

## **DigiShear™ Automated Direct Simple Shear System**

The DigiShear™ Automated Direct Simple Shear Testing System is a computer controlled direct shear device that automates testing. It is a complete system incorporating digital actuators for both vertical and horizontal loading, four channels of 22 bit data acquisition, and all necessary sensors. Testing can be performed under closed loop control of deformation, load, or pressure. Specimens can be loaded and sheared in a variety of modes, including constant rate of deformation, constant rate of loading, or application of a series of step loads. . The DigiShear™ system automates the consolidation as well as the shearing portion of the test. Also, horizontal loading can be cycled during shear to determine residual strength. Accessories are available for performing consolidation testing and direct shear tests.

The DigiShear™ system software is a Windows based true 32 bit program with a user friendly graphical interface. A status panel occupies the left portion of the computer screen. It includes a graphical representation of the apparatus along with LED's and display boxes showing sensor readings. This enables an operator to assess the system status with a quick glance. The operator interacts with the program through tab panels on the right portion of the screen. These panels guide an operator throughout testing with prompts and instruction boxes. However, the system is not restricted to standard testing. A manual option allows independent control of the apparatus for performing non-standard testing. The right side of the screen is also used for viewing plots of real-time data. These enable an operator to make critical decisions concerning the course of testing before it is too late.

### **Specifications:**

- Load capacity           vertical:     2000 pounds  
                                  Horizontal: 1000 pounds
- Speed                     0.000002 to 0.2 in/min
- Horizontal Travel     1 in
- Specimen Rings        2.652 in diameter

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