



SAKARYA
ÜNİVERSİTESİ

**Sakarya University Engineering Faculty Department of Civil
Construction Materials Laboratory Device Catalogue**



SAKARYA
ÜNİVERSİTESİ

Construction Materials Laboratory

Laboratory Supervisor: Prof. Dr. Kemalettin YILMAZ

AUTOMATIC CEMENT MIXER

Device Information

The device aim is to provide a homogeneous mixture of cement. The device can be operated manually and automatically. The device has two cycles. The shaft speed can be selected as 62 and 125 rpm on its axis, and the mixing paddle speed as 140 and 285 rpm. There is 5 litre capacity mixing bowl, mixing palette and automatic sand discharge device.

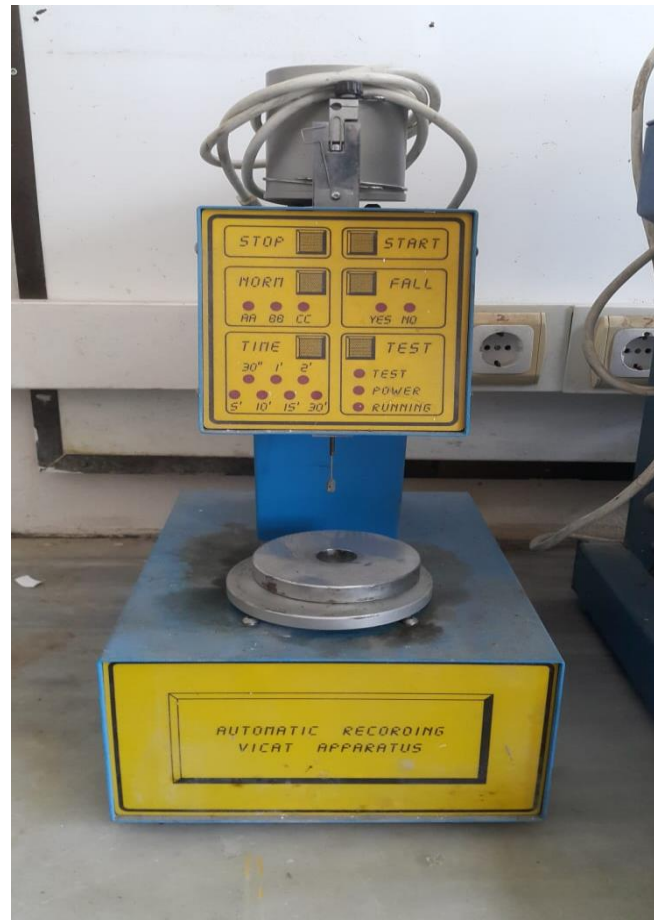


Device Technical Specifications:

Power Supply	<ul style="list-style-type: none">• 220 V 50-60 Hz
Device Specifications	<ul style="list-style-type: none">• Weight: 56 kg• Dimension: 30x55x61 cm

VİCAT TEST DEVICE

The time at which cement starts hardens and completely loses its plasticity is called Initial setting time of cement. This time is determined by experiment with a vicat test device. The time elapsed between the initial contact of cement and water and the time when a vicat needle gives a reading between 3-5 mm from the bottom is known as initial setting time of that cement paste. The final setting time is the time elapsed between the moment water is added to the cement and the time when the paste has completely lost its plasticity and has attained enough firmness to resist certain definite pressure. Final setting time is that time period between the time water is added to cement and the time at which 1 mm needle makes an impression on the paste in the mould but 5 mm needle does not make any impression. Vicat apparatus is supplied complete with piston, initial setting needle and vicat mold.



Technical Specifications:

- It is a device which is used for the determination of cement setting start - finish time and consistency of cement in accordance with EN - 196 standard.
- It works with a fixed movable arm in the lower part. It is suitable for connecting different types of ends. (Starting needle, End needle, Probe)
- If required, additional weight is placed on top. Zero adjustment is done by adjustable ruler and used manually.

CONCRETE PRESSURE TEST DEVICE

Device Information

The experiment runs automatically by the computer installed concrete test programme, programme adjusts the loading speed and the experiment stops automatically at the end of the test. Test results and graphic outputs are obtained from the test program. This machine can be used manually if desired.



Device Technical Specifications:

2500 kN Loading Capacity

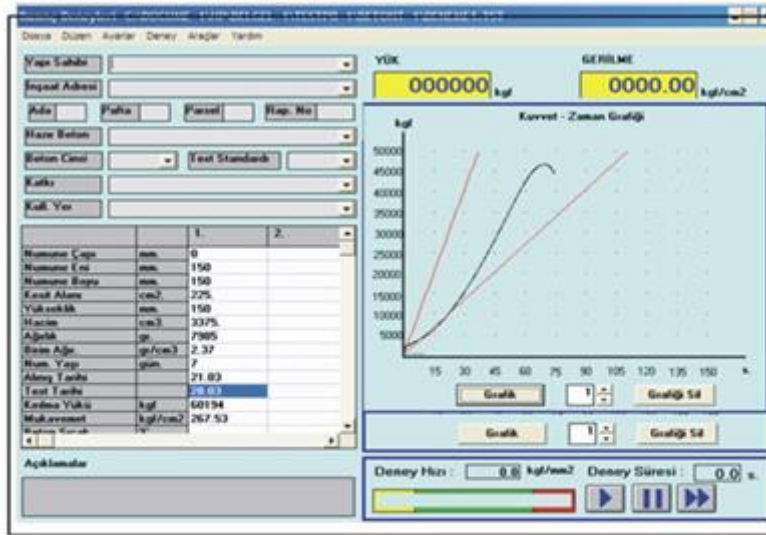
LCD Display and multifunctional digital indicator

Experiment distance Maximum: 340 mm

Pressure test can be performed on 150 mm and 200 mm cube samples.

Pressure testing can be done on concrete cylinder samples and coring samples from 100 mm diameter to 160 mm diameter and 320 mm height.

Data Reading Scene



Pressure Test Programme

Power Supply	<ul style="list-style-type: none"> • 220V 50Hz. 1.1kW 1.5Hp 6A
Measurement Precision	<ul style="list-style-type: none"> • \pm % 1-10 Kgf (0.1 kN) measurement (Experiment tracking in Kgf / sec or kN / sec)
Device Specifications	<ul style="list-style-type: none"> • Weight; 1165 kg • Dimension: 110x60x110 cm

CONCRETE FLEXURAL TEST DEVICE

Device Information

Computer controlled fully automatic beam bending device has high mechanical strength and can be used continuously. The press starts the test at the push of a button by means of a closed-circuit hydraulic pump (the gap between the load cell and the sample closes rapidly) and automatically switches to breaking speed after the sample has been pre-stretched. The system keeps the peak value (peak) simultaneously with the breakage of the sample and automatically cuts the hydraulic pressure to the piston. Afterwards, it automatically empties the press.

Flexural test device for centre-point or two-point (third-point- ASTM) loading flexural tests on concrete specimens of 100x100x400- 500 mm, 150x150x600-750 mm. (Standards; EN 12390-5; ASTM C78, ASTM C293; BS 1881:1183-4)

