

Air pressure and volume controller for automatic unsaturated soils triaxial tests



SERVOFLOW

- Automatic control of air pressure for unsaturated soil testing
- Low air consumption
- Measures the total volume change of an unsaturated soil sample in the double-wall triaxial cell
- Up to 1000 kPa air pressure regulation
- Volume change working capacity up to 2000 kPa

AUTOTRIAX2

Servoflow air pressure controller (for unsaturated soil test)

The Servoflow is an electro-pneumatic pressure controller that generates air pressures of up to 1000 kPa for one pressure line. Managed under closed-loop control by the Data acquisition and control unit that it is connected to, it consists of a chassis housing an electronic pressure regulator. The regulator reduces the supply air pressure to a regulated output which is directly proportional to an electrical input signal received from the control unit. In the AUTOTRIAX 2, the Servoflow is used to provide air pressure to the sample for unsaturated soils testing systems, based on the axis translation method.

Automatic Volume Change (for unsaturated test module only)

The device is used for unsaturated soils testing with the double wall triaxial cell to measure the volume change of the soil sample. The design is based on the standard volume change device with integral solenoid valves that allow the flow direction and bypass functions to be controlled by the pressure extension unit - unsaturated. The device has a physical capacity of 100 cc but due to the automatic switching, it can measure volume change continuously. It is powered directly by the

pressure extension unit - unsaturated and has LEDs on the front panel to show the flow status.

Technical specification

Servoflow air pressure controller

Output pressure: 1000 kPa
Pressure resolution: 0.1 kPa
Pressure accuracy: 0.1% of full scale
Closed-loop control of pressure: regulated to 0.1 kPa
Dimensions: W225 x D210 x H140 mm
Weight: 5kg
Power supply: 110-240 V, 50/60 Hz, 1ph

Automatic volume change

Capacity: 100 cc
Accuracy: 0.1 cc
Maximum operating pressure: 2000 kPa
Dimensions: W280 x H400 x D260 mm
Weight: 9 kg
Power supply: 24V DC direct from the pressure expansion unit (unsaturated)

Ordering information

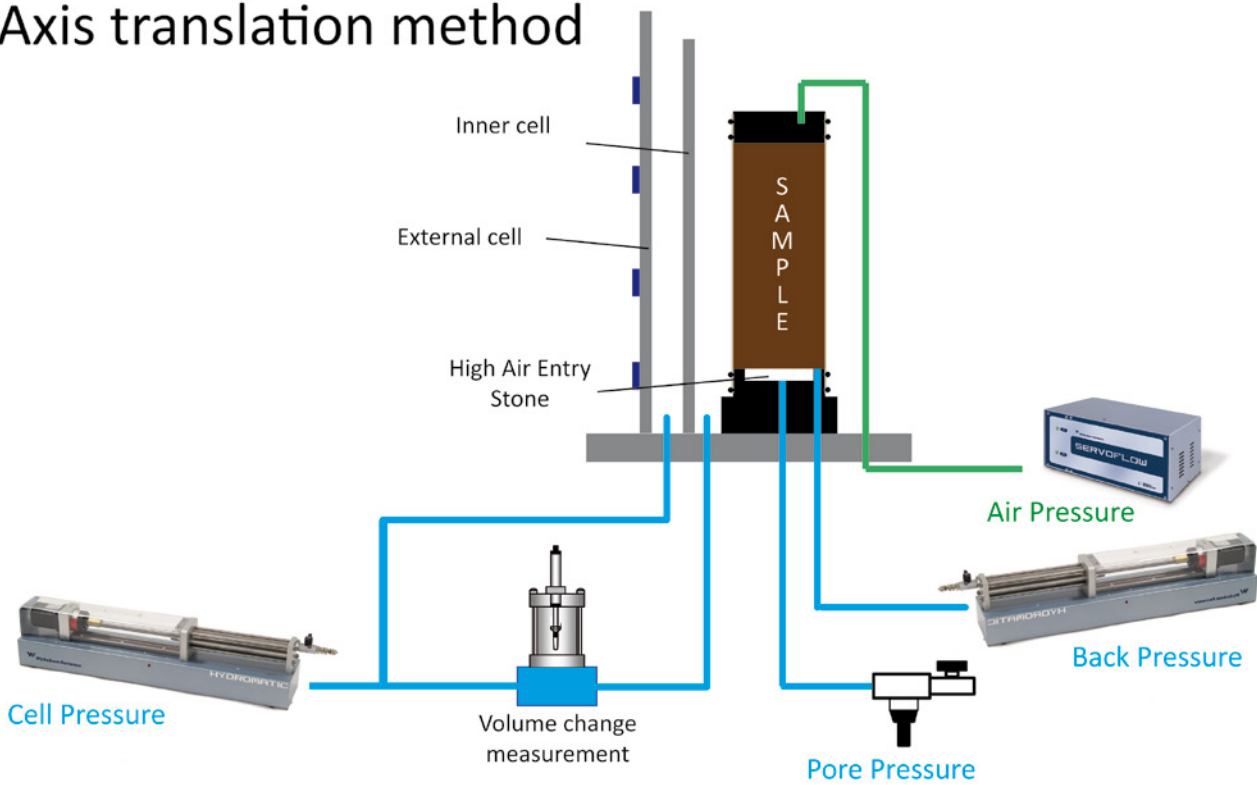
29-WF4511

SERVOFLOW air pressure controller

29-WF4412

Automatic Volume Change apparatus measuring the volume change of an unsaturated soil sample in the double wall triaxial cell.

Axis translation method



Layout of Unsaturated configuration using a axis translation method



Automatic Volume Change for unsaturated test



Automatic triaxial system to perform Unsaturated tests

