

Leiblein

world of liquids



FlowSand-Filter

Technologies for solid/liquid separation

The FlowSand-Filter

For the filtration of very fine particles

The FlowSand-Filter is an upwards flowing spatial filter with continuous filter bed cleaning. In contrast to other filter systems the filtration process is not interrupted for backwashing. Therefore, there is no need for rinsing water tanks, rinsing pumps, buffer tanks for intermittently accruing sludge water as well as complicated backwashing techniques.

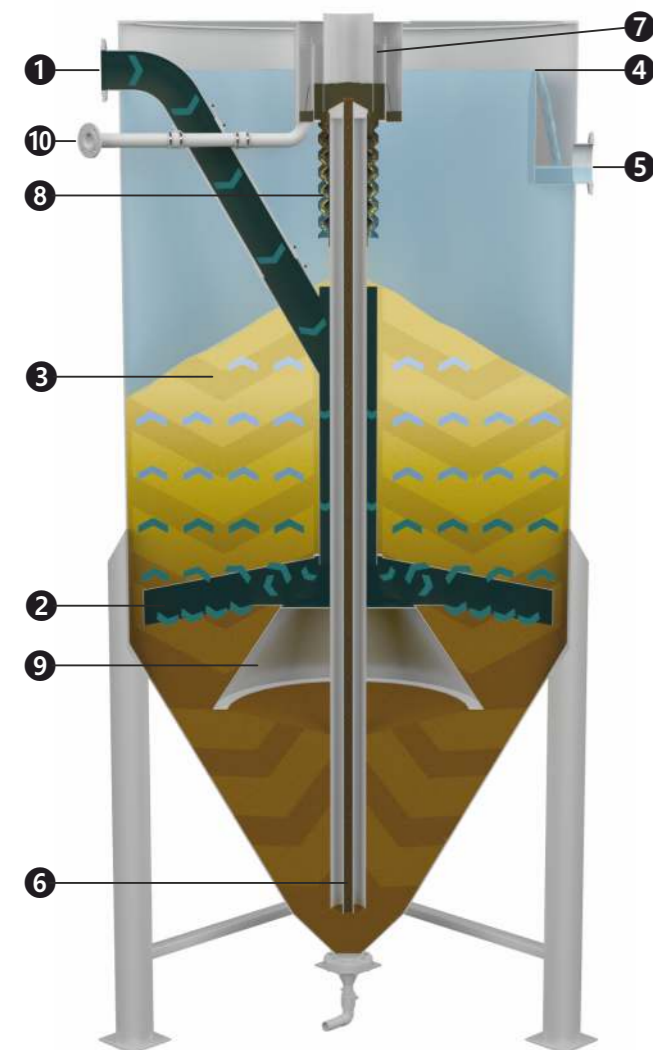
By the principle of volume filtration and the continuous filter bed cleaning the FlowSand-Filter can also be used at high solids loads.



Sand filter for cooling water cleaning

Functional principle of the FlowSand-Filter

Technology made by Leiblein



Continuous filtration

The untreated water flows through the inlet pipe (1) and the star-shaped inlet distributor (2) in the sand filter bed (3). From there it flows through the filter bed from bottom to top being filtrated by the countercurrently downwards moving filter bed.



The filtered water exits the filter by the overflow edge (4) through the filtrate outlet (5).

The contaminated sand is moved to the calming unit (7) at the top by using an air lift pump (6).

From there the sand falls into the sand washer (8), where it is cleaned in countercurrent flow by a partial flow of the filtrate. The cleaned sand falls back onto the surface of the filter bed and serves as a filter medium again.

The sand distributor conus (9) ensures an even distribution of the sand over the whole filter area. The contaminated washing water exits the filter via the washing water outlet (10).

Areas of application of the FlowSand-Filter

Versatile application possibilities

The FlowSand-Filter is used i.a. for the filtration of suspensions. Smaller particles or solutes are separated by dosing flocculants or precipitants. In addition, with the FlowSand-Filter system it is possible to build up a biofilm, which leads to further areas of application.

- Drinking water treatment from surface water or well water
- Industrial water treatment from well water
- Sinter water treatment in steel industry
- Cooling water treatment with circuit
- Industrial waste water treatment (chemistry, paper)
- Final filtration in municipal treatment plants
- Biofiltration, denitrification and nitrification
- Filtration with phosphate precipitation

Often it is useful to conduct a coarse cleaning of the waste water in advance. Depending on the application, e.g. our lamella separators, solids separators or rotary screens are suitable for an upstream sedimentation.

High efficiency

Your benefits with our FlowSand-Filter

- No interruption of the filtration process due to continuous filter bed cleaning
- No collection rinsing water tanks, no rinsing pumps, no buffer tanks for sludge water as well as no complex backwash technology are necessary
- High solids load possible
- Steady filtrate quality
- No loose filter parts, high lifetime and availability
- Feeding without pumps in free inflow possible
- Low energy costs
- Simple assembly



Sand filters with lamella clarifier for washing water treatment



Process water treatment in the stone processing



Sand filter with lamella separator and flocculation tank



Service platform with removable cover



Pilot plant

Design

Types and materials

The FlowSand-Filter is available in a container or concrete design.

Container design

The containers, usually made of steel, are available as single filter or as multiple version, where the latter are consisting of several modularly structured single filters.

Concrete design

The concrete design is mainly used with higher throughput rates. A filter plant in concrete design consists of one or several filter lines, each one consisting of several filter cells. The number of filter lines depends on the throughput rate and on the process conditions.

The filter cells of a filter line are open among each other and can be isolated linewise. The untreated water inlet and filtrate outlet are made via an inlet and an outlet channel, the rinsing water outlet via a pipeline.

Materials : stainless steel AISI 304 / AISI 316L;
coated steel; GRP; PE

Alternative materials on request.

Every FlowSand-Filter is designed for your special application. Furthermore we provide pilot plants and rental units for all our products.



Container design with coated steel



Assembly concrete design

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