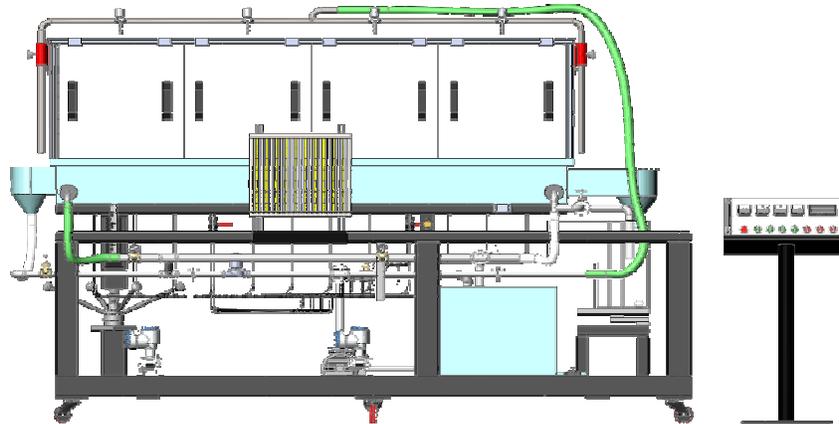


ADVANCED HYDROLOGICAL INVESTIGATIONS APPARATUS (RAINFALL SIMULATOR) (EE-2549)



DESCRIPTION :

The unit can be used to study seepage and groundwater flows after precipitation. Furthermore, sediment transport in courses of rivers is also presented in the context of flow obstacles. Variable precipitation density and areas and different groundwater supply and drain possibilities allow a wide variety of experiments.

The unit contains a closed water circuit with storage tank and 8 stage vertical centrifugal pump. The core element is a sand-filled, stainless steel experiment tank with inclination adjustment. To study precipitation, a precipitation device is available, which is equipped with a timer to define the times of precipitation. The precipitation device consists of four groups of two nozzles. Water can flow in (groundwater) or out (drainage) via two chambers on the side. The experiment tank is separated from the chambers by fine mesh screens. To study the lowering of groundwater, two wells with open seam tubes are available. By means of a small weir in the supply and drain, a course of a river can be generated. Different water levels can be generated. Water supply and water drain can be opened and closed, thus allowing a wide variety of experimental conditions. In addition, three different models make it possible to study the flow around obstacles and the resulting sediment transport in the river bed.

At the bottom of the experiment tank there are measuring connections to detect groundwater levels, which are displayed on 19 tube manometers. Two flow meters with different measuring ranges indicate the supply to the experiment tank. A measuring tank at the drain contains a measuring weir for determining the water level and a force sensor for determining the amount of sediment. The measured values are indicated at the trainer. At the same time, the measured values can also be transmitted directly to a PC via USB. The data acquisition software is included.

Manufacturers & Exporters of Engineering, Scientific & Laboratory Equipments**UTILITIES REQUIRED :**

- Electricity supply: Single Phase, 220V AC, 50 Hz, 5-15 Amp combined socket with earth connection. Earth voltage should be less than 5 volts.
- Water Supply: Initial fill
- Floor drainage
- Floor Area Required: 3m x 1.5m.

TECHNICAL DETAILS :

- Experiment tank : Inclination adjustment: -1 to 5%
Area: 2mx1m
Depth: 0.2m
Maximum sand filling: 0.3m³
- Precipitation device : 8 nozzles, switchable in 4 groups of 2 nozzles
Flow rate: 1-4.7 L/min, square spray pattern
- Pump : 8 stage vertical centrifugal pump (stainless steel body with three phase motor)
Power consumption: 0.55kW
Maximum flow rate: 1500 L/h
- Storage tank : Stainless steel (L x W x D): 800x700x500mm
- Measuring ranges : Pressure: 19x0...300mmWC
- Flow rate : Rotameter with flow sensor: 0-1050 L/h, 0-320 L/h (water supply), 0- 1000 L/h (water drain)
- Sediment mass : 0...5000g
- Additional information :
 - Investigation of precipitation-discharge relationships, storage capacity of soils, seepage flows, groundwater flows and sediment transport
 - Closed water circuit
 - Inclined stainless steel experiment tank contains 19 measuring connections to detect groundwater levels, transparent splash guard and screens for separating the chambers
 - 2 wells with open seam tubes in the experiment tank
 - Adjustable precipitation device
 - Precipitation time can be adjusted via timer
 - Water supplies and drains can be selected individually
 - Transparent measuring tank (flow) and force sensor (determining the amount of sediment)
 - 3 models for pillars: round, square, oval
 - Instruments: tube manometers (groundwater), flow meter (2x at the supply) and measuring weir in the measuring tank (1x at the drain)
 - Permeable media of grain size 1-2mm included
 - Digital readout for mass of filled measuring tank and outlet flow rate
 - Software for data acquisition via USB under Windows 10.