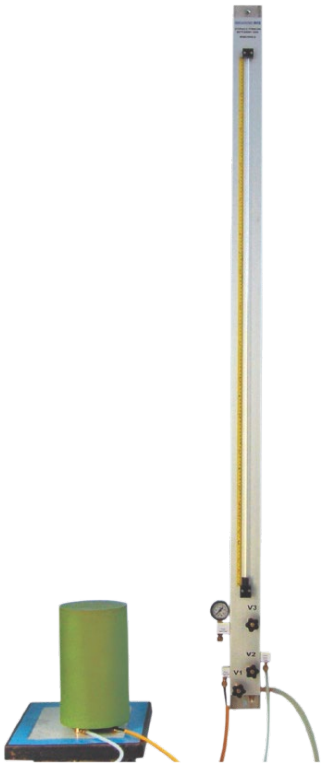
DATASHEET

HYDRAULIC OVERFLOW SETTLEMENT GAGE

MODEL EHOS-35



INTRODUCTION

The model EHOS-35 hydraulic overflow settlement system is suitable for measurement of settlement or heave in an embankment of a dam or in fills where the settlement cell (sensor) and terminal structure or observation room can be nearly at same elevation.

FEATURES

- Reliable, accurate and simple to read.
- Suitable for remote reading of settlement.
- Measurement possible for inaccessible locations.
- Overall accuracy ± 2 mm to ± 5 mm.
- Reading unaffected by temperature variation.

APPLICATION

- Settlement or heave in embankments, embankment foundations & earth dams.
- Settlement under building foundation and tanks.
- Settlement under bridge piers, abutments and retaining walls and due to tunneling and mining.

DESCRIPTION

The hydraulic overflow settlement gage basically consists of the following:

- Settlement cell with connections to overflow, air vent and drain tubes.
- Polythene sheathed twin nylon tubing - one for overflow and the other for air vent.
- Nylon tube for draining overflow water. This tube is of a larger diameter than the overflow or air vent tubes.
- Level indicator consisting of an aluminum extruded channel on which are mounted a glass tube with an adjacent graduated scale and various shut-off valves
- A water pump is required for circulating water through the system.

OPERATING PRINCIPLE

The hydraulic overflow settlement gage works on the 'U' tube principle. The system consists of a sealed settlement cell connected to a level indicator through an overflow tube. The settlement cell can be installed in an earth fill or concrete construction. In earth fills, it is best to install the cell on a concrete base.

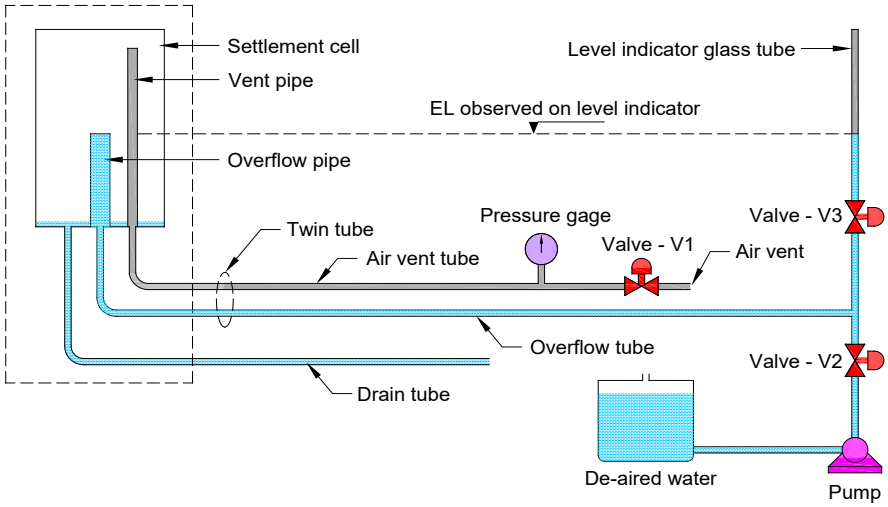
The settlement cell is securely cast into a concrete block in the structure at the location where settlement is to be monitored. Level indicator is normally built on stable ground. It is recommended to monitor its elevation using surveying method, at the time of taking a reading.

Any settlement or heave in the settlement cell can be measured on the mm scale adjacent to the level indicator glass tube.

The gage is normally read by pumping in some de-aired water through the overflow pipe inside the settlement cell and letting level in the visible level indicator tube stabilize at the same elevation as in the overflow pipe.

The drain tube allows surplus water from the overflow pipe to flow out from the cell. The air vent tube maintains the inside of the settlement cell at atmospheric pressure.

EHOS-35/1	Standpipes are available in suitable length (settlement range + 0.5 m) depending on settlement expected.
EHOS-35/2	Settlement cell has a steel body having three grouting legs and connections for overflow pipe, air vent and drain pipe. The surplus water is flown out from the cell through the drain pipe.
EHP-10/3	Dual nylon tube of 6 mm o.d. x 4 mm i.d. (pressure rating of 3.5 MPa), one black and one white of uniform cross section enclosed in polythene sheathing. Length of tube depends on site requirements.
EHP-10/4	Nylon tubing 8 mm o.d. x 5 mm i.d. (pressure rating of 3.5 MPa) in suitable length for drain.
EHOS-35/5	De-aired water in 5, 10 or 20 liter container.
EHOS-35/6.1	Mono-block 0.25 HP centrifugal pump operating on single phase 230 VAC.
EHOS-35/6.2	Foot pumps (optional to EHOS-35/6.1).



SCHEMATIC DIAGRAM

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