

Leiblein
world of liquids



Solids Separator

Technologies for solid/liquid separation

The solids separator

For the separation of coarse solids

The solids separator is used for the separation and dewatering of quickly sedimenting solids (e.g. sand, scale, slag) from waste water or process water.

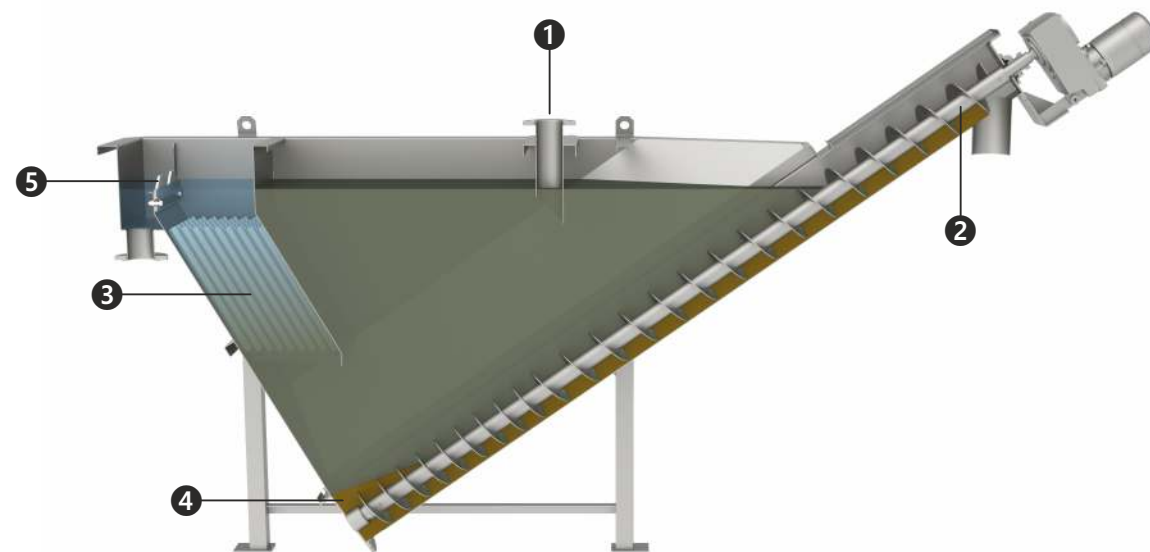
With the help of an integrated lamella pack and the resulting larger settling surface, finer particles can be separated and discharged by a screw conveyor.



Solids separator at lime gravel treatment

Functional principle of the solids separator

Technology made by Leiblein



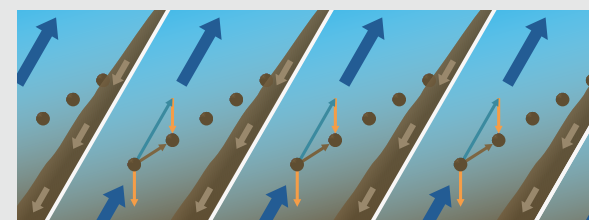
Effective coarse separation

The untreated water is filled in the container from above (①). The coarser solids sediment downwards to the screw conveyor and are discharged by it (②). A subsequent dewatering takes place in the upper part of the screw conveyor above the water level.

The untreated water streams through the lamellae from bottom to top (③). The solids settle down countercurrently on the lamellae and slide downwards along the lamellae to the screw conveyor (④).

The treated water flows further upwards and via a special overflow weir to the outlet (⑤).

Cross section lamella packs



- flow direction of untreated water/clear water
- flow path of a solid particle
- vectors of flow velocity and sink speed
- flow direction of sludge

Areas of application of the solids separator

Versatile application possibilities

The solids separator is used at high volume flows with relatively low solids loading. This distinguishes it from classical separation aggregates of the treatment technology such as bucket wheels, classifying screens or hydrocyclones.

Examples of applications

- Washing water and process water with sand, grit, slag or glass splinters e.g. in power plants
- Sand separation from washing water that is used for the cleaning of floor mats
- Sand separation from process water that is used in water jet cutting
- Coarse separation of mill scales at the casting and rolling from cooling water in the steel industry
- Pre-separation in the treatment technology

Examples of industries

- Recycling industry
- Glass / ceramic / natural stone
- Waste / landfill / street cleaning
- Steel industry

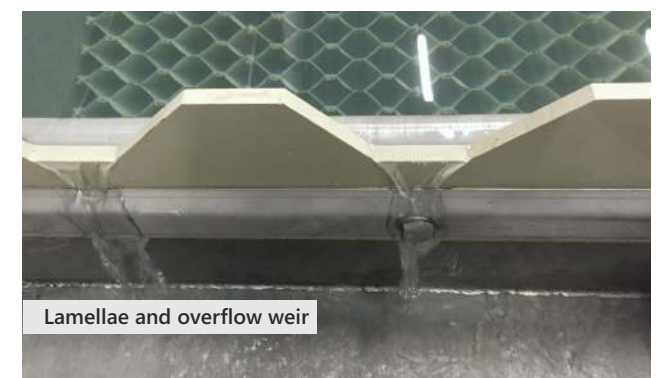
Often the solids separator is combined with a lamella clarifier or a sand filter in order to separate turbid substances.



Solids separator in a foundry



Separation of mill scale



Lamellae and overflow weir



Waste water treatment in a natural stone company



Treatment of street cleaning waste

High efficiency

Your benefits with our solids separator

- High throughput
- Continuous operation
- Low operating costs / low energy required
- Sturdy construction
- Direct sludge outlet into container
- Allows fluctuating solids loads
- Variable separation cut due to adaptable lamella packs

Design

Types and materials

The solids separator is obtainable with or without lamella packs. In addition there is the possibility to integrate a surface scraper in order to remove floating sludge.

Materials: coated steel
stainless steel AISI 304 / AISI 316L

Lamellae: polypropylene, stainless steel

Alternative materials on request.

Every solids separator is designed for your special application. According to this, it is possible to adjust the separation size and the discharge rate of the screw individually. Furthermore we provide pilot plants and rental units for all our products.



Manufacturing of a solids separator



Transport of a solids separator

You have questions about the treatment of your medium?
Do not hesitate and contact us!
We would be pleased to advise you.



Leiblein GmbH
Adolf-Seeber-Str. 2
74736 Hardheim
GERMANY

E-mail: leiblein@leiblein.com

Phone: +49 (0) 6283 - 2220 0
Fax: +49 (0) 6283 - 2220 50

Internet: www.leiblein.com