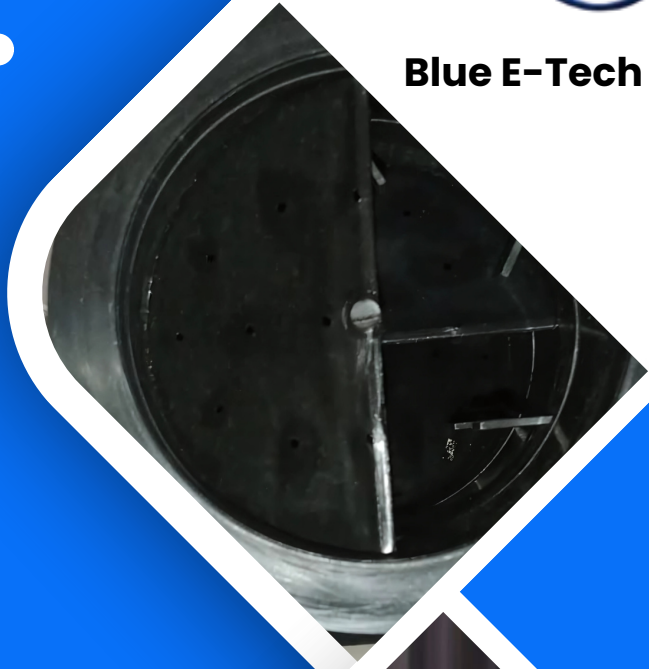


Discover Excellence When it
Comes To Innovation & Reliability



Blue E-Tech Pvt Ltd

BET AIR DIFFUSER



BET AIR DIFFUSER

**Redefining Diffused
Aeration Concepts**



Designed and Manufactured by Blue E-Tech Sdn Bhd
Headquarters in Malaysia

80562 59736
blueetech2024@gmail.com

blueetechindia.com

No.39/3A1B, Veeraraghavalu
Nagar 1st Street, Kathirvedu,
Chennai 600099.

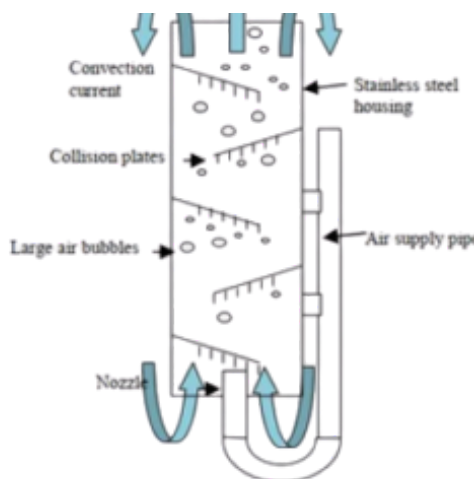


BET Air Diffuser

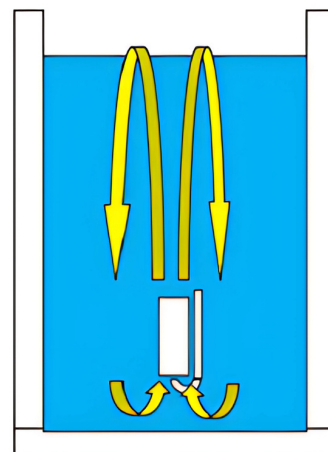
BET- 76 Air Diffuser is cylinder type air diffuser with a air pipe connected at an angle in the bottom side. As air is jetted from the bottom of cylinder, it draws water and sludge from the bottom of cylinder, it draws water and sludge from the bottom end by venturi effect

Next the mixture undergoes multiple collision through a series of collision plate causing it to thoroughly mix sludge and air. The collision also breaks the air to coarse and fine bubble.

Finally it exists the cylinder and creates an eddy current type of flow within the tank. "Eddy Current" type movement is useful for keeping sludge on suspension and allowing air bubbles to remain longer in water and this assist in better oxygen transfer to wastewater.



Internal Flow pattern



External Flow pattern



Significant Features



Significant Features	Details
Installation depth	From a minimum 1 m depth
Non clogging design	Due to large diameter opening, no clogging is encountered. Intermittent running and denitrification can be freely performed
Power cost reduction 20% - 40% compared to other types of diffusers	With small pressure loss between air intake (40A) and discharge (25A), the power cost can be substantially reduced.
Bottom sludge scouring and mixing with high oxygen transfer	Sludge on the tank bottom is drawn into the pentagonal cylinder. Sludge and air are broken down into fine particles and increase the oxygen transfer rate, while colliding, being stirred and rotating. This shows BET diffuser purifies the water.
Easy maintenance	The main body and internal is made of Polypropylene, Maintenance free.

Performance Chart Tested by SIRIM

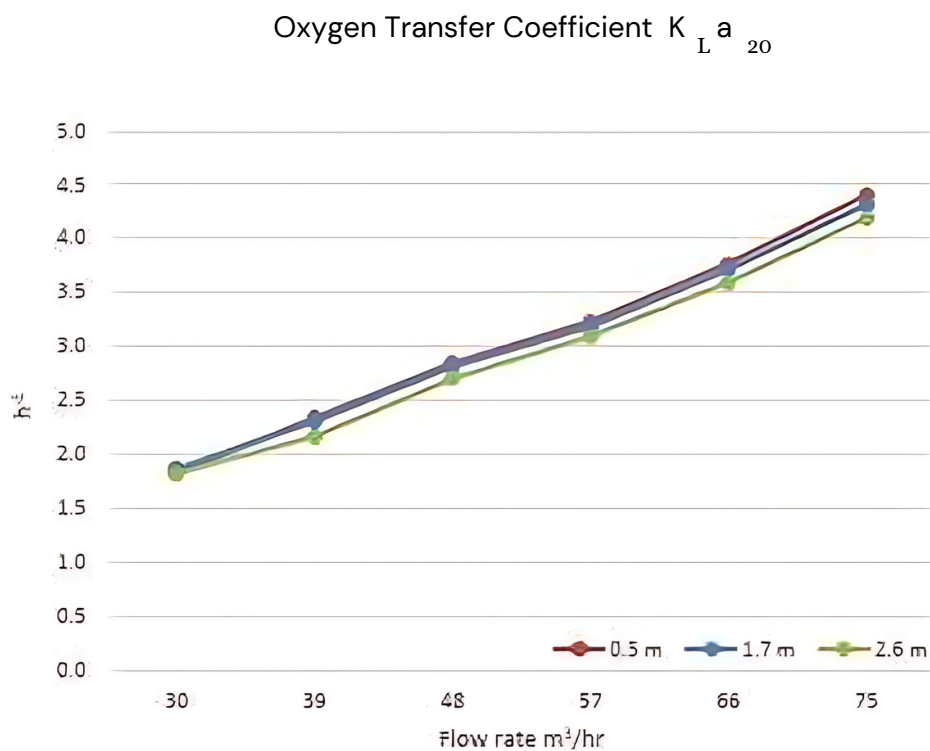


Figure: 2 Mass Transfer Coefficient $K_L a$ Aerator at different depth

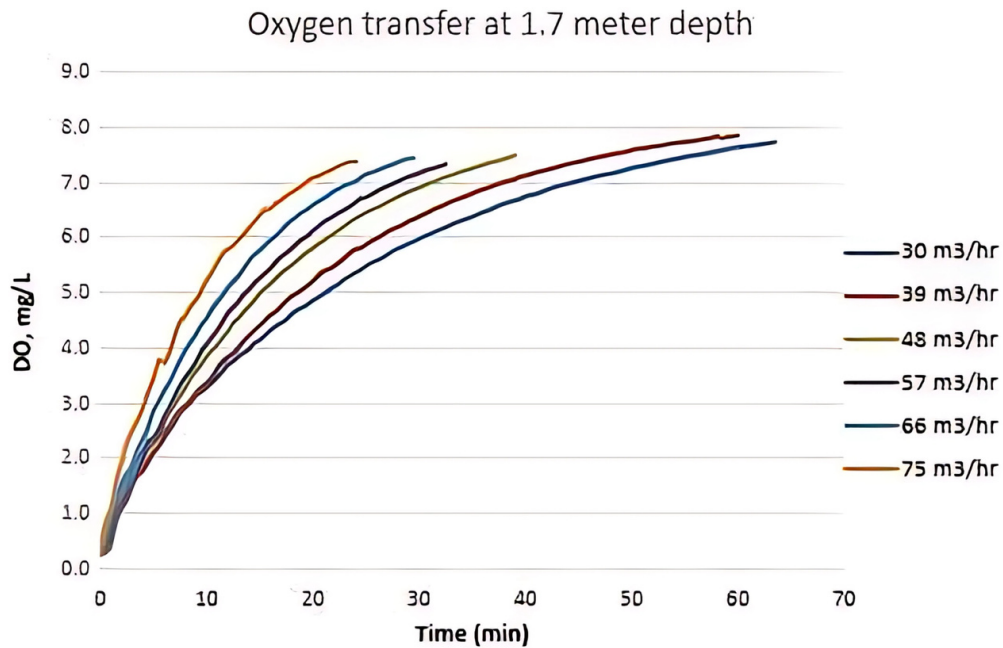


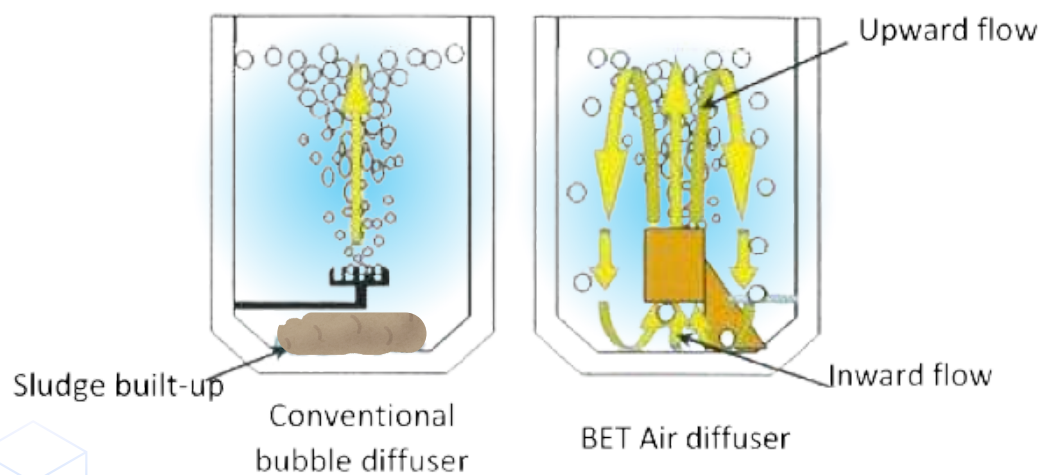
Figure 8: Oxygen transfer of aerator at 1.7 m depth

BET 76 Air Diffuser Dimensions

Overall Dimension BET 76

125 mm dia x 570 mm H

Conventional Diffusers Vs BET 76





BET Air Diffuser Advantages

Advantages	BET Air Diffuser	Conventional diffusers
Product life	Over 10 year	Around 3-5 years
Clogging	No clogging	Frequent clogging
Sludge Accumulation	No sludge accumulation	Frequent due to low circulating effect
Mixing effect	Intense mixing via conventional current generated by the fast moving large bubble	No mixing as the flow is upward only
Power cost Very	Very minimal cost due to low pressure loss	High power cost due to fine diffuser pores causing high pressure loss.
Intermittent running	Can be operated intermittently without causing operational issues	Intermittent operation causes clogging and reduction in bubble generation
Solids concentration	High solids concentration is not a problem	High solids concentration causes settling at the tank bottom
Piping work	Only a few pipework is required	Complex pipework required due to a large number of diffuser is required to cover a small area
Installation without draining	Possible to install without draining by attaching weight at the aerator bottom.	Cannot be installed without draining



Application areas

TREATMENT OF INDUSTRIAL EFFLUENTS

***Can be used at facilities troubled by animal oil and fat, persistent substances and offensive odors, etc.**

Organic discharge:

Food (processing, freezing, etc.,) / beverage (including dairy and brewery) / livestock (night soil, etc.), Palm Oil mill effluent etc.

Inorganic discharge:

Plant (dying, papermaking, semiconductors, liquid crystals, etc.) / chemical plant (pharmaceutical, printing, etc.) / thermal discharge from power plants or steel manufacturers and its cooling / linen supply, etc.

TREATMENT IN PRODUCTION LINE

***Superior in stirring and gas-liquid mixing, can be used in various fields.**

- Food/beverage plant (two liquid-mixing), etc.
- Chemical/pharmaceutical plant (chemical reaction), etc.

GAS ABSORPTION/DEGASSING, ETC.

***Dissolution of harmful gas into liquid or diffusion and removal from liquid.**

STIRRING FOR NEUTRALIZATION

- Effective mixing of undiluted solution and reagent.
- such as undiluted solution and pH preparation reagent.

OTHER

***The BET Air diffuser can be used in a wide variety of industries other than the above.**



Validation Certificate



**VISVESVARAYA NATIONAL INSTITUTE OF TECHNOLOGY, NAGPUR –
440010, MAHARASHTRA, INDIA**

Dr. C.Ravikumar Ph.D. (IIT Bombay), P.Doc (USA)
Assistant Professor
Department of Chemical Engineering
Email: ravikumar@che.vnit.ac.in
Phone: +91-712-2801785

Date: 28.11.2024

CERTIFICATE OF VALIDATION

This is to certify that the equipment BET-76 Air Diffuser manufactured by M/s. BLUE E TECH SDN BHD, No.253, JALAN Persiaran, S2, C1, Seksyen, Seremban-2,70300, Seremban, Negeri, Sembilan, Malaysia, was tested on October 14, 2024 for the parameters as follows:

S.No	Description	Results
1	Name of the company	 M/s.BLUE E Tech Sdn Bhd
2	Product Name	BET-76 -Air Diffuser
2	Type	Hydrodynamic
3	Application Area	Aerobic system
4	Air blowing capacity	60 cum/hr
5	Material of Construction	Polypropylene
6	Product Dimension	125 mm Diameter 570 mm Height
7	Size of Air bubbles	1-2 mm
8	Zone of Influence	6-7 m ²
9	Alpha factor	1.0
10	Oxygen transfer Rate	6-13%

Upon thorough verification, the above parameters of the equipment have been checked and confirmed to be in compliance with specifications provided by M/s. BLUE E TECH Sdn Bhd Malaysia. The above observations were recorded as part of the validation process to ensure the equipment meets the required specifications and process requirements.

The equipment has been verified for adherence to the specified parameters only.

Authorized Signatory



C. Ravikumar



INSTALLATION (HOSUR)



PROCESS



IMAGES

