

Cross Diameter Measurements (CDM)



- Ideal for investigating anisotropic behavior, hydraulic fracturing, proppant testing, etc.
- Three-Dimensional measurements (Axial and Diametral Measurements at two orthogonal directions)
- Accommodates a large range of specimen diameters from 25 mm (1.0 inch) and up to 100 mm (4 inch)
- Can be used inside a GCTS triaxial cell at high confining pressures up to 210 MPa (30,000 psi) and up to 200 °C
- Options for Axial and Radial strains, P and S Wave Velocities, Acoustic Emissions, Permeability, Resistivity and mid plane pore pressure measurements
- Sturdy construction to prevent device damage
- Easy setup

Simultaneous Measurements Under In-Situ Conditions:

- ✓ Axial and Radial Strains
with:
- ✓ Ultrasonic Velocity
- ✓ Acoustic Emissions
- ✓ Permeability
- ✓ Resistivity
- ✓ Mid-Plane Pore Pressure

DESCRIPTION

The GCTS CDM fixture is designed to measure various parameters across a triaxial cylindrical specimen. It is based on a special membrane that is capable of withstanding pressures up to 210 MPa (30,000 psi) and temperatures up to 200 °C. These membranes incorporate 4 lateral ports located at the mid specimen height of each circumference quadrant. Together with our instrumented top and bottom caps it is possible to obtain three dimensional measurements.

GCTS offers a variety of sensors that can be used together with the GCTS DEF-CAN Diametral Deformation device to obtain different physical properties simultaneously. This setup can also accommodate axial sensors (ultrasonic, Acoustic Emissions, Axial Strain, etc.) to perform simultaneous measurements in three-dimensional space. These sensors are simply inserted into the membrane sleeves located at mid height. Sensors are typically provided in pairs allowing the combination of different type of sensors.

Membranes with mid-plane orthogonal ports can be provided for triaxial specimens with diameters from 25 mm through 100 mm. GCTS can also provide different port configurations. Please consult the factory for specific configurations and sensor ranges.