

**BIO-BLOK® INTELLIGENT FIXED FILM BIOLOGICAL FILTER MEDIA**

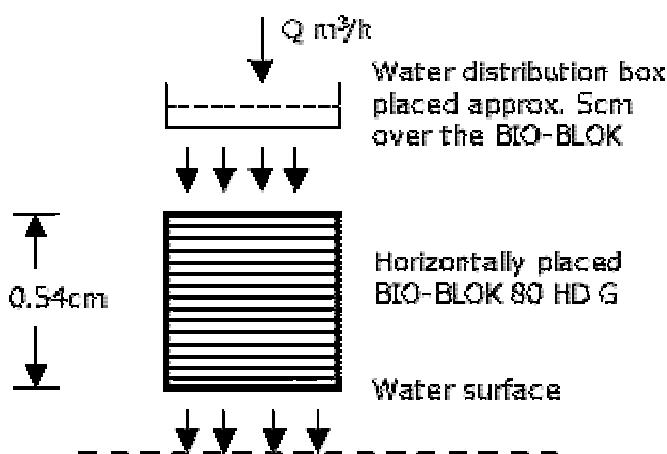
3.2.1. Fishfarm Water

With regard to using BIO-BLOK® products for biological treatment of fishfarm water, it has been proven that BIO-BLOK® 80 HD G in smooth version is extremely well suited in systems for aeration of fishfarm water.

The fields of application are all places where a free fall is available (minimum 20-30cm) or where the water is being lifted by a pump (e.g. by return pumping).

The conditions of a good result with use of BIO-BLOK® 80 HD G are simple as the best result is achieved by a good distribution of the water through the BIO-BLOK® products. In this way the water is "broken" most possible and the biggest possible contact to the oxygen of the air is achieved. At the same time, the gasses in the water, if any, are effectively aired.

The water can be spread over the BIO-BLOK® products through e.g. a perforated box of stainless steel, plastic or the like. Depending on the volume of water, the holes should be 4mm to 8mm in diameter at intervals of approx. 5cm between the holes. The box has to be constructed in such a way that it is possible to clean the holes as they in time will clog up.



Principle drawing of aeration/degassing of fishfarm water

EXPO-NET's BIO-BLOK® 80 HD G for aeration of fish farm water has the following qualities:



BIO-BLOK® 80 HD G

- Requires only a filter to disperse the water.
- High percentage of oxidation as the water is effectively broken.
- Smaller water lift as the air is lead through the horizontally placed net tubes and thus gets in touch with millions of water drops.
- Requires no expensive box constructions as the BIO-BLOK® products are constructed as self-supporting modules.
- Made from the imperishable and environmentally compatible material - polyethylene.
- Polyethylene has been approved for use within the food industry.
- Easy to handle.
- Easy to adjust to both existing and new plants.

Technical Specifications

Type of filter media	BIO-BLOK® 80 HD G in smooth version
Specific surface (m ² /m ³) (approx.)	80
Area of flow (approx.)	70%
Percentage of hollow space (approx.)	90%
Tube diameter	70mm
Standard module form	54x54x55cm

The surface measurements have been calculated by the producer. Alterations in process, material and structure may slightly change the figures above (by up to 10%). Above filter media are available with densities of approx. 0.5 and 0.95.

BIO-BLOK® 80 HD G is available in heights (lengths of block tubes) from 45cm to 75cm.

Dimensioning of aeration plant with BIO-BLOK® 80 HD G

The dimensioning of an aeration plant depends on many factors. The most important are as follows:

- * Content of oxygen in the inlet water
- * Distribution of the water over the BIO-BLOK® products
- * Temperature of water
- * Fall height through the filter

Depending on above factors, it is possible to achieve an oxygen saturation in the water of approx. 90-95% with the following dimension criteria:

30-40 l/sec. x 1 m³ BIO-BLOK® 80 HD G

or

20 l/sec. per m² BIO-BLOK® 80 HD G in 54cm's thickness