



Compact plant



FSM ...

*Good Ideas
bring Success!*





FSM-Compact plant – the innovative solution

The complete preliminary treatment of waste water

The new FSM compact installation (screen and grit chamber) heralds the start of a new era in grit separation. The intelligent grit chamber adjusts itself automatically to the input flow and thus achieves optimum grit separation for every input amount- never again the situation where more sludge than sand is deposited on light loads. This is made possible via the innovative self-regulating lamellar strips in the grit chamber which adjust their position in accordance with the flow, without external energy.

Functional principle (screening):

The waste water is pumped or flows freely into the flume of the screen, where it is cleaned and the screenings discharged, de-watered and compacted. In this process, the water flows through the perforated filter elements of the screen, where coarse material is retained in accordance with the perforations. The screen unit is immune to grit and stones. FSM's proven machine components are used for the screen and the compactor.

The non-aerated grit chamber is designed in accordance with DWA-Standards in respect of separation of mineral superfines. Mechanical grit collection is achieved via a screw conveyor incorporated into the container and laid out in accordance with the design fundamentals outlined below.

A grease trap with fine bubble aeration generating an air roller is located upstream of the grit chamber.

The inlet flume extends over the whole length of the compact installation and at the same time forms the grease trap. Disk aerators are located at the side of the grease trap and connected to a blower. Water flows from the grease trap to the grit chamber via an opening in the lower area of the grease flume. The floating grease is withdrawn by a pump and cannot therefore reach the grit chamber.

The non-aerated grit chamber adjusts automatically to the flow in accordance with the surface loading. This is achieved without external energy via the movable lamellar strips with which the grit separator is fitted.

The lamellar strips are pivoted and connected to an adjusting element. The adjusting element is placed so that it regulates the surface loading in accordance with the flow, without the need for external energy. The installation angle of the lamellar strips is selected to ensure that the highest possible surface loading is achieved at Q_{max} and that the strips are cleaned of possible deposits at Q_{min} . In addition, the lamellar strips regulate the speed in the grit chamber in such a way that in the case of light loads, there is no increased deposit of sludge.





Features::

- Optimum grit separation at all loadings via lamellar strip technology
- Short length
- Low operating costs as grit chamber not aerated.
- High reliability through robust construction
- Proven machine design
- Screen and grit chamber as separate items
- Integrated emergency bypass
- Application as septage reception station possible
- Can be supplied for throughputs of 5 – 160 l/s
- Excellent performance/price ratio
- Low maintenance costs
- Machine completely hygienically encapsulated

Space requirements of installation sizes

The area required for a compact installation of 80 l/s with grit and grease traps including screen is only 10 m² (4,5 m x 2,2 m)

Throughput	Screen area Length x width	Grit chamber area Length x width	Total area
20 l/s	1400 x 600 mm	1000 x 2000 mm	ca. 3,6 m ²
30 l/s	1400 x 600 mm	2000 x 2000 mm	ca. 5,6 m ²
40 l/s	1400 x 700 mm	2000 x 2000 mm	ca. 5,8 m ²
60 l/s	1400 x 700 mm	3000 x 2000 mm	ca. 8 m ²
80 l/s	1400 x 800 mm	4000 x 2000 mm	ca. 10 m ²
100 l/s	1400 x 800 mm	5000 x 2300 mm	ca. 13,8 m ²
120 l/s	1400 x 1000 mm	6000 x 2300 mm	ca. 17,25 m ²
160 l/s	1400 x 1000 mm	8000 x 2500 mm	ca. 23,75 m ²





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