



Ring Shear Apparatus (GDSRSA)

Overview: The GDSRSA is a modern, compact, desktop, ring shear system, that allows fully automated testing. The GDSRSA allows torsional ring shear tests, under drained conditions by the rotational shearing action applied continuously by an electromechanical stepper motor until a constant residual shear stress is achieved. During testing there is no change in the specimen cross-sectional area of the shear plane. The GDS ring shear applies a consolidation stress with the use of a GDS force actuator, this is controlled and recorded with the use of a PC (USB connected) and an external load cell that measures the axial & shear stress directly applied to the specimen.

Key Features:

Benefits to the User:

Compact size and weight:	The benchtop system has small footprint (51 x 32cm) and low weight (30kg) making it easily manoeuvrable.
Fully contained system:	The GDS Ring shear has no extra requirements for a data acquisition device, large weights, extra external dial gauges or load rings, all required connections and equipment is housed directly in the machine.
External Local LVDT:	With a closed loop external LVDT recording axial displacement, compliance within the system is removed allowing for more accurate testing.
Active height control allows for constant volume ring shear tests to be performed:	Determination of liquefied shear strength, a test which requires significant shear strain and height control (constant volume), so ideal in the GDS GDSRSA.
Interchangeable pedestals & topcaps:	Allows one machine to test a variety of specimen sizes (if required). The pedestal and topcaps are secured within the frame using locking clamps.
Axial Displacement connect via DigiRFM:	Closed loop for axial displacement increase response when using displacement/strain targeting.
Lower section drainage for specimen:	Allows drainage of specimen during testing.
Randomised disk pattern:	Reduces specimen ruffling.
2 x USB cables for PC control:	Allows user friendly method of connecting to any modern PC.

Tests that can be Performed: Torsional ring shear tests.

Upgrade Options: Upgradeable to GDSIST (Interface Shear Tester) and Consolidation Testing

Technical Specification:

Sample sizes:	100mm OD x 70mm ID (Other sizes available upon request)
Resolution:	Load 1N, Displacement 1 Micron, angle of rotation 0.01 deg, Torque 0.01Nm
Max speed:	(Rotation) 2.25 °/S (135°/min)
Max Torque:	200Nm
Max Axial Load:	5kN
Maximum stress:	Vertical: 1200kPa, Shear: 1100kPa
External LVDT range:	+/-5mm
Dimensions (WxDxH) & Weight:	51 x 32 x 116cm - 30kg
Standards:	ASTM-D7608-10, ASTM-D6467-13, BS1377, part 7 1990.
Power Requirements:	100-240V 50/60Hz 1.5A single phase

Why Buy GDS?

GDS have supplied equipment to over 86% of the world's top 50 Universities:

GDS have supplied equipment to over 86% of the world's top 50 Universities who specialise in Civil & Structural Engineering, according to the "QS World University Ranking 2020" report.

GDS also work with many commercial laboratories including BGC Canada, Fugro, GEO, Geolabs, Geoteko, Golder Associates, Inpijn Blokpoel, Klohn Crippen, MEG Consulting, Multiconsult, Statens Vegvesen, NGI, Ramboll, Russell Geotechnical Innovations Ltd, SA Geolabs, SGS, Wiertsema and Partners to name a few.

**TOP
50**

Would you recommend GDS equipment to your colleague, friend or associate?

100% of our customers answered "YES"

Results from our post-delivery survey asked customers for feedback on their delivery, installation (if applicable), supporting documentation, apparatus and overall satisfaction with GDS. The survey ran for two years.



Made in the UK:

All GDS products are designed, manufactured and assembled in the UK at our offices in Hook. All products are quality assured before they are dispatched.

GDS are an ISO9001:2015 accredited company. The scope of this certificate applies to the approved quality administration systems relating to the "Manufacture of Laboratory and Field Testing Equipment".

**40 YEARS OF
BRITISH
INNOVATION**



Extended Warranties:

All GDS apparatus are covered by a 12 month manufacturers warranty. In addition to the standard warranty, GDS offer comprehensive extended warranties for 12, 24 and 36 months, for peace of mind against any repairs in the future. The extended warranties can be purchased at any time during the first 12 months of ownership.



GDS Training & Installation:

All installations & training are carried out by qualified engineers. A GDS engineer is assigned to each order throughout the sales process. They will quality assure the apparatus prior to shipping, if installation has been purchased, install the apparatus on the customers site & provide the training.



Technical Support:

GDS understand the need for ongoing after sales support, so much so that they have their own dedicated customer support centre. Alongside their support centre GDS use a variety of additional support methods including remote PC support, product helpsheets, video tutorials, email and telephone support.

