

76 GDS Helpsheet



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

Hardware

Bishop & Wesley Cell

Max Force and Pressure

1. Introduction

The Bellofram Rolling Diaphragm (BRD) fitted to the B&W 38/50mm cell has a maximum working pressure of 345psi and an effective area of 4.54 sq.inches. This Bellofram Inc specification translates into SI units as 2400kPa giving a maximum deviator force of 7kN. Assuming a maximum lower chamber pressure of 2400kPa, a useful table of approximate figures would be as follows:

Cell pressure*	max deviator force	Max q (38mm)	Max q (50mm)
0kPa	7kN	7000kPa	3500kPa
250kPa	6.3kN	6300kPa	3100kPa
500kPa	5.5kN	5500kPa	2800kPa
800kPa	4.7kN	4700kPa	2300kPa
1000kPa	4.1kN	4100kPa	2000kPa

*Note the cell pressure reduces the effective lower chamber pressure by the amount of cell pressure because the cell and lower chamber BRDs are matched in area.