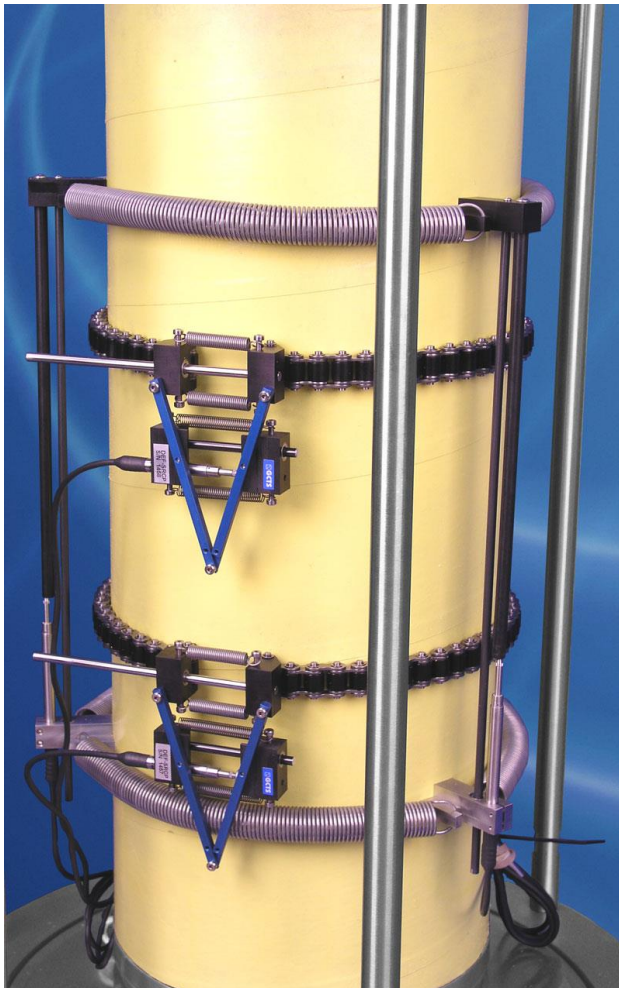


Large-Scale Deformation Device (DEF-S1600)



- Measures average axial and radial Strains on 300 mm diameter specimens
- Waterproof to 2,000 kPa
- Available devices for cylindrical specimens with diameters from 200 mm to more than 1,000 mm
- Can be used for testing soils, asphalt, concrete and other materials
- User configurable

DESCRIPTION

The DEF-S1600 deformation device is composed of two, three, or four DEF-S1610 Axial Deformation Gages and one or two DEF-SRCP-600 circumferential deformation gages.

Each DEF-S1610 includes one LVDT holder with a 150 mm radius, one rod extension holder with the same radius, and one rod extension for measuring the axial strains. This device measures the axial strains within the middle half of the specimen height (from the upper 1/4 to the lower 1/4 of the specimen height) away from the platen end

effects. Holders are attached to the specimen using tension springs. The two holders are guided by a precision bearing and light shaft to maintain parallelism, eliminating block rotation errors.

Different size extension rods can be purchased from GCTS to measure axial deformation over different gage lengths.

Several DEF-S1610 devices can be installed in one specimen to measure the average axial deformation. A minimum of two DEF-S1610 located at 180 degrees from each other should be used. Using more than 4 such device will become impractical.

The GCTS DEF-SRCP-600 is a device for measuring the circumferential change in a cylindrical specimen inside the triaxial cell. Radial strain can then be calculated from the circumferential deformation.

The standard DEF-SRCP-600 device includes a 10 mm (0.4 inch) range water-submersible LVDT. This LVDT can be positioned in three different locations to provide three different deformation ranges using the same LVDT. The smallest range with the best resolution is achieved by mounting the LVDT holder and target holder right on the chain end blocks. In the same way, the largest range can be achieved by setting the LVDT and target holders at the bottom of the "V" arms. These 3 different mechanical ranges translate roughly to 10%, 2.5% and 1% radial strain ranges on a 300-mm diameter specimen.

SPECIFICATIONS

DEF-S1610

Range 25 mm
Excitation 5 Volt RMS @ 3 kHz AC
Output (typ) 80 mV/mm
Repeatability 1.0 micron *

DEF-SRCP-600

Range 1 100 mm
Range 2 25 mm
Range 3 10 mm
Excitation 5 Volt RMS @ 3 kHz AC
Output (typ) 80 mV/mm
Repeatability 1.0 micron *

*Note: The repeatability specification is for the LVDT sensor only. The absolute repeatability depends on system mechanics.

Other ranges and outputs available. Consult factory for specifications.