



## Hydraulic Settlement Cell

The Hydraulic Settlement Cell allows to follow-up the settlements and swellings occurring in soils, dams, structures or earth and rock fill dams.

The system can make high sensitive measurements with liquid-filled tubes and sensors connected to a reservoir in an enclosure box resistant to harsh weather conditions.



## Working Principle

The settlement plate with two liquid-filled tubes and the pressure sensor, which was previously mounted so that it would not move, and whose air was completely removed, is placed at the point where the settlement is desired to be monitored. The plate should be placed on as flat a surface as possible. The reservoir, to which the two liquid-filled tubes are connected, is placed on a stable ground together with the storage box, in such a way that it is not affected by sitting and its altitude does not change. The sensor measures the hydraulic height of the fluid between the sensor and reservoir positions. Within using additional sensor that measures atmospheric pressure changes and temperature changes placed in the enclosure box, the correlation between the values taken from the reading plate and the atmospheric changes can be observed.

## Features

Reliable, accurate and easy to read.

Pressure measurement which is not affected by atmospheric pressure changes.

The reservoir and tubes are shipped to the field pre-filled with liquid and the system is very easy to install in the field.

It has been tested prior to field installation and signal output ranges have been tested on a per device basis.

## Application

Settlement and swelling monitoring of embankments and Embankment Dams.

Monitoring of subsidence and settlement during mining and tunneling activities.

Monitoring of settlement in sea fills.

Monitoring of consolidation under storage tanks

## Technical Specifications

Measurement Range	3.5 m – Customizable (Difference between height of reservoir and plate)
Sample Frequency	Customizable
Working Temperature	-25 °C ~ 50 °C
Supply Voltage	5 V
Sensitivity	0.5 mm
Enclosure Box Material Class	IP65
Veri Toplama	SD Card for long-term reading and possibility of reading on the screen
Accuracy	± 0.1% F.S. (Ratio of full-scale capacity)
Dimensions	40 cm x 30 cm x 20 cm

