CIVILAB AUSTRALIA Pty Limited

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CL20150

SOIL PREPARATION MACHINE

Mk 10.2.2

OPERATING AND MAINTENANCE INSTRUCTIONS

GEELONG:
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Tel: (03) 5223 1811
Fax:(03) 5223 1631

BRISBANE:
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ADELAIDE
5/30-32 Raglan Ave.
EDWARDSTOWN 5039
Tel/Fax (08) 8371 2622

DESCRIPTION

The CIVILAB CL20150 Soil preparation machine is designed to rapidly process soil samples for various laboratory requirements, primarily for compaction and CBR testing when the sample must pass a 19 mm sieve.

The machine consists of a motorized grating plate set in a guarded hopper and driven by a motorized worm box at a constant speed. The speed of the plate is controlled by an inverter drive which also provides current overload protection.

Controls are simple push buttons mounted on the front panel and the soil is fed by “working” a paddle with an external handle.

The soil preparation machine has built in safety features to inhibit starting the drive mechanism if the feed hopper door is open.

INSTALLATION

The soil preparation machine can be placed in any suitable and convenient position in the work environment. A standard **240volt single phase** power outlet with **10-amp** rating is required close by. Under full load the machine can draw in excess of 7 amps so care must be taken not to overload the supply circuit with other devices

If the outlet is RCD protected it must be of the AC type to prevent inadvertent tripping caused by the inverter drive electrical “noise”. Please consult with your electrical contractor for further assistance on this aspect.

The machine is provided with castors to allow easy movement for cleaning and when in the required position the two left hand castors can be locked to prevent the machine from “walking” as it is being used.

OPERATION

Place your preferred collection tray under the hopper of the machine.

Open the upper section of the hopper door and place the selected sample of soil on top of the grating plate.

Close the door and ensure the door alarm has extinguished.

Press the start button and the grating plate will begin to rotate.

Using the handle on the left-hand side of the machine, work the soil sample, by applying pressure down on to the grating plate until it has all passed through the apertures of the grate.

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10 Waterway Pass,
BEECHBORO 6063
Tel/Fax (08)9378 6333

JAMMING

If the sample contains rocks the machine may jam and stall the motor. The jam can be cleared by reversing the machine with the “Reverse” button.

If the stall causes the motor to overload the current from the Inverter the Alarm light will come on and will need to be reset by pressing the “Reset” button.

MAINTENANCE

The soil preparation machine has a fully sealed worm box which should need no lubrication during the life of the machine.

The grating plate is supported on two outrigger bearings which need to be kept in adjustment such that the outer ring of the plate is contacting the bearings. This needs to be checked weekly if the machine is used daily.

To adjust the bearings to contact the grating plate place a 4mm hex key in the end of the bearing bolt and release the nyloc nut slightly. Rotate the hex key until the cam brings the bearing into contact with the plate. Hold the hex key in position and tighten the nyloc nut. Repeat the process on the opposite side of the machine.

ELECTRICAL

The CL20150 Soil preparation machine is powered by a 3 phase 1.5kW motor operated through an- Inverter drive. All inverter drives have an inherent noise feedback that manifests as earth leakage. To maintain reliable operation the machine must be operated on a power supply circuit that is protected by a type AC residual current device.

WARNING

Should there be a need to disconnect the machine from the power source a minimum period of 15 seconds after switching off the supply should be allowed before unplugging the power supply cord. This will allow time for any residual charge in the inverter to dissipate and avoid possible effect of static electricity.

The "START" button or the “DOOR ALARM” will stay illuminated after the power is switched off at the power point until the inverter has discharged. Once these lights have extinguished it is safe to remove the plug from the power point.

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Function settings: -

The following function settings are used in the Teco model E510s inverter drive. All other functions are left at factory default.

00-02	Main run command source	0001	
00-12	Frequency upper limit	50Hz	
00-13	Frequency lower limit	0Hz	
00-14	Acceleration time	0.5sec	
00-15	Deceleration time	0.5sec	
01-02	Max output frequency	50Hz	
01-03	Max output voltage	230Volts	
03-00	Terminal S1 forward-run	0000	
03-01	Terminal S2 reverse-run	0001	
03-02	Terminal S3 run speed	0002	(pre-set speed 1 = 50 Hz)
03-03	Terminal S4 reverse speed	0003	(pre-set speed 2= 10 Hz)
03-05	Terminal S6 reset fault command	0017	
05-02	Frequency pre-set speed 1	50Hz	
05-03	Frequency pre-set speed 2	10Hz	
08-13	Over torque detection (When set frequency is reached)	0001	
08-14	Over torque detection (Stop when over torque is detected)	0000	
08-15	Level of torque detection	120%	
08-16	Time of over torque	2.0 sec	
13-05	Operation time - hours	0001	
13-06	Parameter lock on- all	0003	

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