DEMONSTRATOR LYSIMETER TRAINER

DL PSH10

This equipment is a question of knowing the water retention capacity of a soil using the hydrological balance, differentiating each one of its elements.
Through the simulation of rain on the soil, the following elements of the hydrological cycle are distinguished:

- Surface runoff: Once the soil has been flooded, the surface runoff begins, collecting it externally and proceeding to measure it by evaluating its quantity in volume.
- Subterranean and subsurface runoff: Infiltrated water is collected from the bottom of the container, measuring this runoff by its volume.
- The rest of the water is absorbed by the soil which can be known by carrying out a weighing of the same before rain and another one later. The difference corresponds to the volume of stored water.

By establishing equality of volumes, the values of surface runoff, ground runoff and terrain runoff are known.
The trainer is equipped with a digital scale on which the floor model is positioned, so that the weight variation can be continuously displayed.

TRAINING OBJECTIVES

- Separation of the components of the hydrological cycle by volume or height.
- Soil retention capacity.
- For short-duration experiments, evaporations are neglected but this duration can be extended by obtaining evaporation of the soil (a thermometer is needed to carry out this experiment).
- For a long-duration experiment, positioning a plant or crop can determine evapotranspiration and wilting point.

TECHNICAL DATA

- Peripheral drive pump (which simulates the volume of rain falling on the floor model):
  - Maximum flow: 10l/min,
  - H max.: 42m at 50Hz,
  - Absorbed power: 0.25HP (~ 186W).
- Tanks:
  - Test container: 50l,
  - Stackable tank: 12l,
  - Drum: 20l.
- Flowmeter (to measure the discharged water): 16 ÷ 160 l/h.
- Surface excess flow rate measurement system.
- Infiltrated water measurement system.
- Digital scale: 60Kgx2g.

REQUIREMENTS

Power supply: single-phase from the mains, 50/60 Hz.