

79 GDS Helpsheet



World Leaders in Computer Controlled Testing
Systems for Geotechnical Engineers and Geologists

Hardware

Motorised Cell

Overview

1. Introduction

The GDS motorised stress path cell (GDSMC) is an advanced cell with a 7kN load capacity for test specimen diameters of 38 and 50mm. The Cell uses a direct screw drive to actuate the base pedestal through the bottom of the cell. In addition, the GDS cell has the top and base of the cell rigidly connected together by *internal* tie rods. The cell chamber can be easily raised and lowered over the test specimen with the help of a counter-weight.

The drive of the cell is interchangeable with the drive of the Standard 3MPa/200cc pressure/volume controller. By simply unscrewing the motor lead of the pressure controller and screwing in the motor lead of the GDSMC the pressure controller becomes the axial force/displacement controller for the GDSMC. There is also an optional control unit for use with the cell which allows the cell to be controlled manually or by using the computer interface (both RS232 and IEEE versions are available). This cell can be used in both the advanced and standard GDS triaxial testing systems.

By connecting the cell top and base together by rigid tie rods it allows the user to set up the test specimen with accurate alignment before the pressure chamber is lowered over the test specimen. The photograph above shows the cell with the pressure chamber in the raised position.

The cell has a pressure inlet manifold to allow for two base pedestal connections and two top drain connections - each with its own valve. An interchangeable internal submersible load cell and a +/-20mm displacement transducer are built into the cell. There is also a 1700 kPa pressure release valve connected to the cell pressure inlet to protect the cell chamber from over pressure. The cell has been designed to accept the advanced transducers for local strain measurement (two axial transducers and one radial transducer) and mid plane pore pressure measurement.