BIO-BLOK® INTELLIGENT FIXED FILM BIOLOGICAL FILTER MEDIA

2.6.1. Biological Lamella Separation

EXPO-NET is a producer of filter media. We do not sell complete systems, but we are able to give advice with regard to the correct use of our BIO-BLOK® products in all types of biological wastewater treatment plants.

The filter media is made from polyethylene, and it is constructed as a square block consisting of net tubes that are welded together. The special surface of the many net tubes provides a big accessible surface area, and at the same time, it improves the biological growth on the filter.

This filter media is called BIO-BLOK®, and the surface of the filter works as a "house" for the bacteria that are able to treat the different types of waste waters that exist.

The mode of operation is very simple as the treatment capacity depends on the quantity of bacteria that is room for on the filter, i.e. the bigger a surface and thus more bacteria, the bigger a treatment capacity.

Therefore, the future construction of wastewater treatment plants is only a matter of creating good conditions for the bacteria, meaning that the bacteria have to live well in order to work well.

Biological wastewater treatment plants are constructed in all sizes from 5 PE to many 100,000 PE. Since 1988 EXPO-NET has supplied filter media to many thousand wastewater treatment plants all over the world. These treatment plants are mainly constructed as submerged, aerated systems, trickling filters or as a combination of above mentioned and an active sludge plant.

As a result of the many out-turned activities all over the world, EXPO-NET obtains information about many examples of extremely good and smart ways of using our filter media for various purposes.

One of these examples is a method for removal of suspended matters in outlet water from wastewater treatment plants etc.

We call this method "Biological Lamella Separation".

The system is simple and thus cheap to install. The field of application is all types of wastewater treatment plants and all types of aquaculture plants where demands are made on suspended matters in the outlet water.

Biological lamella separation can be used instead of expensive micro filters, sand filters and/or expensive enlargement of sedimentation basins. Therefore, a lot of money can be saved by using biological lamella separation as the preliminary expenses are low and the system does not require supply of energy.

Furthermore, as an additional advantage, also a reduction of BOD is achieved.

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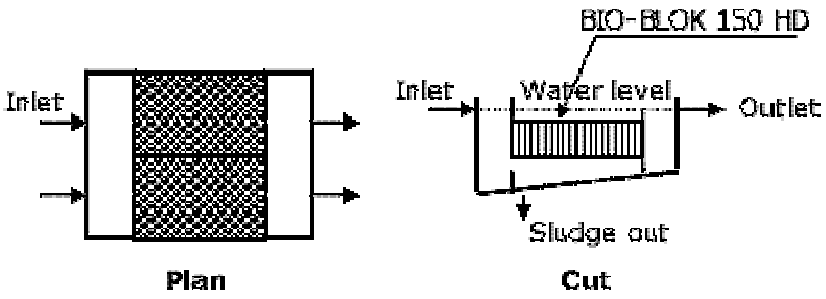
COUGAR COATINGS Estd. 1988
WASTEWATER DIVISION

Supplying unique solutions for the water and waste water industry

BIO-BLOK® INTELLIGENT FIXED FILM BIOLOGICAL FILTER MEDIA



Principle drawing

The principle of biological lamella separation is that flocs that are being carried by the water through the biological filter (BIO-BLOK® 150 HD or BIO-BLOK® 80 HD G) will be attracted by the active biological film (web) that grows on the filter media BIO-BLOK®. Thus a natural filtration of the water takes place, and at the same time, a thicker biofilm will establish on the filter media (sludge).

The plant is always constructed as two identical chambers connected in parallel as emptying of this plant is done by stopping the supply of water to one of these chambers and lowering the water level so that the BIO-BLOK® products are free of water. Thereafter it is possible to wash down the sludge of the filter, and then the sludge is pumped to further treatment.

The effectiveness naturally depends on the speed of water in the filter. The correct hydraulic surface load can be decided by testing the actual water and the actual volume of sludge that is to be separated from the water.

In practice this means that it will be necessary to start by installing a small pilot plant in which the correct hydraulic surface load for the waste water in question can be determined.

For this purpose EXPO-NET offers interested customers to borrow our test plant for biological lamella separation.

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