

AUTOMATIC SOIL PROCESSOR **FORNEY**

MODEL LA-2128

The **FORNEY Automatic Soil Processor** efficiently and effectively prepares soil samples for moisture/density (Proctor) tests. Up to 40lb (18kg) of cohesive soil can be processed in fifteen minutes through the replaceable No.4 screen into our standard pan. The combination of vertical force from the weighted lid plus the back-and-forth motion of the screen tray automatically processes the sample through a Number 4 screen. It does not grind the sample, so particle integrity is not affected.

AUTOMATE SOIL PROCESSING

ASTM and AASHTO specifications for moisture/density relationships (Proctor) and other tests often require large amounts of soil. Preparing these soil samples for testing is tedious, back-breaking work. Most labs do it manually — dump a bucket of soil on a screen and then use a board to break the soil down. The Automatic Soil Processor makes it easy and no special training is required. Simply load the screen tray with soil, close the lid, flip the switch, and your soil sample is broken down. The Automatic Soil Processor makes short work of fat clays and lean clays and even works with wet soils.

INCREASE PRODUCTIVITY

	BY HAND	WITH SOIL PROCESSOR
Batches / Day	14	32
Batches / Week	80	160

FEATURES

- Air-operated technology that's reliable and easy to maintain. Simple cleanup with integrated air hose.
- Convenient storage for additional sample pans in the cabinet.
- **Electrical requirements:** 120 VAC, 60 Hz, 1 PH.
- **Air requirements:** minimum of 2CFM @ 90psi and recommend a minimum of 6-gallon tank size.
- **Dimensions:** 44 x 30 x 35 in (LWH)

WHAT'S INCLUDED

- Installation Procedures
- Cleaning
- Machine Setup
- Operation
- Optional Equipment
- Preventative Maintenance
- Replacement Parts & Accessories



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(800) 367-6397

2050 Jackson's Pointe Court
Zelienople, PA 16063 USA

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INSTALLATION PROCEDURES

Inspection

Upon receiving shipment of your new machine, before uncrating or unpacking, inspect the crates/boxes for signs of freight/handling damage.

If container shows visible signs of damage, please note damage to freight carrier at time of delivery. If severe damage to package or machine is discovered during delivery, refuse delivery due to freight damage.

Uncrating

To properly uncrate your new Forney Testing Machine, follow these steps:

- Remove metal straps around crate/box with suitable cutters (shears) if banded.
- Remove top of box/crate.
- Remove wooden braces on the top and sides of the machine if braced.
- If crated, remove the sides of the crate, if boxed, remove the entire box.
- If accessories are included, unband/unbrace and remove accessories.
- Cut all remaining bands, remove all wooden braces on pallet.
- Do not remove wooden braces from inside the machine until machine is in permanent position.
- Locate the packing list and check parts and units against the packing list to make sure the shipment is complete.

PERFORMING THE TEST

ONLY QUALIFIED PERSONNEL MAY OPERATE EQUIPMENT TAKING NOTE OF THE FOLLOWING

MOVING PARTS CAN CRUSH AND CUT – Keep hands clear of moving parts while operating machinery!

WEAR SAFETY GLASSES WHILE OPERATING EQUIPMENT – Always wear safety glasses while operating machinery!



MACHINE LOCATION

It is recommended that the machine be located in an area where the atmosphere is free from acidic or contaminating fumes, which could possibly accelerate corrosion to, machined surfaces or electrical contacts.

A special foundation is not typically required on the LA-2128 machine. The foundation should be rated to accommodate the approximate 484lbs of the frame.

After installing the machine, it will need to be leveled. To level, place a level (carpenters, bricklayers, etc) along frame of testing machine. The machine should be level to within 0.0625" IN 12".

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If machine is found to be out of level, determine which direction is out and adjust the leveling feet accordingly. The LA-2128 is equipped with four industrial leveling feet to ensure proper leveling in both directions.

A dedicated electric outlet is recommended to help insure that proper electric is provided to the unit.

CLEANING

To protect your new testing machine during shipping and through extended periods of exposure to the elements; a rust-preventative has been applied to the external surfaces of the machine.

After positioning/installing your machine, and prior to making the hydraulic connections, the rust inhibitor can be removed.

1. Dampen a clean, dry cloth with a suitable, safety solvent.

i.e. CRC Quick Clean or similar (use rubber gloves)

NOTE: Do not soak cloth or rub painted surfaces vigorously, as the solvent may attack the paint.

2. Gently wipe the surfaces until tackiness is gone, gently wipe with a dry cloth.

To reduce particle contamination after testing, a dry wipe down should be done.

Solvent need not be used unless an accumulation of particles is present, and otherwise.

MACHINE SET UP

The LA-2128 soil processor is an electro-pneumatic machine that needs both an electric connection and a supply of compressed air.

The machine requires a standard 120VAC, single phase, 60Hz, grounded electrical outlet. Current draw is 1 amp. Plug the pre-wired cord into the appropriate outlet.

The air compressor used to supply the LA-2128 with compressed air must be rated for a minimum of 2CFM @ 90psi to operate properly. Forney recommends a minimum of 3 gallons of tank size per CFM; thus, the minimum tank size would be 6 gallons.

Please note that these are minimums needed to run one machine without it running out of air supply. If two soil processors are used at the same time, it would require doubling these values to stay at the minimum.

Going to greater CFM values (@90psi) and higher volume tank sizes will cause the compressor to come on less frequently. Also, make sure to consider any other equipment in the lab that requires air supply from the same compressor and size appropriately.

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The LA-2128 utilizes a ¼" quick disconnect fitting common in pneumatic systems for air supply. Connect the air compressor to the quick disconnect supply fitting by pushing the air hose into the quick disconnect fitting. An additional quick disconnect fitting is supplied for connection of an air hose or piggybacking to additional LA-2128 units.

Once installation, leveling, and the electric and pneumatic connections have been made, lift the lid fully into its upper resting location.

Then, turn the power rocker switch on and make sure the screen is being pushed and pulled back and forth in the machine.

Adjust the pressure regulator to 85 to 90psi by pulling the adjustment knob and then turning up or down and pressing back in to set.

Turn off the power rocker switch and proceed with soil processing.

OPERATION

1. Lift open lid assembly.
2. Install a clean, empty soil pan in the top shelf position, directly under the screen.
3. Place soil to be processed directly on screen in the machine. Level the soil as much as possible. Maximum capacity is about .5 cubic feet of soil per run.
4. Remove any exposed rocks from soil specimen if present. These will greatly accelerate wear of the screen.

5. Turn on the machine via the power rocker switch and close the lid. The machine will automatically process the soil and shut off just before the lid grating makes contact with the screen.
6. Turn off the power rocker switch and lift the lid.
7. Remove the pan of processed soil and clean the screen with compressed air if necessary.

OPTIONAL EQUIPMENT

The soil processor comes standard with upper grating for standard dry soil processing. A wet soil attachment is available that works better with moderate to wet specimens. Note, some clay specimens must still be dried before they are properly processed by the soil processor. The accessory utilizes weaved steel tubing instead of grating.

To change accessories:

1. Remove the bolts that hold the angle iron in place on both sides of the upper grating.
2. Remove the angles.
3. Remove the bolts that hold the grating to the upper plate.
4. Remove the grating and install the wet soil attachment using the same bolts.
5. Reinstall the angle iron and bolts.

The soil processor also comes standard with a #4 screen but 3/8" and 3/4" screens are also available. See the parts list for part numbers.

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PREVENTATIVE MAINTENANCE

To keep the soil processor running smoothly, periodic maintenance should be completed regularly. The frequency of this maintenance will depend heavily on usage as well as overall care and cleanliness of the lab. At a minimum, inspections to PVC wear strips should be done annually.

- 1.** Disconnect air supply and open lid assembly.
- 2.** Remove the right end tube by unthreading the two nuts that hold it in place from inside the frame. Lift off the right end tube.
- 3.** Disconnect air cylinder from the slide frame weldment via the clevis pin.
- 4.** Remove the screen and sliding frame weldment by lifting it out of the frame.
- 5.** Remove the two grey PVC wear strips. Wipe down strips to assess condition. The sliding frame weldment should slide against these strips with low friction. Replace these strips if necessary.
- 6.** Clean soil from area where strips mount in frame, the slide frame, and all exposed areas.
- 7.** Reverse process to reinstall all items.

REPLACEMENT PARTS & ACCESSORIES

The following replacement parts and accessories are available for the soil processor.

LA-2128-01	#4 Mesh Replacement Screen
LA-2128-02	3/8" Mesh Replacement Screen
LA-2128-03	3/4" Mesh Replacement Screen
LA-2128-04	Wet Soil Attachment
LA-0289	Pan, Galvanized Steel
TM-10046	Cylinder, Air
TM-10210	Valve, Reciprocating
TM-10211	Valve, Solenoid
TM-2452-03	Switch, Power Rocker
TM-2836	Leveling Feet
KM-1366-3-17	PVC Wear Strips

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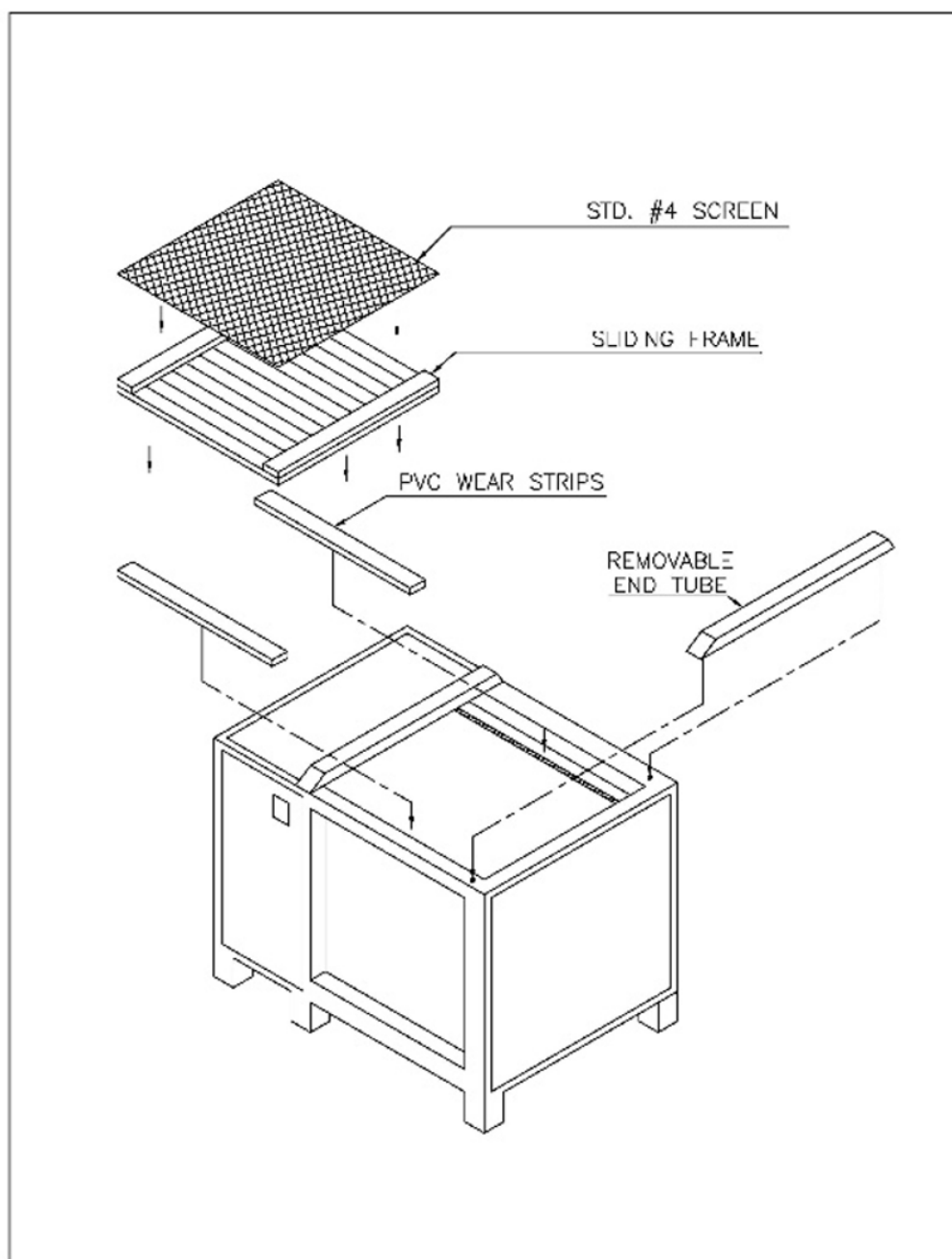
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PARTS SCHEMATIC



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