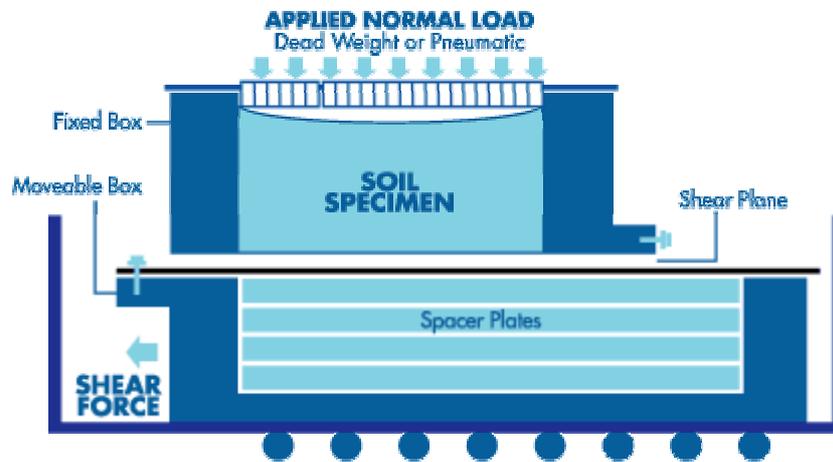
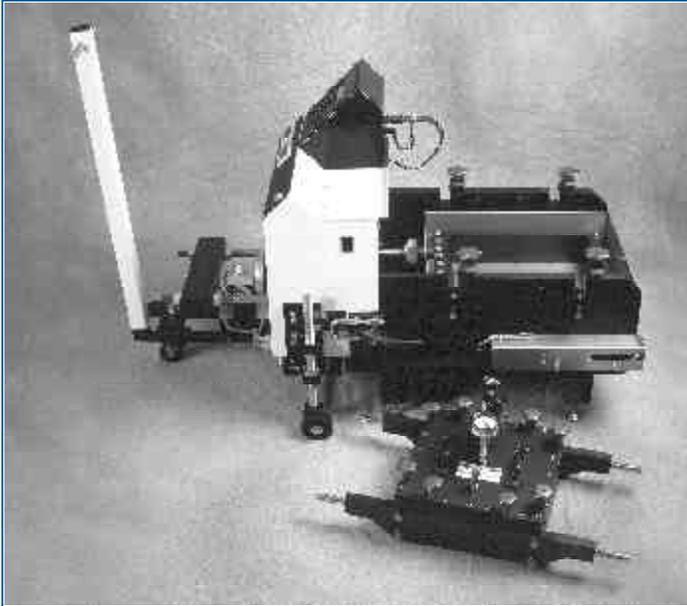


# 12 inch Shear Box





Large Scale Direct Shear Box,

## Direct Shear Box

This Model provides a 12 x 12 in (30.5 x 30.5 cm) shear zone for determining the interface frictional characteristics of individual geotextile components or remolded soil interacting with a geotextile. The current direct Shear Box,

- ❖ A break-away box and drive system for enhanced efficiency.
- ❖ A stainless steel tank for submerged sample testing to emulate field conditions.
- ❖ The normal load is applied with a flexible bladder or optional air or hydraulic cylinder attached to a rigid platen.
- ❖ A DC motor control system for precise speed control of applied shear force.
- ❖ Linear bearings keep horizontal movement friction to a minimum.
- ❖ Digital readouts with RS 485/232 output for measuring load, displacement, settlement and pressure.
- ❖ Pressure Transducer provided with a quick connect allows use with both a normal and fixed platen.

The Impact Large Scale Direct Shear Box has the ability to apply and monitor a wide range of normal and shear loads to provide the data needed for commercial design, research and quality control. The use of a detachable drive system allows a single drive unit to be used with several shear boxes. This efficient use of the drive unit is significant in test situations where soil saturation or sample set-up is a major time factor.

The system comprises two modules. The drive unit is mounted on a movable, wheeled frame with a handle. The shear box comprises a removable upper half and a lower half which is provided with four legs and is stationary. The frictional resistance between geotextiles, fine grain soils or any combination of soil and geotextiles may be measured. The tests may be conducted in saturated conditions as the test module box can be filled with water. This enables true simulation of the site conditions. The geosynthetic fabric is sandwiched between the two sample box halves, normal and shear forces are applied to determine the point of failure.

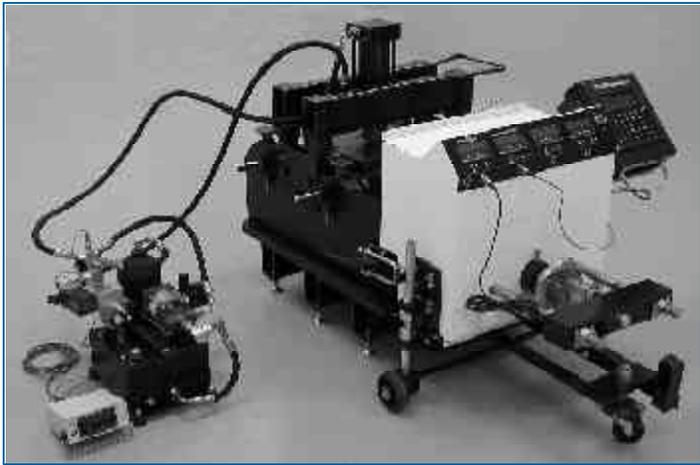
Vertical loading is applied to the sample with a precision regulator and flexible, compressed air filled, diaphragm, fitted to the upper box. Alternatively, the shear box can be supplied with an optional rigid platen system. The horizontal load is regulated by the DC servo motor control system.

Data is displayed on four digital readouts with down load capabilities. Power direction and speed controls, along with warning indicators protect the system from over-travel.

The is made from high quality materials for reliability and ease of operation. It may be upgraded if there is future need for the application of higher loads. Major components are black, hard-coat, anodized aluminum or steel, zinc plated.



Close up of High Load Interface Shear Box,

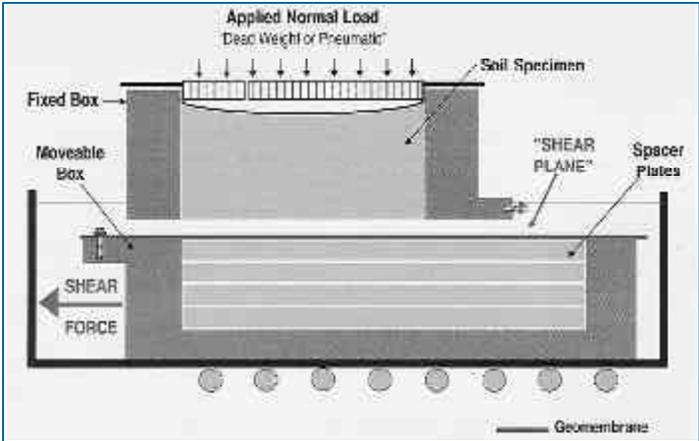


High Load Interface Shear Box,

These readouts require software for serial port data collection. The software package is designed to be used in conjunction with the digital readout. The software will organize the data into ASCII format.

Specifications Table for the Large Scale Direct Shear Box	
Sample Box Size	Upper: 12 x 12 x 4 in (30.5 x 30.5 x 10.2 cm) Lower: 12 x 16 x 4 in (30.5 x 40.5 x 10.2 cm)
Shear Plane Gap:	Adjustable up to 3/8 in (9.5 mm)
Shear Load	Up to 10,000 lbs (45 kN)
Vertical Load:	Up to 14,400 lbf @ 100 psi (690 kPa) air pressure
Load Cell:	0 - 10,000 lbf (0 - 45 kN) - Standard
Maximum Travel:	4 in (10.2 cm) - Horizontal
Speed Range:	0.2 - 0.001 in/minute (5 - 0.025 mm/minute)
Power:	110 V, 60 Hz 5 amp
Factory Calibration:	Calibration certificates provided for displacement and load cells

Ordering Information Table		
LG-116	Large Scale Direct Shear Box complete comprises modules LG-117 and LG-11225, 110 V, 60 Hz	700 lb
LG-11610	As above for 220 V, 50 Hz	700 lb
<b>Accessories:</b>		
LG-11222	Hydraulic Loaded Platen, 22 Kips (98 kN) Includes: hydraulic cylinder, air operated hydraulic pump w/reservoir, 3000-psi pressure transducer coupled to E-405 digital indicator	
LG-11225	Shear Test Box with Diaphragm Loader	
LG-11220	Rigid Load Platen, 2000 lbf (9kN) max. force at 100 psi, includes: air cyl., displacement transducer mounting hardware and rigid 12 in (30.5 cm) square platen	
E-311	Displacement Transducer, 1 in (2.54 cm) travel (required for LG-11220)	
E-41520A	Serial Acquisition software (DOS based). Will read up to 8 channels of input	
LG-11201	Plastic Spacer Block 12 in x 12 x 1 in	
LG-	Plastic Spacer Block 12 in x 16 x 1 in	
LG-11203	Plastic Spacer Block 12 in x 12 x 1 in with drainage grooves	
LG-11204	Plastic Spacer Block 12 in x 16 x 1 in with drainage grooves	
LG-11409	Aluminum Spacer Block 4 x 4 x 12 in	
<b>Replacement Parts:</b>		
261674	Replacement Bladder for LG-11225	



Large Scale Direct Shear Box - Schematic Geomembrane and Soil

Place a soil specimen in the upper box and determine the interface frictional characteristics of a geotextile or geomembrane and soil.