Biofiltration was developed by SUEZ in the 1980s as part of the Biofor® process, which is an upflow biological reactor. The Biolite, which is the filtering material, is placed in the reactor and serves as a support for micro-organisms. Feedback has allowed a selection of varied and optimal sort of Biolite and aeration system, and has led to develop two main families of Biofor®: "aerated" and "non-aerated" Biofor®.
Biofor® technology...

The effluent to be treated is continuously fed into a biological reactor called a "biofilter", passing through filtering materials that retain the suspended solids. Carbon and / or nitrogen pollution is eliminated thanks to the development of natural bacteria into a fixed biofilm (purifying biomass) on a mineral support that is also natural. A filtering material washing is regularly activated to restore the filtering and purifying capacity of the biofilter.

the Biofor® treatment lines in urban and industrial wastewater

**a Biofor® range to meet even the most demanding discharge constraints**

<table>
<thead>
<tr>
<th>Biofor® type</th>
<th>application</th>
<th>parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>aerated Biofor®</strong></td>
<td>Biofor® C carbon (BOD)</td>
<td>water velocity= 3-16 m³.m⁻².h⁻¹</td>
</tr>
<tr>
<td></td>
<td>Biofor® CN carbon and partial denitrification</td>
<td>loading applied= 3-6 kg BOD.m⁻³.d⁻¹</td>
</tr>
<tr>
<td></td>
<td>Biofor® N tertiary nitrification</td>
<td>water velocity= 3-12 m³.m⁻².h⁻¹</td>
</tr>
<tr>
<td></td>
<td>Biofor® pre-DN upstream denitrification</td>
<td>nitrified loading= 0.4-0.6 kg N-NH₄.m⁻³.d⁻¹</td>
</tr>
<tr>
<td></td>
<td>Biofor® post-DN downstream denitrification</td>
<td>water velocity= 10-35 m³.m⁻².h⁻¹</td>
</tr>
<tr>
<td><strong>non aerated Biofor®</strong></td>
<td>Biofor® pre-DN (methanol added) denitrified</td>
<td>water velocity= 10-35 m³.m⁻².h⁻¹</td>
</tr>
<tr>
<td></td>
<td>Biofor® post-DN downstream denitrification</td>
<td>denitrified loading= 3.5-5 kg N-NO₂.m⁻³.d⁻¹</td>
</tr>
</tbody>
</table>
Biofor® allows...

an advanced treatment of suspended solids (SS) and carbon and/or nitrogen pollution with no odour impact

saves space thanks to its modular design and cuts out of the clarification stage

simplified and reduced construction with ranges of pre-sized units

... what it can do for you

a high-performance treatment complying with regulations for all types of effluents
- low-temperature effluent
- effluent with wide variation in flow and/or load
- diluted effluent
- industrial effluent such as oil, paper pulp, etc.

easy to operate
- due to automated functioning

easy and low-cost coverage
- due to its compactness

easy on-site implantation
- modular aspect

no environmental constraints
- very little or no odour
- no noise
- weak footprint (compactness)
a few references . . .

1,150 Biofor® in process throughout the world
73,800 m² of filtering media

petrochina (refinery)
Chengdu (China) - 60,000 m³/d

Malta - 60,000 m³/d

Xiamen (China) - 300,000 m³/d

El Segundo (California, USA) - 236,000 m³/d

Joong Ang Pusan (Korea) - 111,000 m³/d

Louis Fargues (Bordeaux, France) - 276,500 m³/d (447,000 PE)

Amphora (Toulon, France) - 86,400 m³/d (100,000 PE)

Grenoble Alpes Métropole (France) - 400,000 PE