

Fine Bubble Membrane Diffusers.

Fine bubble diffusers for
aeration of wastewater.



VA Teknik Sweden

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FlexDisc and RexFlex diffusers cover various ranges and are high efficient disc diffusers with EPDM-membranes.

Advantages

The membrane diffuser contains no parts that can corrode. The membrane is made of rubber and the bottom plate is plastic. The pipes, bolts, clamps and supports are made of AISI316L stainless steel.

Use

The Rex Flex and FlexDisc membrane diffusers for fine bubble aeration can be used in all situations where water has to be oxygenated while being agitated. The diffusers we provide are among the best membranes available on the market.

Function

Air is forced by blowers towards the flexible rubber membrane through an opening in the bottom plate of the diffuser. A certain pressure is required to overcome the resistance that the backwash valve creates and to get the air to be released into the diffuser so the flow of air expands the membrane. When the membrane expands and arches up above the bottom plate the micro channels in the rubber membrane release the air into the water and this creates small bubbles. The channels open and close in a quick pulsating type of operation. When the supply of air stops, the membrane resumes its rest position against the bottom plate.

Design

Rex Flex and FlexDisc membrane diffusers are installed covering the tank bottom, with sufficient amount of diffusers to achieve oxygenation. It can be advantageous to install the diffusers more closely in the part of the tank that requires more oxygen.

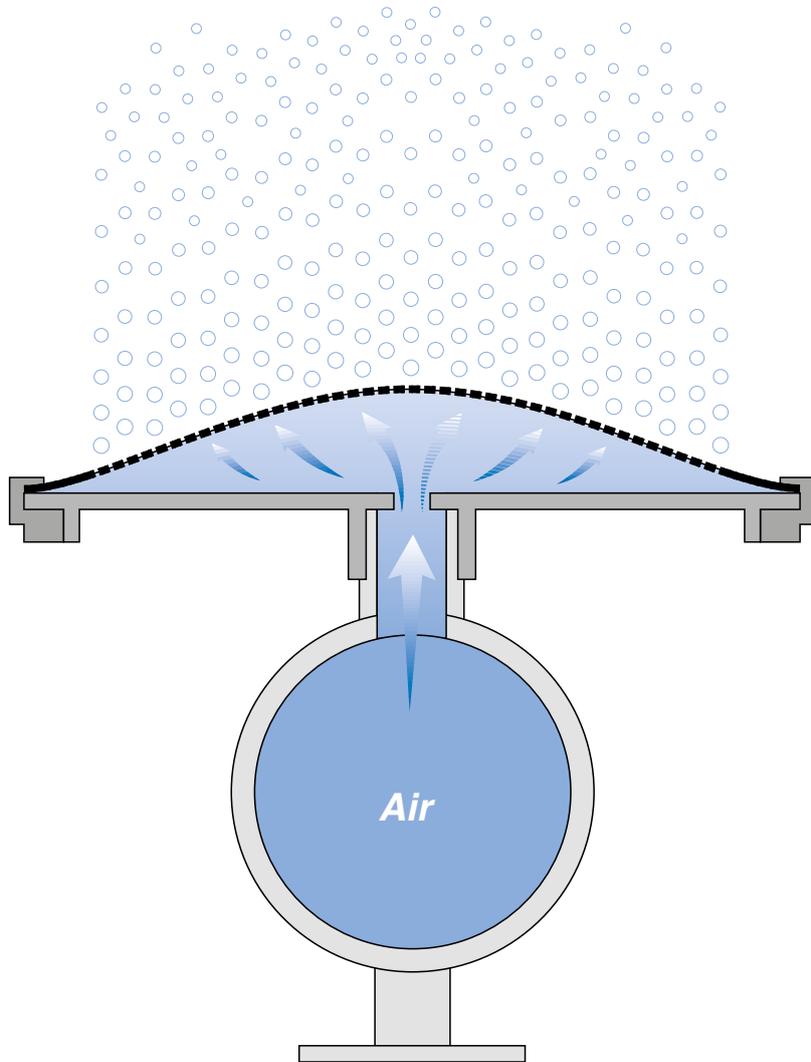
RexFlex is a highly developed diffuser with even better performance and properties than previous flexible membrane diffusers – high oxygenation capacity, minimal maintenance and long life.

The Rex Flex membrane diffusers can be used in a wide range of applications where large quantities of air need to be added, in order to maintain a high level of oxygenation. This gives great flexibility when designing an aeration system, enabling regulation of the amount of air added and the oxygen level, which can be optimized for maximum performance.

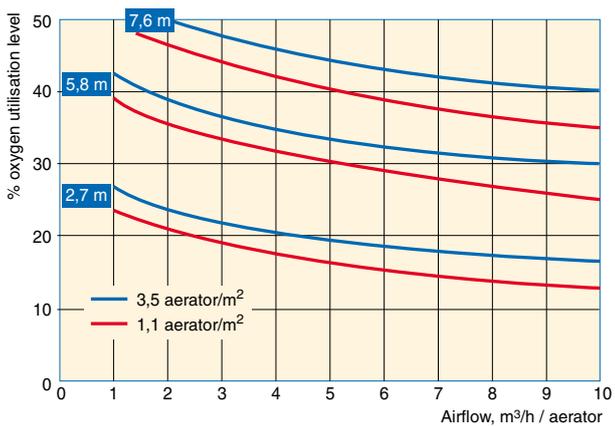
The membrane diffuser doesn't get blocked and is self-cleaning.

No cleaning is needed under normal operating conditions. The tendency to become blocked due to contaminated low-pressure air leads to a rise in pressure, which expands the membrane and air channels, allowing the particles to pass through. This means that maintenance can be limited to switching the air supply off and on once a week, to facilitate the self-cleaning of the membrane. The flexible membrane has a backwash valve function, providing double security against blockage from outside. The air channels close when the air pressure falls. The water pressure seals the membrane against the bottom plate including the unperforated center of the membrane against the inlet of the bottom plate.

The Rex Flex membrane diffuser has a long life. The elastic mounting of the membrane overlaps the periphery of the bottom plate, and lets the membrane arch up without friction, giving the membrane greater durability. The Rex Flex diffuser has been tested for 800,000 cycles of expansion/contraction, at an airflow rate of 30 Nm³/h, without showing signs of excessive wear.

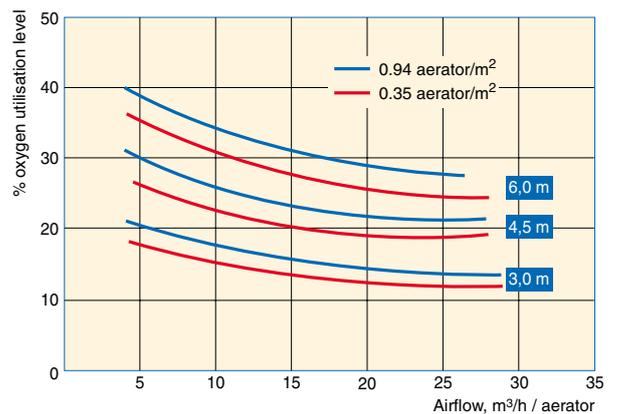


FlexDisc



Rex Flex

Examples of oxygen utilisation level



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