

# AquaBlade Membrane Diffuser

AquaBlade, the unique membrane design has revolutionized aeration diffusers, giving greater oxygen transfer efficiencies with a lower power cost. Reduce carbon footprint by installing or retrofitting AquaBlade diffusers

## Advantages

The AquaBlade diffuser is in the form of a long curved plate rather than a disc or cylinder typical of other membrane diffusers. This unique profile allows the diffuser to achieve greater floor coverage at lower system cost with superior oxygen transfer.

## Other design advantages include:

1. Optimum oxygen transfer efficiency and a lower back pressure with a wide range of airflows. Turndown of 10:1 is achievable.
2. The specially formulated elastomeric membrane ensures good elastic qualities and long membrane life. Fouling resistance is demonstrably improved.
3. The carefully researched slitting profile produces an even, fine bubble pattern over the entire area of the diffuser without bubble convergence.
4. Fully factory assembled and individually tested.



We achieve your engineering solutions through innovative design and quality products.

### Microstrain Limited - Ireland

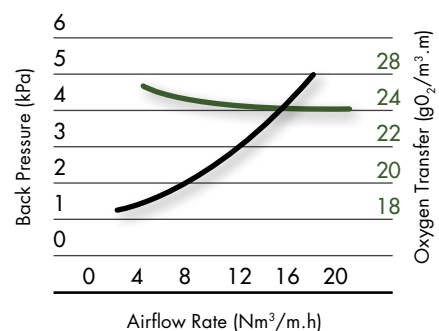
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### AquaBlade Diffuser

Pressure Loss & Oxygen Transfer



# AquaBlade Membrane Diffuser

## Performance Characteristics

Excellent flow versus back pressure characteristics allowing reduced power consumption.

Typical airflows range from 3 Nm<sup>3</sup>/m.h to 18Nm<sup>3</sup>/m.h for both fine and coarse pore membranes.

## Installation

Ease of installation with a fast pipe locking System is incorporated into the design of the AquaBlade diffuser.

The header pipe requires only one 37mm hole drilled per AquaBlade diffuser. It can then be directly installed without the need for welding or other labour intensive installation activities as with most other diffuser types.

A retrofit kit has been designed in conjunction with the AquaBlade diffuser to allow each diffuser to be fitted to a range of header pipe networks already installed and in operation with other diffuser types. This enables existing diffusers currently in operation to be replaced at the end of their effective life by AquaBlade diffusers.

## Description

The **AquaBlade** consists of an elastomeric membrane with high elasticity and guarantees the fine slits close when airflow is stopped even after extended periods of operation. The membrane is also resistant to shrinkage, has a high resistance to tearing and has superior ageing characteristics.

The diffuser body is manufactured from an extruded aluminium plate with a curved profile for optimum strength. The body is anodised after manufacture to provide the corrosion resistance necessary for harsh environments. The curved profile reduces the build up of biosolids on the diffuser body when the airflow is interrupted. This will reduce bio fouling which can occur on flat diffusers.

The diffuser support block is used to mount the diffuser to either a 100mm or 150mm dia pipe. The design of the block incorporates a second back flow prevention mechanism to protect the integrity of system against the ingress of water.

## Product Variations Available

The **AquaBlade** is available in 1.0m, 1.5m or 2.0m lengths. Other custom lengths are available on request.

Both fine and coarse membrane perforations are available depending on the particular oxygen transfer requirements. EPDM and nitrile membranes are available for specific applications upon request.

## Applications

- Activated sludge systems.
- Intermittent aeration.
- Oxidation ditches.
- Aerobic sludge digestion.
- Aquaculture.
- Most industrial biological treatment systems.

The manufacturer reserves the right to alter performance, specification or design, without notice.



Image shows the AquaBlade installed