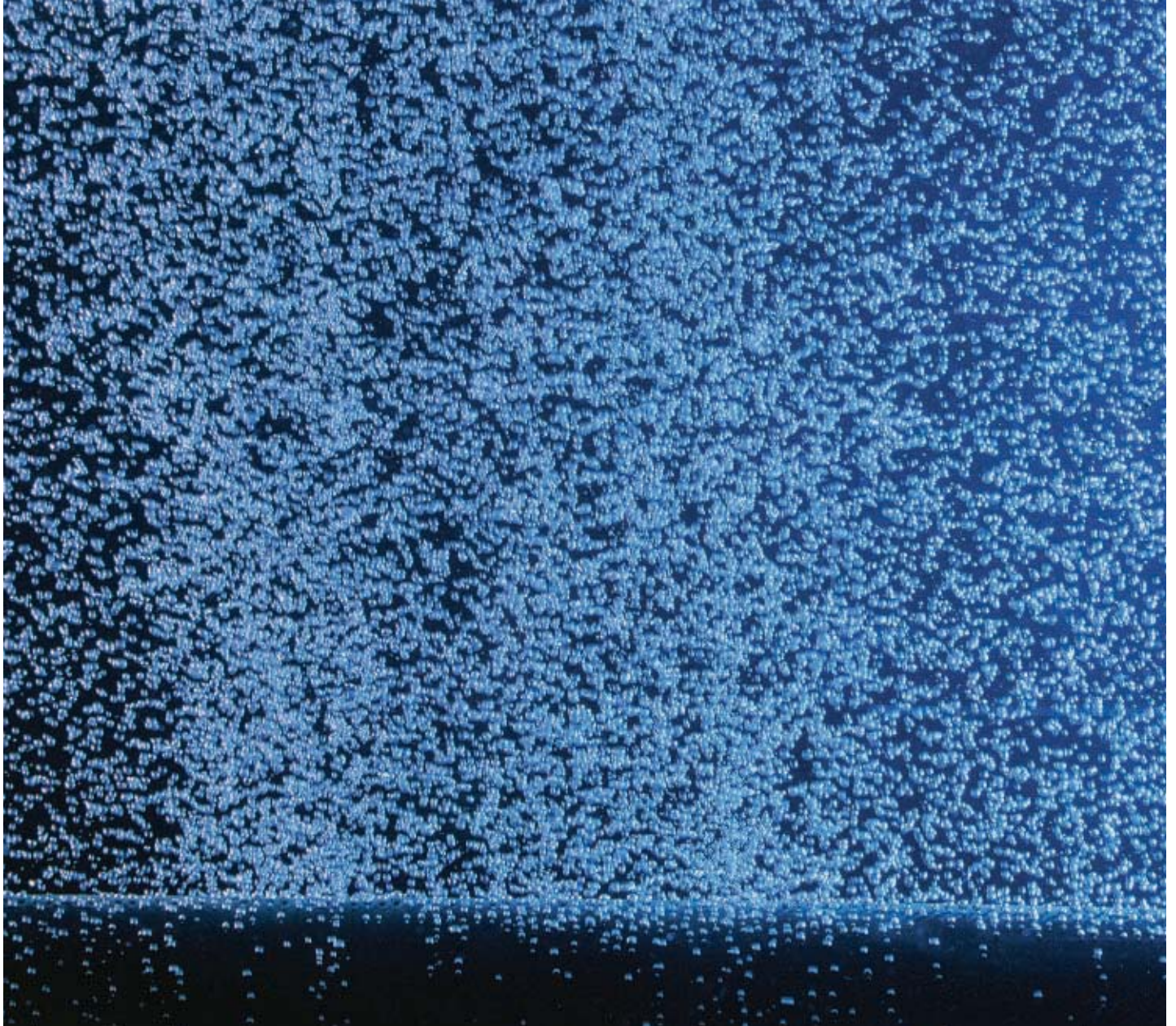


# PASSAVANT INTECH



## Fine Bubble Aeration

Products & Services

DISC MEMBRANE DIFFUSER ROEFLEX® | TUBE MEMBRANE DIFFUSER BIOFLEX®

### Membrane Diffusers – Sparkling Efficiency

Since 25 years we have constantly improved our membrane diffuser to meet the high demands of water and wastewater treatment. Our membrane diffusers are mainly used in wastewater treatment plants as a main element for biological treatment.

#### Field of application

- activated sludge tanks and aerated detritus tanks of municipal and industrial wastewater treatment plants
- aerobic treatment of landfill leachate and manure
- anti-staling of water
- adjustment of pH-value by CO<sub>2</sub> stripping
- oxygen transfer in fish farming ponds
- oxygenation of rivers and lakes

#### Function

When air is supplied, fine slits in the flexible membrane open and release thousands of fine air bubbles. When the air is interrupted, the slits close as the membrane is pressed to the support, sealing the air inlet opening. Due to this double sealing mechanism, no water can enter the aeration system. As opposed to ceramic diffusers an intermittent operation of the aeration is possible which assures higher reliability.

### Performance

In numerous worldwide installations our membrane diffusers, the tube diffuser Bioflex® and the disc diffuser Roeflex®, have shown their durability. Several test from accredited institutes have proven their high oxygen transfer efficiency.

Even though the quality of the diffuser is an important factor, oxygen transfer depends on several factors e.g. tank shape, diffuser density, immersion depth or specific air flow. Thanks to our profound knowledge gathered over many years in building fine bubble and surface aeration systems, we can offer you the most efficient solution for your application.

Passavant-Intech is a reliable and competent partner delivering complete aeration systems.

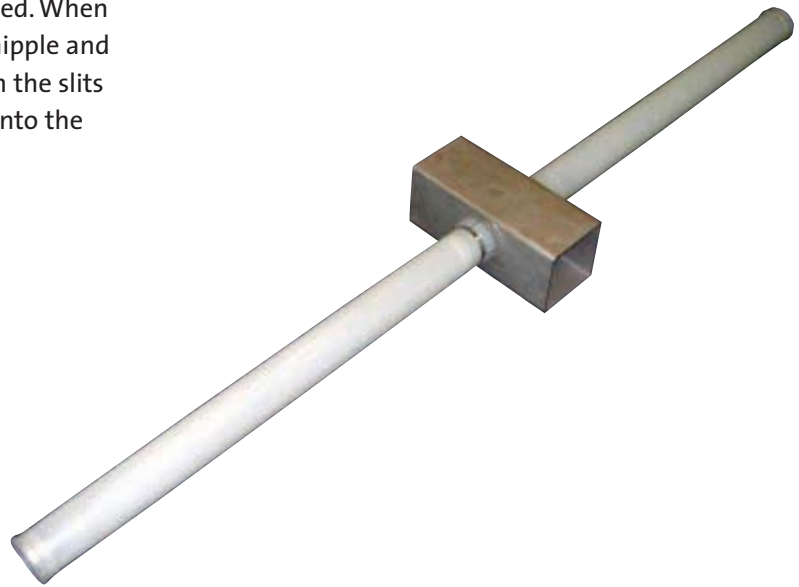


## Bioflex®II and Bioflex®IV

A complete tube diffuser Bioflex® consists of two diffuser elements. Concerning the Bioflex®II these are mounted with four screws composed of stainless steel on a circular tube. Concerning the Bioflex®IV they are connected through thread adapters with a double nipple. Each element consists of a support tube with inside thread, a slitted sleeve membrane, two clamps to fasten the membrane onto the support tube, and an O-seal for sealing between the distribution pipe and the diffuser element.

To avoid buoyancy the support tube is flooded. When air is supplied, it is directed via the double nipple and support tube under the membrane. Through the slits of the membrane the air bubbles smoothly into the wastewater.

In order to supply a matching diffuser for every type of wastewater, Passavant-Intech produces membranes made of different elastomers for the special requirements of various wastewater. The most common material is EPDM, which has been successfully deployed for long time in municipal wastewater treatment. Particularly in industrial treatment Silicone is used as membrane material. Silicone membranes have a very smooth surface and a high resistance against wastewater that contains grease, oil and aromatic compounds.



right: Bioflex®IV  
below left: Bioflex®II  
below right: Bioflex®IV



Technical Data Bioflex®	Bioflex®II	Bioflex®IV
Total Length	2 x 855 mm / 2 x 1105 mm	2 x 838 mm / 2 x 1088 mm
Diameter	70 mm	63 mm
Membrane Length	2 x 750 mm / 2 x 1000 mm	2 x 750 mm / 2 x 1000 mm
Weight	1500g / 2000g	1500g / 2000g
Distribution Pipes	Plastics 110 mm, Stainless Steel 114,3 mm	60 / 80 / 100 / 120 / 150 mm
Membrane Material	EPDM / Si	EPDM / Si
Support Material	PP	PP
Connector Material	–	PA + GF / Stainless Steel
Connector Boring	25 ± 1 mm	43,5 mm
Specific Air Flow $q_L$	opt. 3-10 Nm <sup>3</sup> / (h x m <sub>diffuser</sub> ) max. 0-12 Nm <sup>3</sup> / (h x m <sub>diffuser</sub> )	opt. 2-10 Nm <sup>3</sup> / (h x m <sub>diffuser</sub> ) max. 0-12 Nm <sup>3</sup> / (h x m <sub>diffuser</sub> )

## Roeflex®

The disc diffuser Roeflex® stands out for its simple and robust design. The Roeflex® consists of a unique, convex shaped support disc. The disc is covered and enveloped by a flexible, slitted membrane of elastomer. In addition, a ring secures the membrane. Due to the disc's unique convex shape the membrane is slightly lifted off the disc when air is supplied, thus allowing an even distribution of the fine bubbles generated. The membrane can be delivered in different materials (e.g. EPDM, Silicone) and slit patterns (e.g. HL, SL) according to the application.

The disc diffuser Roeflex® is easily to install and can be mounted in two ways – with R 1/2" thread or with an adapter pin. The Roeflex® with R 1/2" thread is fixed to the distribution pipe by an inside thread, the Roeflex® with adapter pin is fixed with an EPDM-plug into a drill hole in the distribution pipe. Thanks to these fastening systems the Roeflex® offers least investment and installation costs.



### Technical Data Roeflex®

Diameter	315 mm
Weight	900 g
Connection	R 1/2" / Adapter Pin
Number of Slits	SL: 3000 / HL: 6000
Membrane Material	EPDM / Si
Support Material	PA + GF
Specific Air Flow Roeflex®SL <sub>qL</sub>	opt. 1-6 Nm <sup>3</sup> / (h x diffuser) max. 0-8 Nm <sup>3</sup> / (h x diffuser)
Specific Air Flow Roeflex®HL <sub>qL</sub>	opt. 2-10 Nm <sup>3</sup> / (h x diffuser) max. 0-12 Nm <sup>3</sup> / (h x diffuser)

## Your Benefits

- certified quality DIN EN ISO 9001
- appropriate for continuous and intermittent operation
- flexible use: all distribution pipes and all diffuser arrangements
- can be easily and rapidly fitted without special tools
- easy membrane exchange without demounting the support body
- wide range of specific air flow to adjust oxygen transfer to oxygen demand
- optimal bubble size due to the unique, optimised design:  
high oxygen transfer
- high oxygen transfer and low pressure loss:  
high oxygen transfer efficiency
- long life span due to wastewater resistant materials and solid design: high economy





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