

1 GDS Helpsheet



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

Hardware

Bishop & Wesley Cell

Installation of Pressure Transducer Yoke

1. Introduction

The GDS 38mm triaxial cell can be modified to enable a pore pressure transducer to be plumbed directly to the base pedestal via an attachment called the "pressure transducer yoke" or more simply the "yoke". This yoke is supplied with the GDS digital pressure interface.

2. Fitting the Yoke

As the name suggests, the yoke is a fitting that clamps around a circular part of the cell. The yoke comprises two parts held together by a pair of countersunk cap-headed retaining screws such that a circular aperture through the assembly is formed.

The yoke is fitted to the circular turret joining the lower chamber to the cell proper.

The yoke is first dismantled into its two parts and then offered up to the turret such that the GDS logo is facing towards you and is directly above the pair of valves attached to the cell base plate. You will note that the sides of the yoke clear the so-called "strain rods" that extend up from the lower cross arm to the top of the cell. The yoke is now reassembled.

Before tightening the pair of retaining screws, position the yoke about one third the way up the turret.

3. Plumbing the Pore Water Connections

On each side of the yoke is a male stud connector. Fix the short length of flexible "saran" tube supplied to one of them. Below this connection is one of a pair of valves attached to the base plate of the cell. A similar saran tube is connected to this valve. Undo the nut holding this tube to the connector just above the valve. In its place, connect the saran tube from the yoke. Connect the now free tube to the other side of the yoke.

4 Connecting the Pressure Transducer

Apply to the threads of the transducer a small amount of the Loctite hydraulic sealant 542 provided. Screw the pressure transducer into the underside of the yoke. Ask a colleague to help you by holding the digital pressure interface and turning it so that the transducer lead does not get twisted.

Flush deaerated water through the ducting by attaching a GDS digital controller to the pair of valves on the base plate and observing water flowing out of the holes in the base pedestal. Don't forget to use the air release valve on the yoke at this time to ensure complete deairing of the assembly.

Under no circumstances attempt to deair the inside of the transducer by inserting any kind of device as this will almost certainly cause damage to the transducer diaphragm. Provided you use appropriate back pressures, the small amount of air in the transducer will compress and pass into solution.