

## **AUTOMATED SOIL COMPACTOR**

**Uniform, consistent and safe compaction for quality test results...  
... layer after layer, sample after sample.**

### **Benefits:**

- ❖ Soil layers are uniformly compacted, every time.
- ❖ Conformity to ASTM and AASHTO standards for hammer drop height is assured because the hammer lift compensates for changing sample height.
- ❖ Display shows number of layers and blow counts per layer to prevent common operator errors. Blows can be pre-set in memory and automatically stop the machine.
- ❖ Changing hammer drop height (to accommodate alternate test requirements) is simple and very quick — just insert a couple of spacers and you're ready. 12 or 18-in drop.
- ❖ Hammer blows optimized at 26 blows per minute.
- ❖ Rotating base accepts molds from a variety of manufacturers.
- ❖ Works with 4 and 6-in molds (standard, modified, CBR and LBR molds).



S-333 Automated Soil Compactor shown with hammer and mold.  
(Hammers and molds sold separately)

### **Engineered for reliability:**

The hammer lift mechanism is based on a chain drive to prevent vibrations and ensure smooth operation. To reduce vibrations even further and increase service life, the hammer itself has been redesigned to locate most of its mass at the bottom, near the striking face, where the energy is imparted to the soil.

A single motor lifts the hammer and rotates the base eliminating indexing issues associated with two-motor systems.

### **Application:**

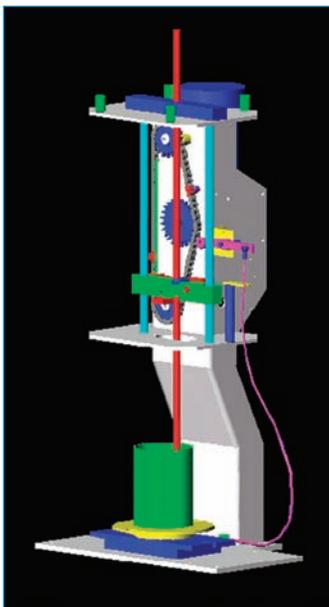
- **Laboratory compaction of soil and soil-cement mixtures.**

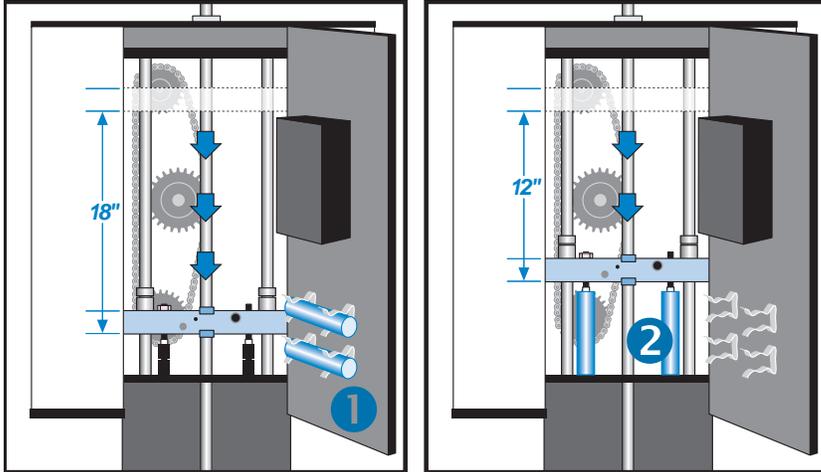
ASTM: D 558, D 559, D560, D 698, D 1557

AASHTO: T-99, T-134, T-135, T-136, T-180

### **Description:**

The S-333 Automated Soil Compactor provides uniform, consistent and safe mechanical compaction of Proctor and CBR samples for quality test results in the laboratory. Mechanized compaction minimizes inconsistencies and operator errors associated with hand compaction and frees the operator for other tasks.





Changing drop height is as quick and easy as placing or removing a set of spacers. Above, left, the drop height is 18 inches. To change to 12 inches, simply take the set of spacers stored on the door (1) and place them as shown on (2).

The S-333 Automated Soil Compactor is designed for 4- and 6-inch (10.2 and 15.2 cm) molds. The maximum clearance between the rotating table and the hammer face is 11 in (280 mm).

Blow counts are optimized at 26 blows per minute to prevent "overthrowing" the hammer weight and therefore affecting the hammer drop height.

The mold is attached to the table which rotates after each hammer drop to ensure complete and uniform coverage of the material. The lift mechanism efficiently lifts the compaction hammer and rotates the base simultaneously. The hammer drops, compacting the soil with a predictable, repeatable force. Because of its universal-type fixture, the rotating base will accept molds from a variety of manufacturers (May require S-33360). All DGSi molds bolt to the hammer base.

The machine does not include hammers because customers have their own preferences. Hammers are sold separately. The most common types are:

- for compaction in a 4-in mold: 5.5 lb (2.5 kg) hammer with round face.
- for compaction in a 6-in mold: 10 lb (4.5 kg) hammer with pie-shaped face.

See Ordering Information (on the right) for other choices.

**Safety features include:** Fully enclosed drive mechanism and an emergency shut-off button.

The machine may be mounted on a pedestal to make it easier to handle the molds.



Display shows the number of lifts and blow counts (per layer). Blows can be pre-set and automatically stop the machine. Hammer jogging button and auto parking for hammer are standard.

### ORDERING INFORMATION

S-333 Automated Soil Compactor, 110 V, 60 Hz\*.

#### Accessories:

S-33360 Cam Mold Clamp Assembly (2 required)

S-320 4 in (102 mm) Compaction Mold

S-32013 Mold Base 4 in

S-326 6 in (152 mm) Compaction Mold

S-32613 Mold Base 6 in

230302 Mold Base Tie Rod

**Hammers:** At least one hammer must be selected.

S-33380 5.5 lb (2.5 kg) Hammer with Round Face

S-33385 5.5 lb (2.5 kg) Hammer with Pie-shaped Face

S-33390 10 lb (4.5 kg) Hammer with Round Face

S-33395 10 lb (4.5 kg) Hammer with Pie-shaped Face

S-33020 Calibration Kit. Meets ASTM D 2168

S-33050 Lead Calibration Cylinders, 100/pack

#### Related Items:

Please consult our catalog or web site for a comprehensive list.

(\*) Other versions available for different power requirements.

### SPECIFICATIONS

Lift Mechanism	Chain drive
Drop Height	Adjustable, 12 in (305 mm) or 18 in (457 mm)
Hammer Clearance	11 in (279 mm) between hammer face and rotating mold base
Control Panel	Machine: Emergency "Off" button; jog switch, reset switch. Start and Stop buttons.
Display	LED displays number of layers and blow counts.
Compaction Rate	26 blows per minute
Power Supply	1/3 hp (0.25 kW) motor. 7 A at 115 V or 3.5 A at 220 V
Oper. Temp.	32 to 150°F (0 to 65°C)
<b>Dimensions and Volume:</b>	
Footprint	25 x 23 in (635 x 584 mm) W x D
Max. Height	84 in (2.13 m) (with 7 in soil and shaft extended) 48 in (1.22 m) (without hammer shaft extended)
Total Ship. Vol.	57.4 ft <sup>3</sup> (1.62 m <sup>3</sup> )
Total Ship. Wt.	384 lb (175 kg)