

INDION

Continuous Sand Filter

Product Description

The continuous sand filter is a continuous upflow deep bed granular media filter. The backwash is also continuous. The filter media is moving in downflow direction and also continuously cleaned by recycling the sand internally.

Working Principle

The feed is introduced into the lower part of the filter bed through riser tubes which discharge under a distribution hood. Filtration takes place upwards through the sand bed which is moving downwards. Most of the suspended solids in the feed will be separated near the feed level, which means that the dirtiest sand will be found in the lower part of the filter. The sand bed is kept in a slow downward motion by an airlift pump taking out dirty sand from close to the bottom of the filter tank. In the air-lift pump the sand is subjected to a thorough mechanical agitation by the action of air bubbles and the dirt is separated from the grains of sand. The filter bed is continuously cleaned while the filter is in operation. The dirtiest sand is continuously taken out of the filter bed, washed and returned to the clean part of the sand bed. This means that the filter does not have to be taken out of operation

for backwashing. The dirt is finally rinsed away from the sand in the sand washer, which is placed concentrically around the upper part of the air-lift pump. The clean sand is returned to the top of the filter bed. Reject water is continuously taken out from the sand washer. The filtrate leaves the filter as an overflow.

Features

- Continuous backwash operation
- Handles suspended solids load upto 150 ppm
- Operates at atmospheric pressure
- Simple modular construction with minimum moving parts

Applications

- Raw water filtration for potable use
- Raw water filtration for industrial process water
- Cooling tower side stream filtration and make up
- Recycling of white water in pulp and paper industry
- Tertiary treatment of sewage, treatment of industrial waste water
- Filtration of water to remove mill scale

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