CONSOLIDATION

BE 13

Clay soils, which are common in many regions, can pose significant challenges for construction due to a process called **consolidation**. This occurs when the soil's volume decreases over time as water is squeezed out of the tiny voids (pores) between soil particles under the weight of a structure, like a building or road. The process is gradual and time-dependent, often taking weeks, months, or even years to fully develop. If not accounted for in design, consolidation can lead to uneven settling of the ground, causing cracks in walls, floors, and foundations, or even structural failures. For example, buildings on thick clay layers may tilt or develop wide fissures if the soil compresses more on one side than the other.

Engineers use lab tests to predict and mitigate these issues. The key tool is the **one-dimensional consolidation test** (also known as the odometer test), performed on undisturbed soil samples from the site. This test simulates how the soil will behave under sustained loads, helping calculate expected settlement (how much the ground will sink) for safe foundation design. By understanding the soil's "history"—like whether it's been previously loaded by natural deposits—engineers can estimate both the total amount of settlement and how quickly it will happen.

The outfit is also available as Single gang, Three-gang or Six-gang in which three /
Six consolidometers are mounted on a single frame. The consolidation May be measured by the conventional dial gauges or using the LVDT to Digital Display.

BE 13-01-A & 13-02-A

STANDARD FOLLOWING

IS 2720 (Part 15), IS 12287, BS 1377, ASTM D2435

DESCRIPTION

BE 13-01-A/B	Consolidation Cell Assembly Manual/Digital	Single gang
BE 13-02-A/B	Consolidation Cell Assembly Manual/Digital	3 gang Assembly
BE 13-03-A/B	Consolidation Cell Assembly Manual/Digital	6 gang Assembly
BE 13-04	Fixed ring with Guide ring	Single, Three and Six Assembly Set
BE 13-05	Top Porous stone	Single, Three and Six Assembly
BE 13-06	Bottom Porous stone	Single, Three and Six Assembly
BE 13-07	Channeled base with water inlet	Single, Three and Six Assembly
BE 13-08	Gasket	Single, Three and Six Assembly
BE 13-09	Water Jacket	Single, Three and Six Assembly
BE 13-10	Set of weights: 7 x 0.05 kg/cm² 5 x 0.1 kg/cm², 6 x 0.2 kg/cm², 6 x 0.5 kg/cm², 5 x 1.0 kg/cm²	Single, Three and six assembly
BE 13-11	Water Reservoir with plastic tube, T - connection and a pinch cock	Single, Three and Six Assembly
BE 13-12	Dial Gauge, 5 mm travel, 0.002 mm least count	Single, Three and Six Assembly
BE 13-13	Digital Display	Single,Three,Six Channel
BE 13-14	Displacement sensor, 0-10 mm complete with 3 m long cable (side entry) mounting bracket	Single – 1 Nos Three – 3 Nos Six – 6 Nos
BE 13-15	Software	Single, Three or Six Channel Need One Software all of us

NOTE:- A & B Means A Series Model no. like this Manual & B Series Model no. Digital. Single gang, Three gang and Six gang equipment manual or digital frame are same only minor differences like this Dial gauge,LVDT and Digital display with Software as per order.

MOULD ASSEMBLAY

BE 13-02-B

BE 13-01-A

STANDARD FOLLOWING

IS 2720 (Part 17), IS 11209