

City, University of London's Geotechnical Centrifuge Facility

Director:

Manager:

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Website: <https://researchcentres.city.ac.uk/sustainable-and-resilient-civil-engineering/multi-scale-geotechnical-engineering>

Owner: Department of Engineering, School of Science and Technology, City, University of London

Location: London, UK

Introduction – Beam Centrifuge

A purpose-built laboratory houses the recently refurbished Acutronic 661, 40 g-tonne, geotechnical centrifuge with state-of-the-art instrumentation, image capture, and hydraulic and electrical slip rings. The centrifuge facility is operated by a highly experienced team of researchers and models can incorporate actuators, motors and syringe pumps to carefully simulate geotechnical events in flight. The laboratory includes space for model preparation, including consolidation presses to create clay soil beds for testing and additional loading frames for 1g testing. There is an element testing laboratory containing automated stress path triaxial apparatus, shear box apparatus, a Bishop ring shear apparatus and a high pressure triaxial cell. This facility also provides space for classification tests and a range of customised tests investigating soil slurries, bentonite and the effect of adding polymer.



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Key Technical Specifications

Beam Centrifuge	
Manufacturer	Acutronic 661
Year established	1989
Radius to base of soil container	1.8 m
Capacity	40g-tons (max G-level: 200g)
Bucket area	720mm(L)×520mm(W)
Major equipment	System to measure three-dimensional movements in physical models. Close-range photogrammetric techniques. 2-axis motor control 64 channel logging Fluid control systems



City – refurbished geotechnical beam centrifuge facility