# HM 142
Separation in sedimentation tanks

Sedimentation is the easiest way to separate solid particles from a liquid phase. Therefore this process is very common in water treatment. This device can be used to clearly teach the basics of this separation process. The main focus is on determining the maximum possible hydraulic surface loading.

We have placed great importance on visual observation of the sedimentation process. Therefore mainly transparent materials are used. Furthermore, the sedimentation tank is fitted with lighting.

The raw water is produced by mixing a concentrated suspension with fresh water. Depending on the mixing ratio, a raw water with the desired solids concentration is obtained. A stirring machine in the inlet area of the sedimentation tank prevents the solids from settling before entering the experiment section. The water level in the sedimentation tank can be adjusted continuously.

The device is completed by a lamella unit, which you can optionally place in the sedimentation tank. White and black lamellas are available, depending on the colour of the contaminants used.

Flow meter Sedimentation tank Illumination

Pump

Stirring machine

Tank for concentrated suspension
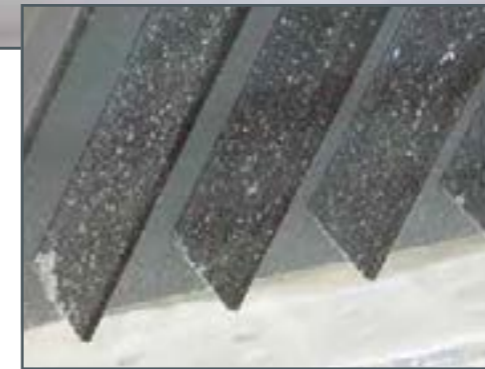
The sedimentation process and the flow conditions can be observed very clearly thanks to the use of transparent materials and lighting.

Optional lamella unit

About the product:

www

Learning objectives

- basic principle for the separation of solids from suspensions in a sedimentation tank

- determine the hydraulic surface loading

- influence of the following parameters on the separation process:
  - concentration of solids
  - flow rate
  - flow velocity in the inlet
  - water level in the sedimentation tank

- investigation of the flow conditions

- how lamellas affect the sedimentation process