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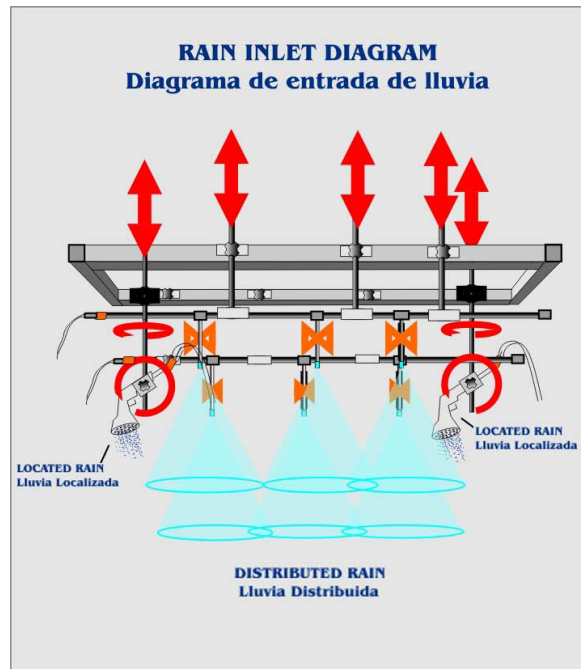
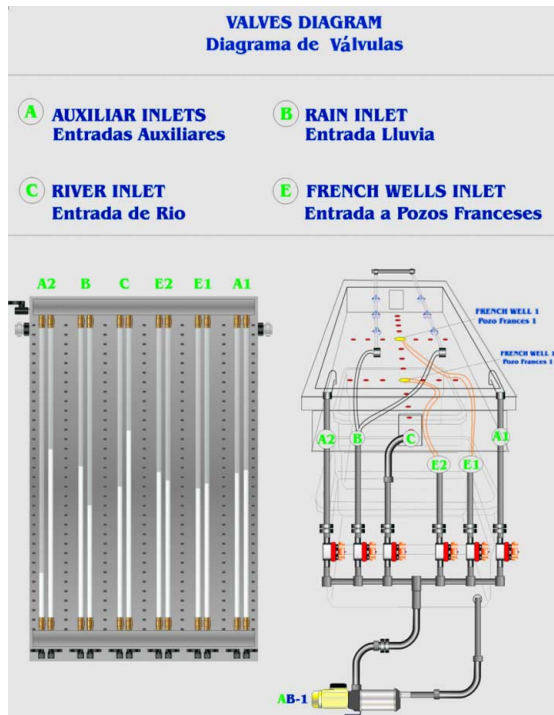
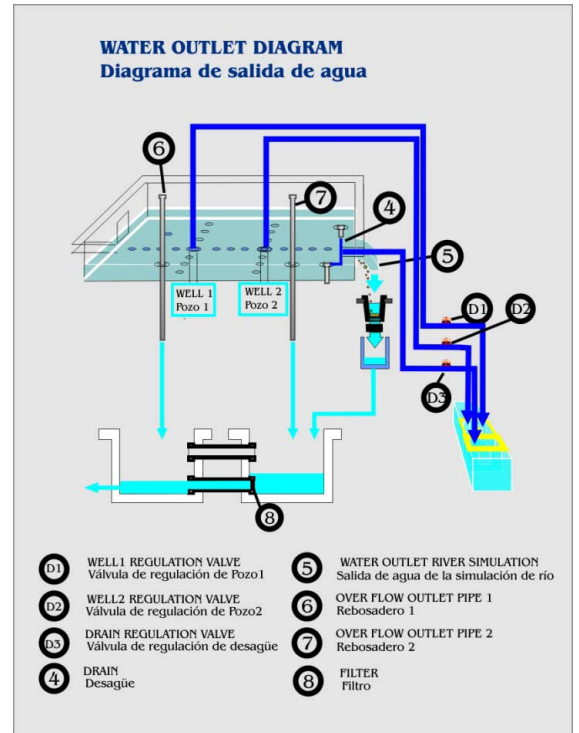
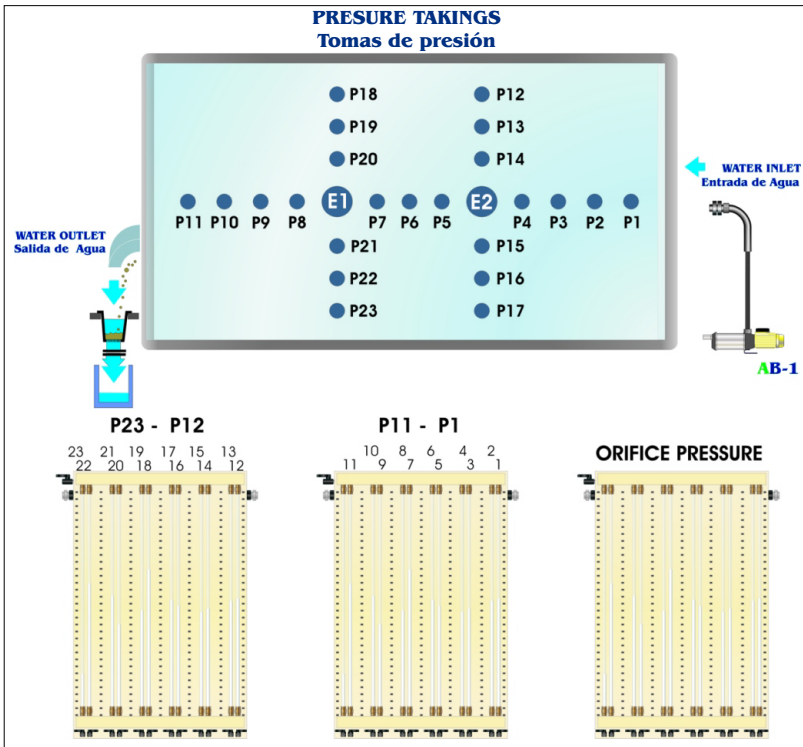
DESCRIPTION

This Unit demonstrates some of the major physical process found in hydrology and fluvial geomorphology, including: rainfall hydrographs for catchment areas of varying permeability, the formation of river features and effects of sediment transport, the abstraction of ground water by wells, both with and without surface recharge from rainfall, etc.

Moreover it is capable of demonstrating , on a small scale, the hydrological principles of ground water flow, and the applications of the principles to some engineering constructions.

It is possible to study the use of wells for water abstraction, de-watering and drainage of lakes, and demonstration of flood risks associated with land drainage works.





The ESH (2x1 m) has:

Metallic structure.

Main metallic elements in stainless steel.

Diagram in the front panel with similar distribution to the elements in the real unit.

Test tank, which is a large sized tank that provides a large working surface:

tank dimensions: L=2m, W= 1 m.

Storage tanks, that supply the water required:

two 400 litres tanks.

2 porous "well" tubes (French wells).

Drain.

Water outlet river simulation.

2 Over flow outlet pipes.

Filter.

Single-phase motor pump with 7 bar at maximum pressure, 106 l/min as maximum flow.

Rain simulator comprised of 8 spray nozzles, and 2 showers.

3 outlet tanks for the flow measurement in the drains and wells.

6 water inlet valves (2 auxiliary inlets, rain inlet, river inlet, 2 french wells inlets).

2 Independent flexible pipes.

Panels of manometric tubes, with possibility of inclination.

23 Pressure takings.

23 Sample capturing takings.

6 Flow meters (orifice plate).

4 weirs with one limnimeter.

The unit incorporates wheels for mobility.

Cables and accesories, for normal operation.

Manuals:

This unit is **supplied with the following manuals:** Required Services, Assembly and Installation, Starting-up, Safety, Maintenance & Practices Manuals.

EXERCISES AND PRACTICAL POSSIBILITIES

Some Practical Possibilities of the Unit:

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| <p>1.- Determination of the superficial dragging.</p> <p>2.- Hydrograph curve, strong storm.</p> <p>3.- Calculation of concentration time for a short storm.</p> <p>4.- Storm hydrographs from single or multiple storms.</p> <p>5.- Storm hydrograph from a previously saturated catchment.</p> <p>6.- Storm runoff from an impermeable catchment.</p> <p>7.- Drainage density determination</p> <p>8.- Effect of a moving storm flood hydrograph.</p> <p>9.- Effect of a reservoir storage on flood hydrograph.</p> <p>10.-Effect of land drains on flood hydrograph.</p> <p>11.-Reservoir filling and flooding.</p> <p>12.-Gravity force of water.</p> <p>13.-Fluvial-mechanical experiments.</p> <p>14.-Model stream flow in alluvial material.</p> <p>15.- Sediment transport in river models.</p> <p>16.- Formation and development of river features over time.</p> <p>17.- Meandering river.</p> <p>18.- Erosion on river beds and current speed.</p> <p>19.- Sediment transport, bedload motion, scour and erosion.</p> | <p>20.- Underground water capture studies.</p> <p>21.- Well depression cone.</p> <p>22.- Interaction of depression cones by two adjoining wells.</p> <p>23.- Well in the centre of a circular island.</p> <p>24.- Draw-down curves for one well and two wells systems.</p> <p>Other possible practices:</p> <p>25.- How to fill the manometric tubes.</p> <p>26.- How to use the Flowmeter (orifice plate .)</p> |
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REQUIRED SERVICES

- Electrical supply: single-phase with ground, 220V./50Hz or 110V./60Hz.
- Water supply and draining system.
- Sand, with a grain diameter between 1 mm and 2.5 mm.

DIMENSIONS & WEIGHTS

- Dimensions: 2700 x 1500 x 1800 mm. approx.
- Weight: 995 Kg. approx.

AVAILABLE VERSIONS

Offered in this catalogue:

- ESH (2x1m). **Hydrologic Systems, Rain Simulator and Irrigation Systems Unit (2x1m).**

Offered in other catalogue:

- ESHC (4x2m). **Computer Controlled Hydrologic Systems, Rain Simulator and Irrigation Systems Unit (4x2m).**
- ESHC (2x1m). **Computer Controlled Hydrologic Systems, Rain Simulator and Irrigation Systems Unit (2x1m).**

*Specifications subject to change without previous notice, due to the convenience of improvements of the product.



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REPRESENTATIVE:

