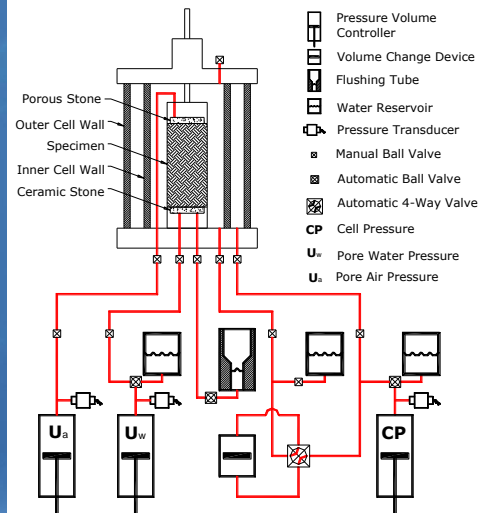


Unsaturated Soil Triaxial Testing System (USTX-2000)



- Fully integrated system with multi-directional automatic valves: volume change & diffused air flushing devices; de-airing tank; & vacuum pump
- Direct control/measurement of pore water pressure (u_w) at top/bottom of the specimen
- Direct control/measurement of pore air pressure (u_a) at the top of the test specimen
- Performs static and dynamic tests:
 - Sat/Unsat Triaxial Shear with stress/strain path
 - Drying/wetting Soil Water Characteristic Curves (SWCC)
 - Hydraulic Conductivity Measurements with suction control
 - Saturated/Unsaturated Consolidation
 - Response to Wetting Test
 - Liquefaction
 - Resilient Modulus
 - Cyclic Strength
- Frequencies up to 5 Hertz with significant amplitudes (larger with electro-hydraulic option)
- Closed-loop digital servo control
- Double cell wall construction for accurate overall volume change measurements
- Easily exchangeable HAEV ceramic stones
- Complete 'turn-key' system

DESCRIPTION

The GCTS Unsaturated Soil Triaxial System is an electro-pneumatic system with closed-loop digital servo control. Electro-hydraulic option is available for performing tests at higher frequencies or amplitudes. This system is developed for performing fully automated static and dynamic triaxial tests on saturated or unsaturated soil specimens. The system includes all the software modules and electrical valves required for automatic testing. The axial loader, cell pressure, pore air pressure, and pore water/back pressure are servo controlled using any system sensor as feedback.

The adoption of double cell walls essentially eliminates the compliance errors associated with single cell when measuring overall; specimen volume changes. This system performs unsaturated soil testing with a degree of automation not presently found in any other commercially available system. This system includes motorized ball valves to automatically recharge the pressure volume controllers; flush air bubbles diffused through the ceramic stone; and reverse the direction of the volume change device that enables infinite volume measurement range as required by the on-going test. This system also includes components such as a de-airing water reservoir and vacuum pump to perform saturated or unsaturated soil triaxial tests.

The system software provides over 20 parameters for real time display and/or control. These parameters include stresses, strains, suction, etc. (see CATS-TRX brochure for a complete list). The Graphical User Interface enables laboratory personnel to conduct more complex, but realistic, testing programs with minimal operator error.

(See brochure for a complete list of specifications)