

## **ENVIRON ENGINEERING COMPANY, BARODA (GUJARAT)**

### **ENERGY EFFICIENT AERATORS SUITABLE FOR SECONDARY EFFLUENT TREATMENT PLANT**

Today, due to rapid industrialization, GLOBAL WARMING and the Environment have become the cause of great concern and real live issue of the world . The industries are being pursued rigorously to ensure that the Pollution Control and Energy Conservation Systems adopted are continuously under operation. Hence the adoption of suitable economically cost effective Energy Conserving and very efficient methods of Pollution Control is the TOP PRIORITY for any Industry.

In any Effluent Treatment Plant, having Chemical and Biological Treatment, most of the energy is consumed in Biological Secondary Treatment. Hence the ENERGY REDUCTION of Secondary Biological Treatment, becomes the TOP MOST priority aspect for us. Hence the ENERGY EFFICIENT AERATORS suitable for Secondary Effluent Treatment, become the most important criteria nowadays, so far as reduction in Energy Consumption and GLOBAL WARMING are concerned.

Continuous R & D activities should be carried out in Design and Manufacturing of Aerators so that more and more OXYGEN TRANSFER per HP per hour is achieved by the Aerators.

For any ENERGY EFFICIENT AERATORS, apart from the criteria of more OXYGEN TRANSFER per hp per hour, MIXING Criteria is also equally important.

The Oxygen which is delivered by Aerators should MIX thoroughly throughout the volume of Aeration Tank. Hence, ENERGY EFFICIENT AERATOR must be a good MIXTURE also, to avoid the development of SEPTIC Condition at Bottom or any corner of Aeration Tank, and hence to achieve efficient BOD reduction of effluent.

When the Side Water Depth of Aeration Tank is more than standard one, the Design of Impeller of Aerator is required to be changed accordingly. If the Design of Impeller is not changed, development of SEPTIC Condition at bottom floor level of Aeration Tank occurs due to settlement of Dead Bacterial Mass.

So, ENERGY EFFICIENT AERATORS, not only should take care of maximal OXYGEN TRANSFER at Minimal Energy, but also should create rigorous MIXING throughout the volume of Aeration Tank.

ENVIRON ENGINEERING COMPANY, situated at 864/3/B, G.I.D.C. Industrial Estate, Makarpura, Vadodara-390 010, Gujarat, established in the year 1977, manufacturing ENERGY EFFICIENT AERATORS, alongwith Clarifier, Clariflocculator, Thickner, Agitators, etc., are the only **MANUFACTURERS HAVING R & D FACILITY** and, **inhouse, OXYGEN TRANSFER TESTING FACILITY**, as per **AMERICAN STANDARD for SURFACE AERATORS UPTO 150 HP RATINGS**.

Under the pursuit of quality assurance, ENVIRON has conducted and given in-house Oxygen Transfer Tests as per American Standard and Wrinkler's Procedure for:

- 1). M/S. AUROBINDO PHARMA LTD. - VIZAG for 100HP - on 20th Sept. 2002 & achieved 2.24 kg of O<sub>2</sub>/HP/HR.
- 2). M/S. RELIANCE - HAZIRA for 50HP on 9<sup>th</sup> September 2004 and achieved 1.6 kg of O<sub>2</sub>/HP/HR.

Contd....P....2.....

:2:

- 3) M/S CHEMINOR DRUGS LTD. - HYDERABAD for 30HP on 20<sup>th</sup> July 2000 and achieved 2.82 kg of O<sub>2</sub>/HP/HR.
- 4) M/S. KODINAR SUGAR FACTORY – KODINAR FOR THEIR ORDER OF 4 NOS. 30HP AERATORS.
- 5) M/S TAMILNADU PETRO PRODUCTS – CHENNAI for 25HP AERATOR on 16<sup>th</sup> Feb 1999 and achieved 2.20 kg of O<sub>2</sub>/HP/HR.
- 6) M/S. SOUTH INDIA VISCOSE (SIV INDS.) – COIMBATORE for THEIR ORDER OF 10 NOS. 20HP AERATORS on 18<sup>th</sup> Aug 1994 and achieved 1.72 kg of O<sub>2</sub>/HP/HR.
- 7) M/S. TAMILNADU PETRO PRODUCTS – CHENNAI for THEIR ORDER OF 20 NOS. 10HP AERATORS on 15<sup>th</sup> Nov 1997 and achieved 1.70 kg of O<sub>2</sub>/HP/HR Oxygen Transfer.
- 8) M/S. TAMILNADU PETRO PRODUCTS - CHENNAI for 10HP - Aerator - with 3% salinity Water used in Testing Tank – and achieved 1.03 kg of O<sub>2</sub>/HP/HR.
- 9) M/S. GUJARAT INSECTICIDES LTD. – ANKLESHWAR for Order of 5 Nos. 5HP Aerators on 2<sup>nd</sup> Aug 1999 - and achieved 1.82 kg of O<sub>2</sub>/HP/HR.
- 10) M/S PATTANCHERU ENVIRO TECH LTD. – PATTANCHERU CETP– for 30HP AERATOR on 27<sup>th</sup> December 2004 and achieved 1.91 kg of O<sub>2</sub>/HP/HR.
- 11) DEONAR SLAUGHTER HOUSE - DEONAR for 10HP - Aerator - on 1st July, 2003.
- 12) DEONAR SLAUGHTER HOUSE - DEONAR for 30HP - Aerator – on 28th Aug. 2003
- 13) M/S DOMBIVILI BETTER ENVIRONMENT – DOMBIVILI (CETP),MIDC - for 40HP AERATOR on 7<sup>th</sup> Feb 2005 and achieved 1.98 kg of O<sub>2</sub>/HP/HR.
- 14) M/S. VAPI CETP, VAPI – For 40HP Aerator on 20.05.2009.
- 15) M/S TORRENT PHARMACEUTICALS LTD.,INDRAD (AHMEDABAD) for 30HP AERATOR on 13<sup>th</sup> Dec 2006 and achieved 1.96 kg of O<sub>2</sub>/HP/HR.
- 16) M/S HINDUSTAN NEWSPRINT LTD., KOTTAYAM DIST. - for 25HP AERATOR on 9<sup>th</sup> Dec 2004 and achieved 2.40 kg of O<sub>2</sub>/HP/HR.

ENVIRON ENGINEERING COMPANY carries out the ENERGY AUDITING for the existing AERATION SYSTEMS and checks the possibility of reducing the Energy Costs in the present existing Aeration Systems. We have carried out the ENERGY AUDITING for several industries & saved the **SIZEABLE AMOUNT OF ENERGY** in the Existing Aeration Systems by installing ENVIRON make Energy Efficient Aerators. Some of them are:

Contd....P....3.....

:3:

1. At M/s. Hindustan Newsprint Ltd., Kottayam Dist, (Kerala), they have got 16 Nos. of existing 75HP Aerators in their Aeration System, where we have reduced the ENERGY by 50HP per Aerator by replacing 6 Nos. of 75HP existing Aerators by our 6 Nos. of ENVIRON make 25HP ENERGY EFFICIENT AERATORS. They are replacing all their AERATORS stage-wise & will be saving the total Energy of **800HP**.
2. At M/s. Ballarpur Industries Ltd., Yamunanagar (BILT), where Total ENERGY of **550HP** was saved in their existing AERATION SYSTEM, by installing our 10 Nos. of 20HP ENERGY EFFICIENT AERATORS in place of their existing 10 Nos. of 75HP AERATORS; and achieving the required results also in their AERATION SYSTEM with Aeration Tank depth of 4.5 mtrs.
3. At M/s. Pattancheru Enviro-Tech Ltd., Patancheru, one of the BIGGEST CETP'S of India, where previously the Liquid Oxygen was additionally injected in their AERATION SYSTEM already having 50HP Surface Aerators, but after installing our 16 Nos. of 30HP ENERGY EFFICIENT AERATORS, their expenditures in Liquid Oxygen was stopped & also in POWER has been reduced drastically.
4. At M/S DOMBIVILI BETTER ENVIRONMENT SYSTEM - Dombivli (one of the Biggest CETP's of Maharashtra, having the Aeration Tank DEPTH OF 4.5Mtrs.) EIO<sub>2</sub> AERATORS were running & had zero D.O. level; these AERATORS were replaced by our 8 Nos. of 40HP ENERGY EFFICIENT AERATORS. They got the results as per the MPCB Norms and now it is considered as the BEST CETP.
5. At Vapi CETP-Vapi- One of the Biggest CETP of Gujarat - In 2 Sections of Aeration Tank of 4.5Mtr. SWD, they were using Diffused Aeration System, as they were facing lot of problems & also not getting the required results, they have replaced the same with 10 Nos. 40HP ENVIRON make Energy Efficient Aerators and they are satisfied with the performance of the Energy Efficient Aerators & getting required results as per GPCB Norms.
6. Presently, at M/s. Tamilnadu Newsprint & Papers Ltd., Kagithapuram, they have got 26 Nos. of 75HP Aerators of other make, where we are replacing the same with our 26 Nos. of 40HP Energy Efficient Aerators. They have placed the order for 4 Nos. 40HP Aerators. They are going for stagewise replacement. They will be replacing all the Aerators and will be saving **Energy of 910HP**.
7. At M/s. Gujarat Insecticides Ltd., Ankleshwar, 1 No. 20HP Aerator of other make + 10HP Diffused Aeration were running in their Aeration System without getting the D.O. Level. We have replaced the Aerator & the Diffused Aeration by our 1 No. 12.5HP ENERGY EFFICIENT AERATOR. The required D.O. Level & BOD reduction were achieved and saved ENERGY of **17.5HP**.
8. M/s. Aurobindo Pharma Ltd., Hyderabad, are satisfied with the performance of our all ETP Equipments and hence they have given us the orders for **ALL THEIR 27 Nos. OF PLANTS** throughout Andhra Pradesh.

Contd....P....4.....

:4:

Since, AERATORS are running 24 hours in a day and continuously throughout the year, ENVIRON ENGINEERING COMPANY, the First in India, to introduce certain additional features in their AERATORS to achieve minimal maintenance and trouble free longer life, like:-

- a) Extra bearing support for aerator Impeller shaft.
- b) Machined Steel ISMB beam base for Aerators of 20 HP and above ratings.
- c) Machining the Aerator Impeller at centre and Base to achieve concentric running of Aerator Impeller.
- d) Fully Machined Solid M.S. Shaft for Aerator.
- e) Special Aerators with Multiple Stage Impellers for the Aeration Tanks having more than 3 Metre water depths.
- f) Providing FRP lining on aerator shaft & impeller as standard feature for longer life of the equipment.
- g) The Aerator wetted parts Impeller and Shaft in Rubber-lined and S.S. construction, if asked for, can be provided at an extra cost.
- h) Under Quality Assurance Plan, each and every Aerator is run for TWO hours in, inhouse, Hydraulic TESTING FACILITY before despatch.
- i) Oxygen Transfer Test in, in-house Testing Facility, before despatch would be given free of cost, if the single order is for more than **six nos.** of AERATORS.

Place: BARODA.  
Date: 07.05.2010.

(C.B. THAKORE)  
PARTNER  
ENVIRON ENGINEERING COMPANY  
864/B/3, G.I.D.C., MAKARPURA  
BARODA-390 010, (GUJARAT)