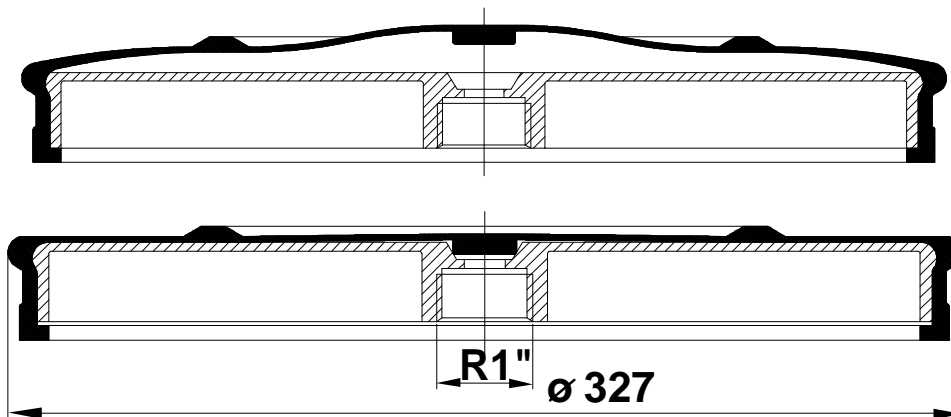


ENVICON membrane diffusers are high-quality products. In the manufacture of ENVICON diffusers, special attention is devoted to the quality of the EPDM membrane because it is a decisive factor for both the life and the economics of aeration systems.

The EPDM processing parameters specified for ENVICON membrane discs (e.g. EPDM mixture, processing temperature and velocity, mould temperature, etc.) are set and recorded on basis of a calibration curve by a computer-controlled, fully automatic process. The subsequent shaping of the membrane is by vacuum injection moulding - a process excluding wake space and air inclusions. Up-to-date technology ensures super-fine membrane slits. They are suited for intermittent aeration.

The air supplied gets beneath the membrane centrally, also forming an air cushion. This causes the membrane perforation to open so that the air streams into the wastewater. The particularly favourable input behaviour of this diffuser is made possible by a tension ring reinforcement inside the membrane. The membrane will change its deformation behaviour and is depressed without mechanical means. An additional sealing effect in rest position is achieved by the sealing stopper of the membrane which sinks down into the conical sealing surfaces of the support plate (reset valve).



Types

- EMS 1:** aerator with a stainless steel clamp
- EMS 2:** aerator with a plastic stretch ring
- EBA 1:** fixing adapter (for rectangular or round pipes 63 - 115 mm)
- EMS 1 (2)- S:** aerator incl. fixing adapter
- EMS - HT (- S):** aerator with a special membrane for deep tanks and hot air (max. 120°C)

When aerators are used in plants with great depth of water, high temperatures have to be anticipated for the input air. For this purpose, ENVICON has developed a membrane which is resistant to these temperatures without affecting the good input ratio.

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am: 01.06.06 von: Zehrt	am: 01.06.06 von: Wittka	am: 01.06.06 von: Charatjan	Data sheet EMS Rev. 3

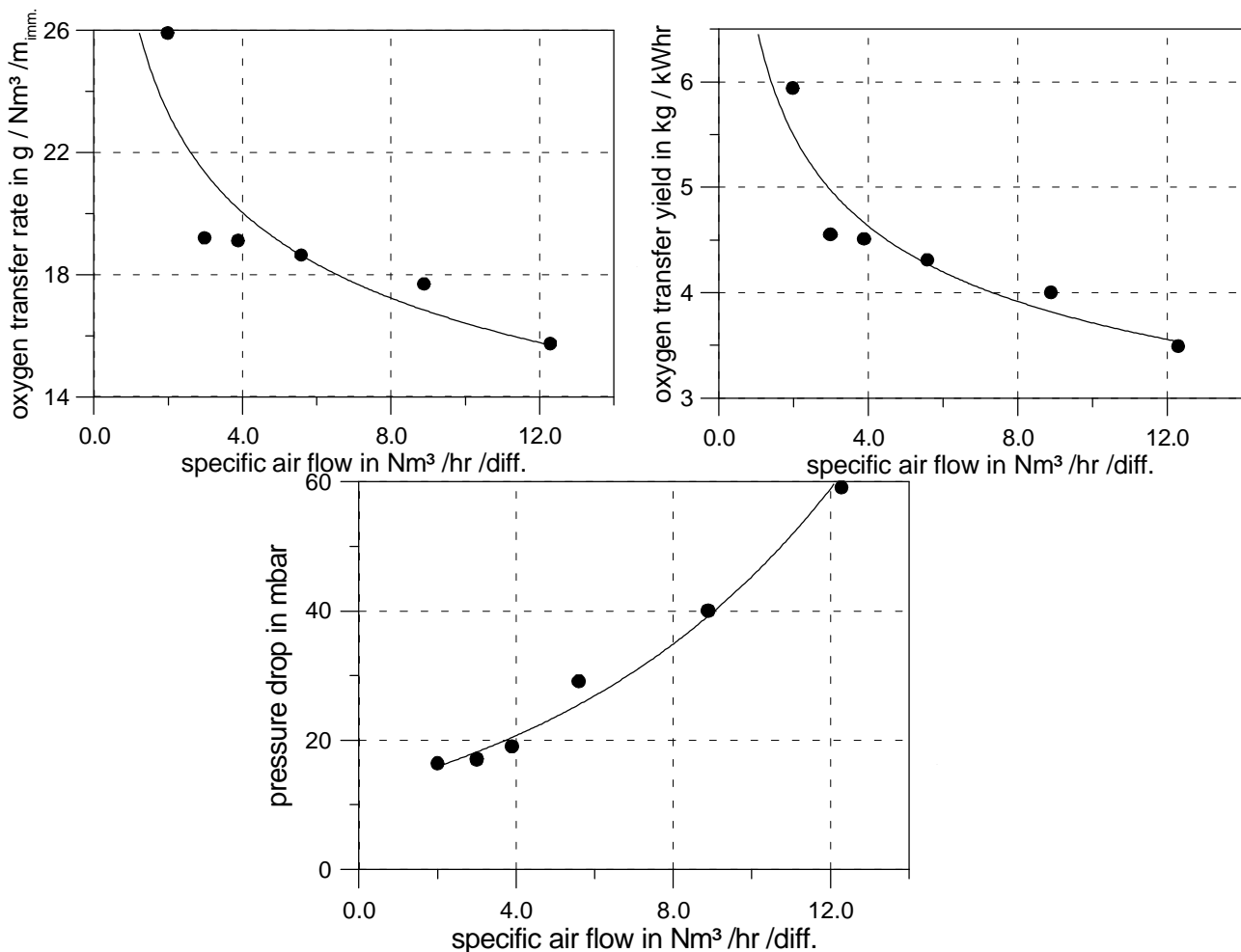


Fixing System

When installed conventionally, the diffusers are screwed onto the customer-provided distribution pipeline with threaded nipples. Lower cost with yet easier installation is made possible by the novel ENVICON fastening adaptor type EBA1. By sparing working steps and material, cost savings of approx. EUR 6,- per diffuser can be expected.

Performance data

Measurements were taken under standard conditions according German ATV M209 (clean water, water depth = 4,0 m, density of aerators 1,1 pc. EMS / m²)



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Recommended air passage

Standard: 6 - 8 Nm³/ (hr · Dif)

Max.: 12 Nm³/ (hr · Dif) (for continuously running, for a few minutes up to 18 Nm³/(hr·Dif.))

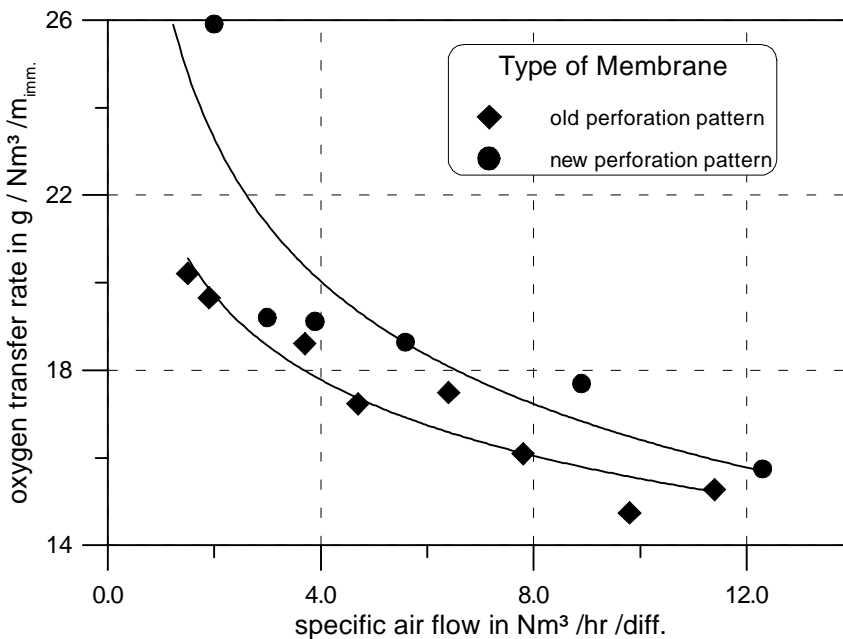
Min.: 2 Nm³/ (hr · Dif)

In order to ensure that the quality and operating efficiency of ENVICON aerators constantly remains at the highest possible level, tests are carried out at regular intervals for the purpose of optimization.

By using higher quality additives to improve the membrane quality, it is possible to extend the service life in many fields of application and to limit the increase in pressure loss due to the loss of softener components. Therefore, a special membrane with a long service life have been specially developed for use in industrial wastewater.

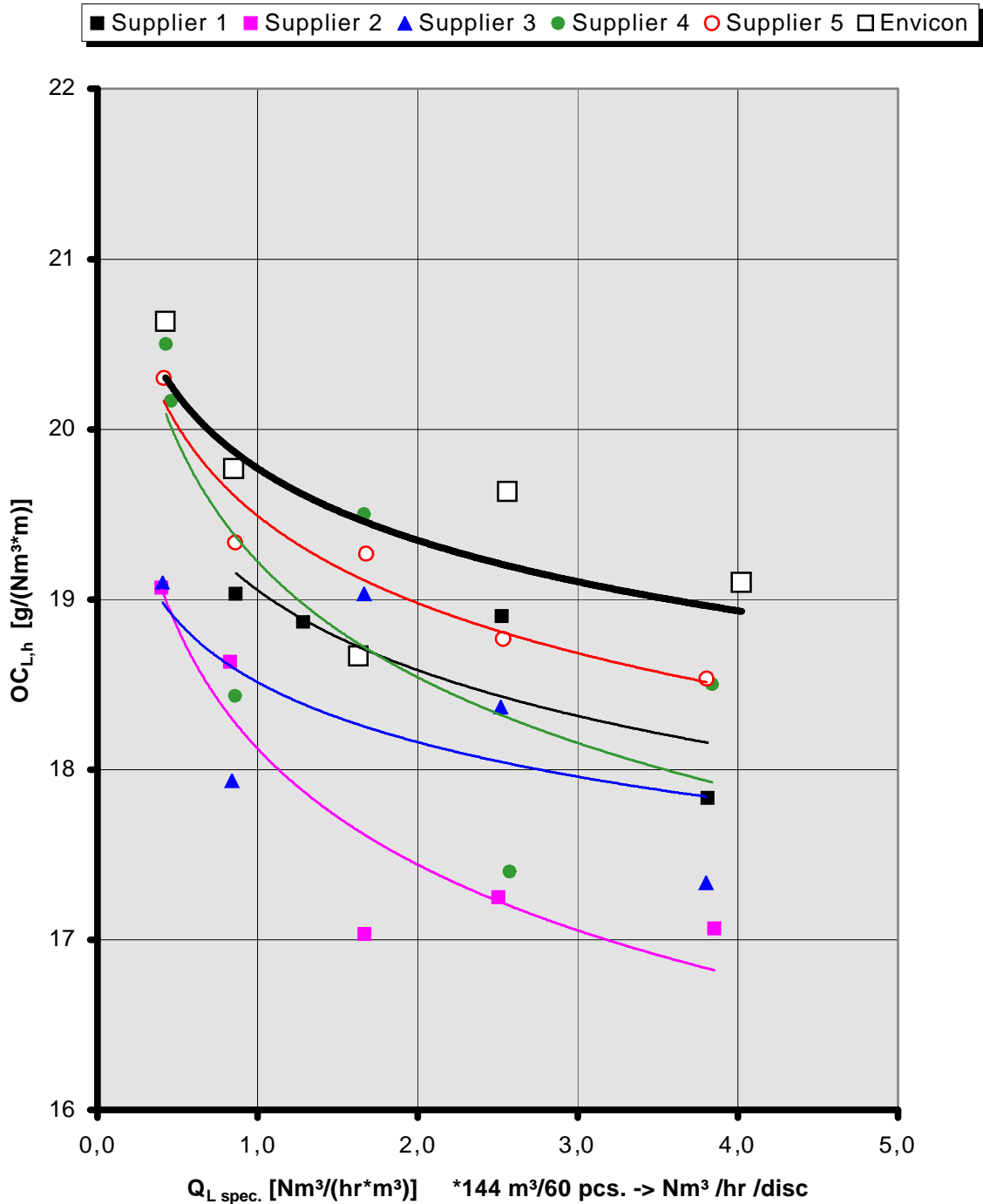
The specific oxygen input can be influenced by varying the perforation pattern.

The following graph in respect of the standard membranes in ENVICON membrane disc aerators show how the efficiency can be improved simply by varying the perforation pattern. This results in smaller blowers and fewer aerators being needed and in lower operating costs.



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In the following diagram you find the data of the improved ENVICON membrane disc diffuser compared with some other makes (tested in the same tank under same conditions).



(part from the independent test report of Emscher Wassertechnik GmbH 2000)

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