

DYNAMIC SIMPLE SHEAR APPARATUS - DSSA

Dames Moore (Dames & Moore, London)



SYSTEM OVERVIEW

Sample size

Two cylindrical samples, 61 mm diameter, 13 to 18 mm compacted height

Soil Types

Measurement of dynamic properties - any soil type can be tested. The upper limit on grain size is determined by the sample dimensions and should not exceed 1 mm.

Shear Strain range

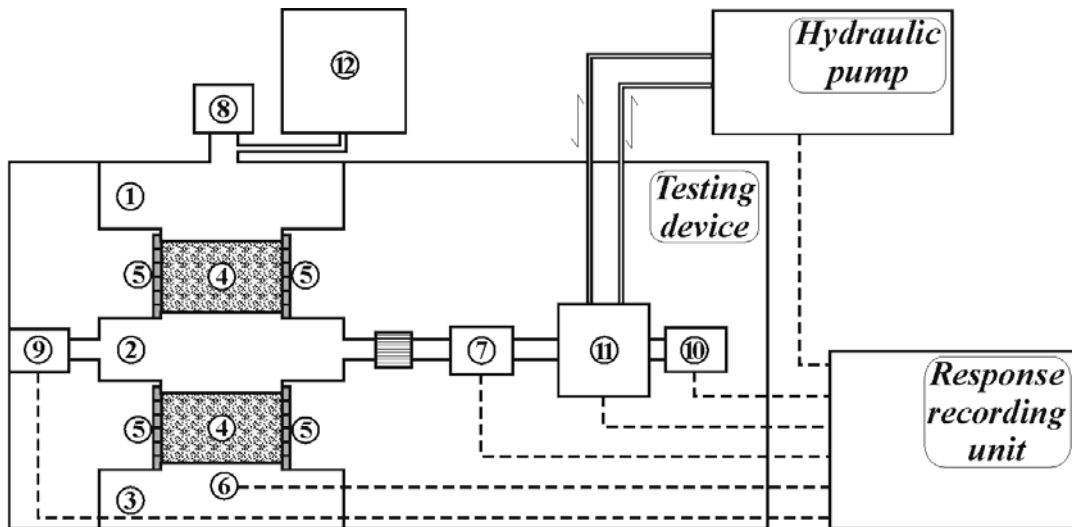
Full scale range 1.27 mm with nominal resolution of 1 part in 10^4 . For sample height of 12.7 mm this corresponds to a maximum shear strain of $\gamma=10^{-1}$ absolute and resolution of $\gamma=10^{-5}$.

Shear stress range

For standard sample diameter, peak shear stress is 762 kPa. The nominal resolution is again 1 part in 10^4 .

Vertical load

Maximum sample normal stress is 1.52 MPa. To avoid damage to the transducers applied pressure must not exceed 827 kPa.



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|---|---|
| ① Upper loading slab | ⑧ Vertical displacement meter |
| ② Middle loading slab for dynamic shear | ⑨ Direct horizontal displacement meter (LVDT) |
| ③ Lower loading slab | ⑩ Indirect horizontal displacement meter (LVDT) |
| ④ Soil model | ⑪ Servo valve |
| ⑤ Steel rings | ⑫ Pneumatic pressure |
| ⑥ Normal stress meter (LC) | |
| ⑦ Tangential stress meter (LC) | |