Your supplier of high pressure laboratory instruments

BDC-SERIES BALANCED DEVIATORIC TRIAXIAL CELL

Description

The BDC-series balanced ram deviatoric triaxial cells are purpose-built for conducting rock triaxial tests without the need for an external load frame to deliver axial forces. The cell comes equipped with an integrated hydraulic deviator chamber that administers the axial load directly onto the rock sample. A unique feature of this cell is its self-adjusting axial load ram, which neutralizes the upward thrust generated by the internal cell pressure. This design not only eliminates the need for the external load frame to bear the cell's pressure load but also minimizes the capacity requirements of such a frame to achieve equivalent deviatoric stress. Within the cell, the rock specimen is encased in a Teflon sleeve and sandwiched between hardened steel end caps. This assembly is then submerged in pressurized oil to provide confinement. The cell base incorporates built-in electrical connectors, facilitating the integration of internal monitoring devices. Fluid ports on both the upper and lower platens for pore pressure testing are a standard feature of the cell's design. Various platen diameters are available to accommodate custom sample geometries, and a heating system can be added upon request.

Specifications

Maximum cell pressure	70 / 140 MPa
Maximum axial load	Model 1: 1,000 kN Model 2: 2,500 kN
Temperature	up to 150°C (300F)
Specimen diameter	Model 1: up to 54.7 mm (NX) Model 2: up to 100 mm
Specimen length	twice the diameter
Pore ports	1/8 inch
Confining ports	1/4 inch
Sleeve material	Teflon
Wetted part material:	Stainless steel

(The specifications can be modified upon request)

Benefits

Built-in deviatoric chamber, no external load frame required

Self-compensated ram allowing zero ram up thrust

Confining pressure changes have no influence on the axial loading

Models available for different specimen sizes