

OPERATING EXPERIENCE OF THE NITRATREDUCTOR IN THE CLOSED AQUARIUM SYSTEMS

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Nitrate filter (or nitratreductor) is a filtration system component and one of the most important parts of the closed type systems for the liquid cooling (SLC) in the marine aquariumistics.

The main job of this filter is to convert nitrate to nitrogen gas and/or nitrous oxide (laughing gas), which, being evaporated, leaves the aquarium.

There are several types of the nitrate filters, which differs by nutrients for bacteria:

1. Alcohol filter;
2. Lac filter (using milk sugar);
3. Sulphur filter;

In our oceanarium «Neptune Planet» it was decided to buy and use Sulphur filters in SLC of the marine aquariums due to simplified operation process. Besides regular nitrite and nitrate measurements in filtered water, replenishment process of granulated Sulphur and calcium carbonate takes place. So, there is no need to feed bacteria with milk sugar or alcohol, which is required in the first two types of filters.

We installed in SLC of the main aquarium sulphuric denitrifier ADN600 manufactured by Aqua Care company. After filter installation not only the process of nitrate accumulation has decreased, but also there was a reduction in their concentration.

Therefore, during the installation process, especially while assembling and entering into service our specialists faced several deficiencies in the construction and exploitation problems, which required additional unit modifications from our employees.