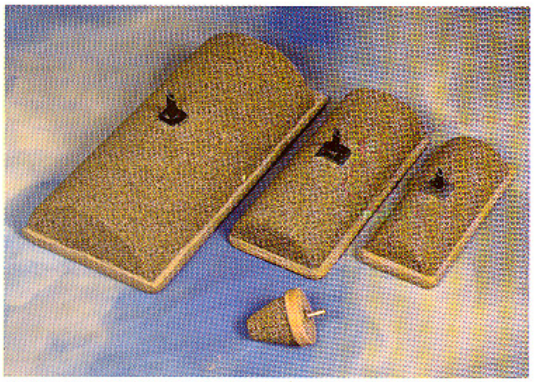
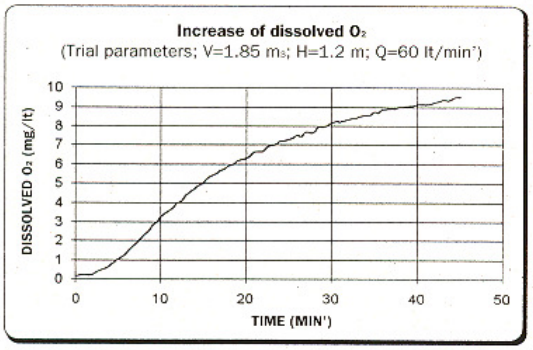
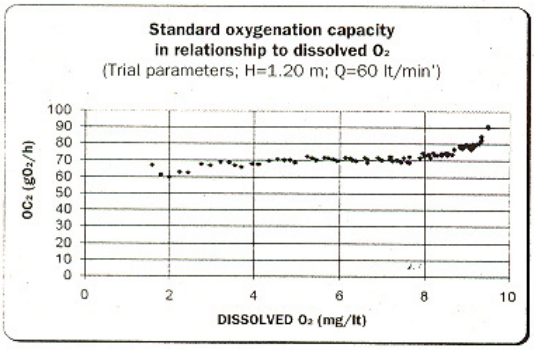
AIR DIFFUSERS





Experimental working tests performed on 4 O.R.M. mod. "A" diffusers



The O.R.M. Plate-type air diffuser is the most reasonable answer to the problems of air blowing in the smaller purification systems of biological activated muds.

The O.R.M. diffuser is available in different models and therfore is perfect to achieve suitable oxygenation results in every situation, in terms of the ratio of oxygen transferred to the water and the electric energy consumed by the blower.

Differently than depuration systems of large dimensions, the system for small communities, - and particularly those prefabricated for shipment, - introduces oxygen tanks with height limits of: 1,5 or 2 meters at the most.

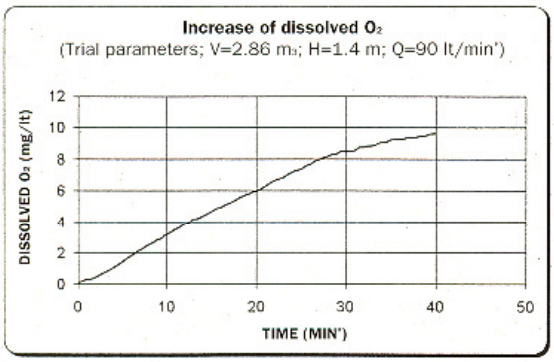
It is known that these submerged values drastically lower the discharge of the traditional air diffusers, projected and experimented on hydraulic columns which are much superior.
The O.R.M. diffuser, born due to the necessity of optimizing the continuous operation of the prefabricated Omnia Resin Mazzotti Systems, has been throughout the years, perfected for both reliability and yielding.

Using the O.R.M. diffusers in low usage systems, it is possible to transfer to the water 1 kg. of oxygen for the energetic cost of 1 kWh.

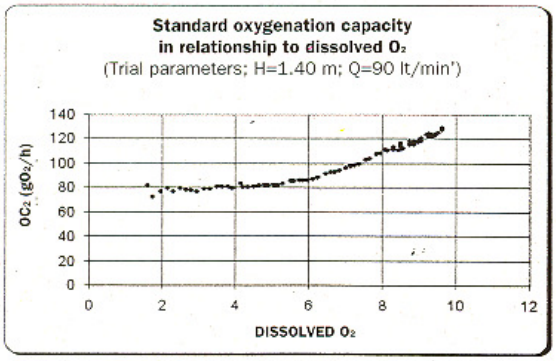
That is: hypothesizing a pollutant load of 60 gBOD5/(ab*die) and a requirement of oxygen equal to 2 g02/gBOD5, the electric power absorbed by the compartment of a purification system for 100 inhabitants will be of only 0,5 kWs.

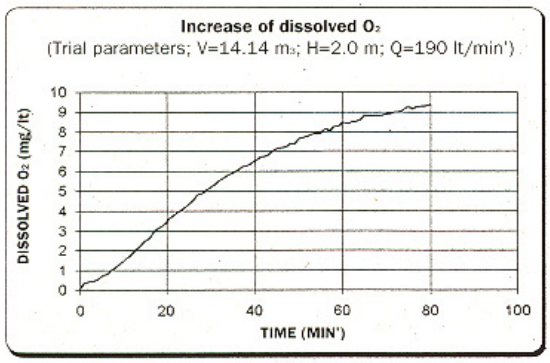
The O.R.M. diffusers are available in 3 different sized models, whose characteristics and recomended air flow are shown in the following chart:

Model	Total Dimensions mm	Air attachment Ø mm	Mass kg	Min-max flow (liter/min)
A	240x110x100H	10	2	10 - 20
B	310x135x110H	10	3	20 - 40
C	430x210x160H	12	10	40 - 100

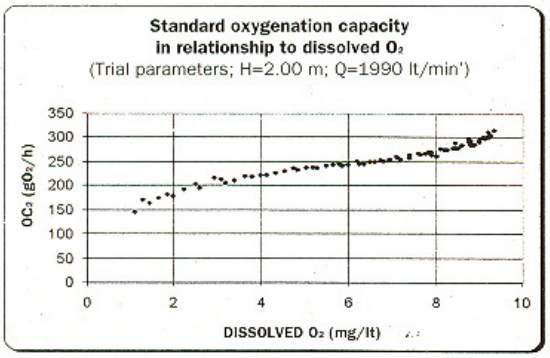


Experimental working tests performed on 4 O.R.M. mod. "B" diffusers





Experimental working tests performed on 4 O.R.M. mod. "C" diffusers



With its ability to perfectly spread even the smallest air flows, the "secret" of the O.R.M. diffuser can be summarized as follows: no matter what type of flow, looking at the surface of the water you will always see a myriad of tiny bubbles, thanks to which a suitable exchange of oxygen is possible from the air to the water, even with the limited contact time due to the small ascent distance.
Peculiar mechanical characteristics of the O.R.M. diffusers are:
Crushproof porous **plate** made by a mixture of stony granular material and fiberglass, practically unchangeable in time;
Fiberglass **support base**;
P.V.C. air **attachement**;
Specific working weight which is heavier than the weight of the water, therefore perfect in order to simply lay on the bottom of the tank (our recommended installation, absolutely the simplest and most economic, is that with flexible hose).

The fact that the O.R.M. air diffuser was born due to the necessity of optimizing the operation of smaller systems obviously does not exclude the utilization even in other situations.

The O.RM. diffusers are in fact usually used, with very interesting results, in a variety of situations, among which we signal:
Biological depuration systems of all dimensions, in tanks for aerating sewages and in those for sludge digestion;
De-greasing tanks, in which they favor the ascent of oils and greases without provoking their emulsion;
"being air mixers" in **compartments for the chemical addition** to sewage, thanks to the elevated degree of resistance of the fiberglass to chemical aggression;
Compartments of air equalization or other situations that contemplate the possibility for the diffuser of air to remain dry, and therefore also exposed to the sun for long periods (devastating situation for the traditional diffusers, No problem for O.R.M diffusers.);
aerobic and airing basins characterized by elevated extensions and low depth;
temporary installations (land reclamations, deoderizations, etc.) or every time the contingent situation does not advise the realization of fixed installations.

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