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## Large Type Direct Shear Testing Machine ZI 3088

Standards: BS 1377-7; ASTM D 6243; EN ISO 12957, IS 2720 part XIII

### Specification:

The test covers the determination of consolidated drained shear strength of a soil material in direct shear. The machines are ideal for determining shear resistance of soil-geosynthetic/ geo membrane by direct shear.



### Loading Unit:

It comprises of a loading unit of normal stress capacity of 5kg/cm (on a 300 mm. Square specimen) for a maximum shear load of 50kn.direct / residual shear test machines are motorized and floor mounted. This machine accepts up to 300 mm square shear box assembly & 150 mm high. The shear box assemblies are designed to contain water that surrounds the specimen. Complete with lever loading fixture, shear box assembly 300 mm. Square, supplied with two porous plates, two solid grid plates, two perforated grid plates, one retaining or base plate and one loading pad complete with shear box housing and ball roller strips. A set of weights to give a normal stress of 5 Kg/cm through a lever system. The shear machines are driven by 1 Hp induction motor of 1440 RPM, 230 v ac single phase. 72 speed range is variable from 10.16 mm/min to 0.0014 mm/min for both direction (forward and reverse). 50 Kn load cell is used for

load measurement. 25 x 0.01 mm sensitivity linear potentiometric transducers are used for vertical and horizontal displacement measurements. Horizontal displacement limits are controlled by limit switches.

### **Display Unit and Controller:**

The digital micro controller unit is used for monitoring horizontal and vertical load and displacement values & load on specimen. All test parameters such as speed, failure condition etc. Can be defined through this interface. The test can be started up and stopped by touch buttons. The controller has two independent control axes, one for horizontal motion and one for vertical motion. The displacement on horizontal motion is measured through external displacement sensor fitted to frame.

The software is capable of monitoring all measured values.

### **User Can Select 3 Different Test Types:**

1. The machine run with the given speed selected by interchanging the gears and selection of the speed to the direction of shear.
2. 3 analog channels for vertical load cell, vertical displacement, horizontal load and (one for each)
3. Data interface RS 232 is provided and software is also provided on extra cost.

### **The Direct Residual Shear Test Machine is Supplied Complete With:**

1. 1 load cell 50 Kn
2. 2 linear potentiometric displacement transducer (25 x 0.01 mm)