



Sand Equivalent Shaker
with Digital Timer

Introduction

This motorized sand equivalent shaker features a digital timer, which can be set from 0 to 60 minutes with automatic shutoff. The timer features an easy-to-use digital interface with an accuracy of 0.5% to increase accuracy and ease-of-operation.

The consistent, repeatable oscillation of the apparatus eliminates operator-caused variations. Shaking operation delivers an 8" (203mm) stroke at a speed of 175 ± 2 strokes per minute.

The equipment meets specifications for the following tests:

ASTM D2419

AASHTO T176

California Test Method 217

General Information

Your Sand Equivalent Shaker was thoroughly inspected before it was shipped and should be ready to operate as soon as you have completed the set-up procedure. Notify Humboldt Mfg. Co. or your local agent and file a claim with any carriers involved if you find any damage to the machine.

Physical Specification:

Shipping weight: 125 lbs. (56.7kg)

Overall height: 24" (61 cm)

Base dimension: 12" x 24" (31 x 61 cm)

Power Supply:

115V, 60Hz, 6.8amps, 1 phase (H-4379)

230V, 50Hz, 3.6amps, 1 phase (H-4379.5F)

Check that your machine has the correct voltage for your local supply.

Power Cord: Your Sand Equivalent Shaker is fitted with a molded vinyl grounding plug. The core is made of three conductors (USA color coding).

Green Ground (Earth)

White Cold (Neutral)

Black Hot (Live)

(Note: The molded vinyl plug is removed on the H-4379.5F)

Initial Installation

Remove the packing list and verify that parts have been received. **Remove the wood support packaging from underneath the motor.** The unit is complete assembled and ready for use. Place the machine where it is to be used in the laboratory or field and mount it securely to a firm and level base. Plug or connect to the electric power indicated.

Operation

Digital Control (Timer) Panel:

The digital Timer Control Panel is located on the upper, right-hand side of the machine base, right above the on/off switch.

To operate, turn the Sand Equivalent Shaker on.

Select the desired time using the Up and Down buttons on the control panel.

Press the Start button to start the timer. This energizes the relay (N.O. contacts close) and the displayed time begins counting down.

When the time remaining reaches zero, the relay will de-energize (N.O. contacts open).

Pressing Start while the timer is running will end the cycle and reset the timer.

Changing the Timer Operating Mode

With power applied to the timer, press and hold the Up and Down buttons simultaneously until the current operating mode is displayed. (OP1=0 to 60min mode; OP=0 to 99sec mode.)

Press an Up or Down button to change the displayed operating mode, then press Start within 3 seconds to save the new operating mode.

Note: If Start is not pressed within 3 seconds, the timer will revert back to the original operating mode.

Preset Travel and Speed:

The shaker has a throw of 8 ± 0.04 " and operates at 175 ± 2 cycles per minute.

Method:

Prepare the sample to be tested according to the governing agency standard(s). Place the clear plastic cylinder containing the test sample and rubber stopper in position on the slide assembly of the shaker. The end with the spring loaded holder fits over the cork (rubber stopper) in the open end of the clear cylinder.

Select the time period appropriate for the test, either 45 seconds or 10 minutes using the center toggle switch. Then press the start push-button switch to begin the test. The test will end at the end of the elapsed time selected, or by the operator pressing the pushbutton stop switch any time during the test.

Maintenance

First unplug the machine from its power receptacle or source. Normal routine maintenance consists of lubrication at several key locations. In addition, worn components should be suspected if there is any unusual sound or action of the machine.

Lubricate as follows:

- A. The slide assembly should be lubricated once a month with approximately three (3) drops of household oil on each end of the main slide bar.
- B. Two (2) grease fittings should be greased once a year with automotive type grease. These are accessible from under the machine through the fly-wheel.
- C. The cam action guide, H-4374.18 and the two outside slide bars, H-4374.27 can be greased by smearing a film of grease on each one.

Accessories

In addition to the Sand Equivalent Shaker, Humboldt Mfg. Co. also has available a complete Sand Equivalent Test Set that includes four graduated cylinders, siphon assembly, weighted foot assembly, wide mouth funnel, 3 oz. measuring can and standard stock solution. Consult the Humboldt catalog for this and for ordering accessories separately.

Warranty

Humboldt Mfg. Co. warrants its products to be free from defects in material or workmanship. The exclusive remedy for this warranty is Humboldt Mfg. Co., factory replacement of any part or parts of such product, for the warranty of this product please refer to Humboldt Mfg. Co. catalog on Terms and Conditions of Sale. The purchaser is responsible for the transportation charges. Humboldt Mfg. Co. shall not be responsible under this warranty if the goods have been improperly maintained, installed, operated or the goods have been altered or modified so as to adversely affect the operation, use performance or durability or so as to change their intended use. The Humboldt Mfg. Co. liability under the warranty contained in this clause is limited to the repair or replacement of defective goods and making good, defective workmanship.

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