

A Case Study

Odisha's Fish Exporting Giant Installs Biofilter

For their Shrimp feed Manufacturing facility in Bhubaneswar

Background

Falcon Marine Exports Limited is one of the major players in the export of Quality Marine Products to the world. The company was setup under the visionary leadership of Mr Tara Ranjan Patnaik and Mr Prava Ranjan Patnaik in the early 1980's. The company runs over 6000 aquaculture ponds spread over 3000 hectares of water area. The company has got the shrimp feed manufacturing, Hatcheries, shrimp farms up to the exporting of the products. By this mechanism they adhere to the quality of the product they deliver to different countries across the length and width of the globe. The Falcon Marine Exports Ltd., is a major arm of the Falcon Group of Companies.

The Falcon Feeds Division was started in the year 2017 in Bhubaneswar mainly to meet the in-house demand of quality feeds. The company manufactures Shrimp feeds mainly for domestic market. Falcon Feeds had installed a chemical scrubber to mitigate the odour pollution. But the odour mitigation was not enough and therefore the company decided to augment the treatment by addition of Biofilters, as a kind gesture from a responsible company. The company installed India's first Biofilter for the emission control from feed manufacturing facility. The raw material for the shrimp feed manufacturing includes several components including fishmeal and soybean meal. These ingredients give a characteristic high fishy smell to the production process. The manufacturing process of shrimp feed includes unloading of raw materials to the bin, grinding, mixing, extrusion/palletising and sterilisation (post processing/cooking). This post processing (cooking) of the feed emits pungent fishy/soya smell. The emissions from the cooking process is captured by three centrifugal blowers of about 11,000 m³/h flow making a total of 33,000 m³/h foul gas.

Biofilter Performance

The Biofilter installation was done by Elixir Enviro Systems Pvt Ltd. The media used was proprietary media. The advantage of using Biofilter is its unmatched odour removal efficiency of 99.5%. Complete stoppage of chemicals used in the chemical scrubber was possible after installation of the Biofilter, and the happy employees and a supporting neighbourhood were an added advantage.

Sample #	Biofilter Inlet OU(DT)	Biofilter Inlet OU(DT)	Removal Efficiency (%)
Sample 1	11,335	19	99.8
Sample 2	8,342	55	99.3
Sample 3	11,250	51	99.5
Sample 4	22,500	102	99.5

OU - Odour Units; DT - Detection Threshold



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