key to adjust to the desired value. To enter the displayed digit and move to the next, press "START"/"STOP". Once the last digit on the left is entered, the timer is ready to start.

Press "START"/"STOP" to initiate the current run program. Once running, pressing "START"/"STOP" again will pause the timer with the current amount of time remaining on screen. When allowed to time-out, the timer beeps and displays "DONE". Press any key to continue. Setting and Mode values are saved automatically and restored on power-up.

Perform your test. Time required to complete a test will vary depending upon the physical characteristics of the test material. Most separations will be complete in ten minutes or less. Refer to your test specifications, and be consistent.

Disconnect and lock out power to the Sieve Shaker when it is not in use.

SSH-250-SS-8R and SSH-250-SS-12R are counterbalanced to permit free-standing operation with most common test sieve loadings. With very tall or very short sieve stacks, the units may be unstable and move around during operation. Normally this condition occurs only with sieve stacks exceeding about 20in (508mm) in height. This is equivalent to using more than eight test sieves and pan of 2.125in stacking height. If you need to use tall sieve stacks, and your Sieve Shaker moves around, try re-leveling. If stability is a problem with short sieve stacks, add extra nonfunctional test sieves below an extended rim pan.

NOTE: Bolting the machine down is not a substitute for leveling. Bolting the shaker down will cause forces from the unbalanced sieve stack to damage the drive mechanism. This damage is not covered by warranty.

When using 8in test sieves on the SSH-250-SS-12R, always use the platform adapter to compensate for the difference in test sieve weights. This adapter can be used with either a regular or an extended rim pan. When the adapter is positioned with larger ID side up, you can use either pan. Invert the adapter for a tighter fit if using only an extended rim pan. Secure the ring to the test sieve platform with the two cap screws provided.

4.0 MAINTENANCE

Before performing maintenance or repairs on the Sieve Shaker, **ALWAYS** read and understand the safety, operating, and maintenance instructions.

During the warranty period, please contact Cole-Parmer before performing any maintenance. See warranty information section 9.

Please provide the serial number and model number of the unit when ordering replacement parts.

4.1 Routine Annual Maintenance

- Apply of a few drops of oil to the motor end bearings.
- Inspect the drive belt for wear, tension, and alignment.

A worn, loose, tight, or misaligned drive belt can affect operation of the Sieve Shaker. The belt should be snug: Neither too tight nor too loose. A snug fit assures longer life, less bearing wear, and quieter operation than a belt which is too tight. A loose drive belt may cause the unit to run too slowly or in spurts. The drive belt should deflect 1/64 of the value of the span of the pulleys. The pulleys should be aligned to avoid excessive edge wear.

Never force or pry the belt over the pulley flanges. Instead, perform steps 1–3 in Section 4.2.

- Every two years or whenever disassembled, grease the thrust bearing (13) and the face of the cam (31). Perform steps 1–7 in Section 4.2 to access these parts.

4.2 Disassembly

1. Disconnect and lock out the power supply.
2. Locate the four cover mounting screws, and remove them. Remove right (timer side) section of the cover.
3. Inside the left cover section, locate two more mounting screws on the cover flanges. Remove these screws and the left section of the cover.
4. Loosen the four motor mounting bolts. Motor will slide toward the left side of the machine, loosening tension on the belt so that you can remove it.
5. Remove the four mounting cap screws (16) from the mounting plate (17), and lift the entire unit out of its case.

6. Unhook the two hammer springs (23).
7. Remove the connecting link nuts (41) and links (40).
8. Remove the hammer post cap screws (25), actuator link screws (36), bumper block cap screws (20), and lock ring (19). Now you can lift the sieve platform with main shaft out of its center housing (15).
9. If you remove the cam shaft hangers (27) for any reason, reassemble exactly as removed. The roller clutch block (33) and one cam shaft hanger (27) contain overrunning clutches which must be installed to allow correct rotation of the cam shaft (29), or serious damage will result.
10. Main bearings have permanent lubrication and are sealed inside the main housing (15). This main housing with bearings and hub should not be disassembled in the field; replace them as a unit if necessary.

5.0 TROUBLESHOOTING

• Unit Fails to Operate:

Check motor, electrical connections, and timer. Replace or reconnect as necessary. Check drive belt tension; replace belt if worn.

• Unit Runs, but Fails to Give Impact Tapping:

Remove covers, drive belt, and mounting cap screws (16). Replace or reconnect hammer springs (23) as required.

• Unit Operates but is Excessively Noisy:

Disassemble through step 4 in Section 4.2. Check resilient faces on bumper block (20) and replace block if necessary.

• Unit is Unstable; Shakes or Walks Too Much:

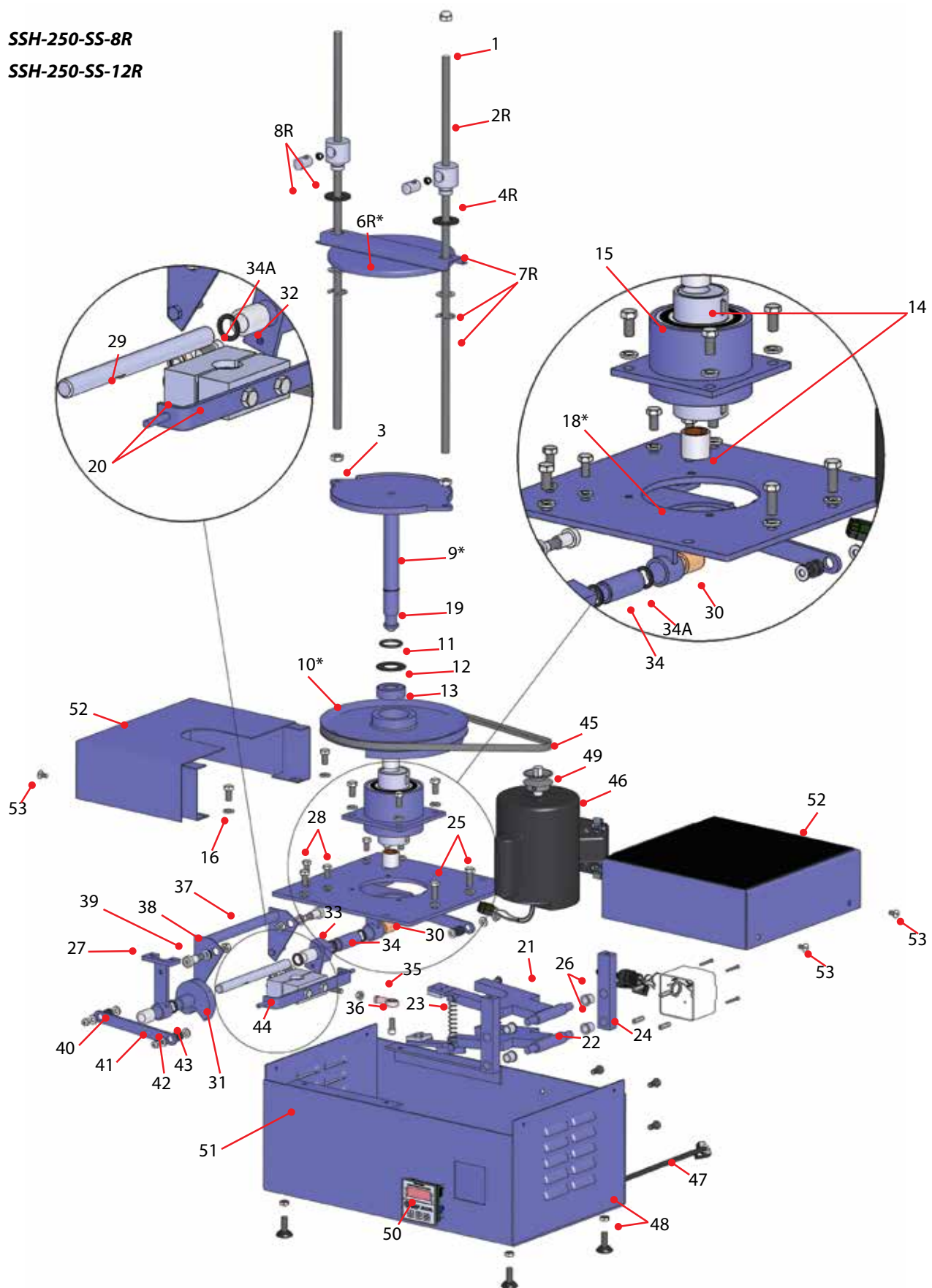
- a. Readjust level using the leveling legs, and lock with lock nuts.
- b. For SSH-250-SS-12R, be sure that weighted platform adapter is used when using 8in test sieves.
- c. Loosen and re-clamp the sieve stack.
- d. Check sieve stack height. If over 20in, see Section 3.0.

6.0 SPECIFICATIONS

Sieve Frame Diameter	SSH-250-SS-8R: 8in/200mm SSH-250-SS-12R: 8in/200mm, 12in/300mm
Particle Size Range	SSH-250-SS-8R: 1in—No.635 SSH-250-SS-12R: 2in—No.635
Motion/Agitation	Tapping/Circular
Sieve Capacity with Pan	Full Height: (10) 8in/200mm Sieves or (6) 12in/300mm Sieves Half Height: (20) 8in/200mm Sieves or (13) 12in/300mm Sieves Intermediate-Height: (10) 12in Sieves
Timing Capacity	Up to 99 Minutes, 59 Seconds
Mounting Capability	No
Electrical	SSH-250-SS-8R & SSH-250-SS-12R: 115V / 60Hz
Product Dimensions	22.5 x 13 x 41in (572 x 330 x 1,041mm) WxDxH
Estimated Shipping Weight	SSH-250-SS-8R: 135.0lb (61.24kg) SSH-250-SS-12R: 162.0lb (73.48kg)

7.0 PARTS DIAGRAM

SSH-250-SS-8R
SSH-250-SS-12R



8.0 REPLACEMENT PARTS

Item No.	Part Description	No. Req.
EZ-CLAMP SIEVE CLAMPING PARTS		
1	Clamp Rod Acorn Nut	2
2	EZ-Clamp Rod	2
3	Clamp Rod Nut	2
4	EZ-Clamp Knob	2
6	EZ-Clamp Compression Test Sieve Cover for SSH-250-SS-8R	1
6	EZ-Clamp Compression Test Sieve Cover for SSH-250-SS-12R	1
7	EZ-Clamp Washers and Retaining Ring	2
8	EZ-Clamp Push Button and Spring	2
MAIN SHAFT PARTS		
9	Sieve Platform with Main Shaft for SSH-250-SS-8R	1
9	Sieve Platform with Main Shaft for SSH-250-SS-12R	1
10	Drive Pulley, Counterweight, Key, Setscrew for SSH-250-SS-8R	1
10	Drive pulley, Counterweight, Key, Setscrew for SSH-250-SS-12R	1
11	Neoprene Sponge Washer	1
12	Anti-friction Washer	1
13	Thrust Bearing	1
14	Nonmetallic Bushings	2
15	Main Housing, Bearing, and Hub	1
16	Mounting Cap Screw and Lock Washer	8
17	Mounting Plate	1
18	Lower Counterweight, Key, Setscrews for SSH-250-SS-8R	1
18	Lower Counterweight, Key, Setscrews for SSH-250-SS-12R	1
19	Lock Ring	1
20	Bumper Block, Cap Screws (2), Lock Washers (2)	1
HAMMER ASSEMBLY PARTS		
21	Upper Hammer	1
22	Lower Hammer	1
23	Hammer Spring	2
24	Hammer Post	2
25	Hammer Post Cap Screw and Washer	2
26	Hammer Post Nonmetallic Bushing	4

Item No.	Part Description	No. Req.
CAM SHAFT ASSEMBLY PARTS		
27	Cam Shaft Hanger	2
28	Hanger Cap Screw and Lock Washer	4
29	Cam Shaft	1
30	Cam Shaft Hanger Bushing	1
31	Cam	1
32	Roller Clutch	2
33	Roller Clutch Block	1
34	Cam Shaft Spacer	1
34A	Cam Shaft Nylon Washer	4
35	Actuator Link with Rod Ends (2) and Nuts (2)	1
36	Actuator Link Screw	2
37	Stabilizer Rocker Bracket	1
38	Stabilizer Rocker Bracket Nylon Bushing	2
39	Stabilizer Rocker Bracket Bolt and Nut	2
40	Connecting Link	2
41	Connecting Link Nut	4
42	Connecting Link Washer	4
43	Connecting Link Rubber Bushing	4
44	Stabilizer Arm	1
OUTER CASE PARTS		
48	Leveling Leg, Lock Nut	4
51	Outer Case	1
52	Left and Right Case Cover for SSH-250-SS-8R	1
52	Left and Right Case Cover for SSH-250-SS-12R	1
53	Cover Mount Screw	4
ELECTRIC & DRIVING PARTS		
46	Motor 115V,60Hz	1
47	Motor Cord, Grommet, and Plug (Specify Serial Number)	1
N/A	Motor Mounting Bolt, Flat Washer, Lock Washer	1
49	Motor Pulley 60Hz	1
45	Drive Belt	1
50	Timer (Serial Numbers 3315 and Newer)	1

9.0 WARRANTY

Each Cole-Parmer Sieve Shaker is warranted to be free of defects in materials and workmanship for a period of twelve (12) months from date of shipment, and any claim must be submitted within such period.

This warranty excludes damage caused in whole or in part by (i) neglect, abuse, misuse, fault or negligence of or by Purchaser (ii) normal wear and tear, (iii) use of the product for other than its intended purpose or other than under normal operating conditions, (iv) alterations or modifications, (v) repairs made or attempted by anyone other than Cole-Parmer, (vi) any failure to comply with installation, maintenance, or operating instructions, (vii) lightning strikes, floods, electrical supply irregularities, (viii) improper storage and handling, (ix) use of the product in combination with equipment or software not supplied by Cole-Parmer and (x) other occurrences beyond Cole-Parmer's control. This warranty also excludes consumables, products that have been opened or attempted to be opened by the Purchaser during the warranty period and products that have not been cleaned and decontaminated by the Purchaser.

Purchaser shall promptly notify Seller (and in any event, during the warranty period) in writing upon the discovery of any defect, which notice shall include the product model and serial number (if applicable) and details of the warranty claim. If Cole-Parmer determines in its sole discretion that the product is defective and is covered by this warranty (after an inspection of an allegedly defective product if such an inspection is requested by Cole-Parmer), Cole-Parmer's sole obligation, and Purchaser's sole and exclusive remedy, is the repair or replacement of the product by Cole-Parmer, in Cole-Parmer's discretion. Purchaser specifically acknowledges that Cole-Parmer's price for the product is based upon the limitations of Cole-Parmer's liability as set forth herein. Products may not be returned to Cole-Parmer for warranty repair or replacement without obtaining a return authorization number. Freight charges for shipping the defective product to Cole-Parmer will be responsibility of Purchaser. All replaced parts shall become the property of Cole-Parmer and no repair or replacement will extend the original warranty period.

If Cole-Parmer determines that a product for which Purchaser has requested a warranty remedy is not covered by the warranty hereunder, Purchaser shall pay or reimburse Cole-Parmer for all costs of investigating and responding to such request at Cole-Parmer's then prevailing time and materials rates. If Cole-Parmer provides repair services or replacement parts that are not covered by this warranty, Purchaser shall pay Cole-Parmer therefor at Cole-Parmer's then prevailing time and materials rates.

Cole-Parmer®

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10.0 REPAIR

Should the Cole-Parmer Tapping Sieve Shaker require service or repair while under warranty, please contact Cole-Parmer Customer Service. A Return Authorization Number will be issued, and customer will be advised on proper packing and method of shipment.

Customer Service:

Toll Free: 1.800.323.4340

Local Phone: 1.847.549.7600

Email: sales@coleparmer.com

Shipping address:

Attention: SR# or RA#

Cole-Parmer

625 East Bunker Ct

Vernon Hills, IL 60061

(Please include SR Number or RA Number on shipping label)

For any other technical inquiries or out-of-warranty repair requests, please contact the Cole-Parmer Technical Support Department at 1.800.323.4340, or email Techinfo@coleparmer.com



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