SAND GRAVITY FILTRATION PILOT

REFERENCE : MP31

Non contractual photo

SERVICE : 220 V SINGLE PHASE, 50 HZ, 500W
DIMENSIONS : 1400 X 830 X 2050 MM

This pilot allows the study of the filtration in the mass. This method comprises circulating a fluid containing solid particles through a porous medium. The spaces between the particles must be well above the size of the particles in suspension. During their course, necessarily sinuous, the suspended particles hit those of the bed and cling gradually.
Bulk filtration is often used as a pre-treatment before the flocculation or coagulation steps. It eliminates most of the suspended particles (sediments, precipitates, coagulants, ...). The most commonly used filter materials are sand and anthracite.

- Study of the porosity of the sand bed.
- Study of the flow of water through the porous medium.
- Verification of Darcy's law.
- Determination of the permeability B, for the same height of water in the column. The flow rate can be varied, the pressure losses in the bed can be recorded and the curves P = f (Q) drawn.
- Study of clogging of the filter. Drawing curves:
- p = f (Z)
- Study of the efficiency of backwashing.
- Duration of TP: 4 hours

Technical specifications :

- Feed tank with drain and side drain
- Removable lid
- Column in Altuglass containing sand
- Centrifugal pump
- Flowmeter
- Battery piezometric tubes to measure the pressure losses in the sand bed, the tubes are positioned in the sand every 5 cm
- A panel graduated in millimeters
- A control box for controlling the pump protection
- All pipes are PVC and the frame is made of stainless steel with aluminum nuts

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