



Akshaya InnoTech

Solutions for a Cleaner World



Solutions:

Engineering | Environment | Health | Food and Agriculture | Aquaculture
Solid waste Management | Lake Cleaning (Oxytech Reclamation) | Miyawaki Forest

Products:

Eco-Bud STP | MBBR | SBR | MBR STPs | Effluent treatment Plants | Domestic and Industrial RO Systems | DM Plants | Softeners and EDI Plants | Ultra Filtration & Nanofiltration | Zero Liquid Discharge Systems | Biodigesters | Alkaline Water

About Us:

Akshaya InnoTech is a End-to-End solution provider focused on the discovery, development and commercialization of Novel Water and Waste Water Treatment Technologies, Foods, Biotechnology, Probiotics, Feed Supplements and Specialty Molecules. The company has a dedicated focus on catering to the needs of customers looking for Water, Solid waste, Bioenergy, Wastewater, Food, Feed and nutritional requirements for human healthcare and Animal healthcare. Backed by a Young and Energetic team consisting of Biotechnologists, Chemists, Marketing and Management Professionals, our products have been developed through extensive research over many years. The company has proven capability in R&D, Scale-up, and has state-of-the-art production facilities to manufacture a wide range of bioactive molecules.

Akshaya has an immaculately laid portfolio based on its core strengths of knowledge and experience in diversified Sciences such as **Environment, Food Technology, Engineering, Aquaculture, Veterinary Biotechnology, Pharmacy, Biochemistry, Microbiology, Chemical engineering** and many more. Akshaya's Environment vertical deals with Liquid and solid waste treatment, pollution abatement and control, wastewater treatment and recovery, biofuel production from solid wastes, recovery and reuse of water, organic manures and providing clean solutions. This vertical also deals with Bioremediation, Reclamation of contaminated water bodies and sites, control of aquatic weeds using its proprietary biomolecules and enzymes. The livestock vertical deals with different livestock segments such as Poultry, Aquaculture and Veterinary Sectors.

The Core value of **Akshaya** is it's committed approach to provide simple, yet effective solutions to multiple problems related to Water, Wastewater, Environment, Chemistry, Food Technology and Aquaculture problems. Working towards a cleaner environment, Akshaya's dedicated team of experts constantly work on bringing the latest and advanced technologies at an affordable cost.

Sister firms:

Vegesna Biosolutions, Akshaya Engineering Innovatives are the sister concern firms of **Akshaya InnoTech**, which work on large scale projects in association with the company and has experience in completing projects both in Govt., and Private sector.

Management:

Dr. V Renu Sarath Babu, Ph.D. in Biotechnology: Partner

Dr. Sarath Babu holds a Doctoral degree in Biotechnology and has 20 Years of Research and Development Experience. He has initiated a startup Vegesna Biosolutions which is now a sister concern of Akshaya InnoTech and has to his credit, the best technology award by IIT Mumbai, Best startup award by Times of India, Innovative water treatment technology award for his Bio oxidation technology by the state of Andhra Pradesh.

N. Swami, B.Tech in Mechanical Engineering: Partner

N Swami, Mechanical Engineer with 25 years' experience in MNC's and expert in equipment design for Lakes, water treatment & Biowaste units.

Ravi Teja Baggam, B.Tech in Mechanical Engineering, MBA in Project Management: Partner

Y. Srikanth, B.E., CSE.: Managing Partner: B E (ECE)

Dr. Y. Gita Srikanth, Ph.D. in Social Sciences: Partner

Satish Kumar, B.Tech. Chemical Engineering, M. Tech Nanotechnology: Partner

Ch. Narayana Murthy, Partner.

R&D Team:

Dr. Ch. Durga Devi, Ph.D. in Biotechnology.

Dr. Babul Reddy, Ph.D., in Industrial Microbiology.

Er. B.Keerthi Priya, Ph.D (Pursuing), M Tech

Mr. V Pratap Varma, M.Sc. Ecology and Disaster Management.

Technical team:

The technical team of Akshaya has personnel from Mechanical, Electrical, Pipeline Engineering, Food Technology, Biotechnology, Civil and Electrical Engineering. The team has a consolidated experience of 50+ years in the fields of Water Treatment, Construction, R&D, Electrical and Management.

Support Team:

The support team of Akshaya consists of a team of 15 technicians trained to handle the projects from all stages of installation, commissioning and maintenance. With the strong team expertise, Akshaya provides very prompt service.

Advisory Panel:

Prof. N G Karanth, M.Tech Biochemical Engineering, Ex. Dy. Director, CFTRI, Mysore.

Dr. M S Thakur, Ph.D., Microbiology, Ex. HOD, Fermentation technology Dept., CFTI, Mysore.

Prof. PARK Raju, HOD, Civil Engg, and Dean R&D, SRKR Engineering College, Bhimavaram.

Prof. Sanjukta Patra, Professor in Biotechnology and Bioengineering, IIT Guwahati.

Prof. S Patil, Retd. Professor and Head of Applied Microbiology Dept., Devi Ahilya University, Indore.

Research Collaboration :



Solutions Offered:

- + Domestic and Industrial Raw Water Treatment Solutions.
- + Sewage and effluent treatment solutions.
- + Industrial Effluent Treatment Plants,
- + Waste Dump solid waste management.
- + Solar Energy Solutions
- + Solid waste management solutions, including Biodigesters, Biomethanation and Biocomposting.
- + Solar Energy Solutions.
- + Agriculture, Food, Environment Equipment and Plant design, installation and commissioning
- + Aquaculture Systems including Recirculatory Aquaculture Systems, Biofloc, and Biomimicry, Aquaponics and Hydroponics.
- + Aquaculture Feed Supplements, Probiotics and Pond Management Solutions.
- + Miyawaki High Density Forest Systems for Green Cover.
- + Aquaculture Systems including Recirculatory Aquaculture Systems, Biofloc, and Biomimicry, Aquaponics and Hydroponics.
- + Aquaculture Feed Supplements, Probiotics and Pond Management Solutions.
- + Miyawaki High Density Forest Systems for Green Cover.
- + Closed Farming including Green Houses and Shade Houses and Integrated Farming Systems.
- + Bioremediation, Reclamation and Restoration of Polluted Water Bodies

Product Profile:

Process Water Treatment Solutions:

- + Domestic and Commercial RO systems,
- + Desalination Systems,
- + Water softening equipment,
- + Demineralizer water purifiers,
- + Ultra and nano Filtration systems and
- + Dissolved air floatation systems for raw water from river and ground water.

Sewage Treatment Systems :

- + Ecobud Sewage Treatment Plants

Effluent Treatment Technologies:

- + Dissolved Air floatation Systems.
- + Biological ETP,
- + Advanced Oxidation Technologies
- + Zero Liquid Discharge Systems.

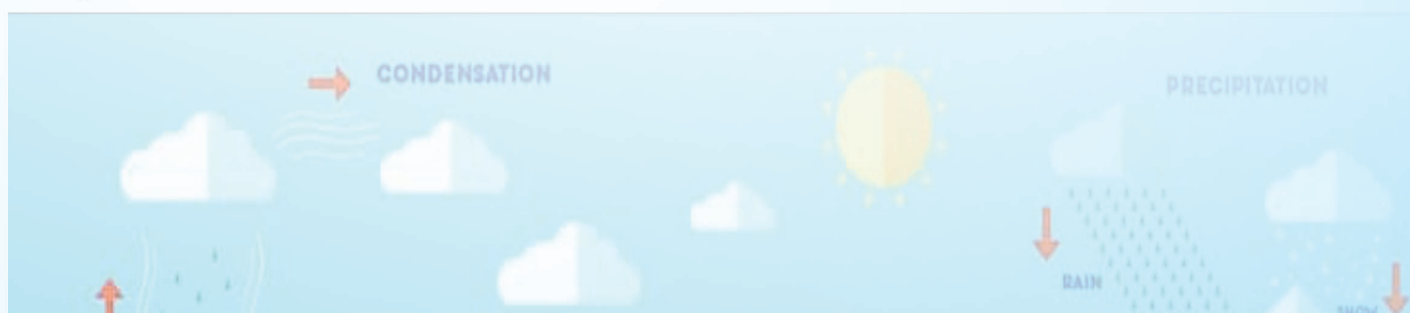
Solid Waste Management Solutions:

- + Biogasification and Biodigester for Organic Waste.

Industrial Compliances related to State and Central Pollution Control Boards.

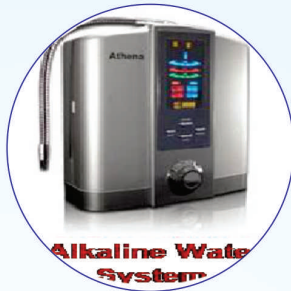
Research and Development Services.

Analytical Services for water and wastewater.



Drinking Water Solutions

Alkaline Water System : for a Health and fitness



Alkaline Water System

Commercial & Industrial RO System . For water purification: 100 LPH to 10000 LPH and above



Dissolved Air Flotation System for purification of highly turbid waters



Ultrapure water for Injection, Demineralizer and Deionizer systems



Automated water treatment Plants for Purification of Surface waters with high Microbial loads and turbidity.



Ultra Filtration Modules for drinking water and Waste water recovery



Water softeners for Hardness, Iron and alkalinity Removal: 100 LPH to 10000 LPH and above



Domestic RO System : for safe and potable water for Home Purpose. 8-12 Liters per Hr.

Akshaya Dhara Series; Drinking Water Treatment Solutions:

We provide end to end Raw water treatment Solutions including Domestic and Commercial RO systems, Desalination Systems, Alkaline Ionizer systems, Water softening equipment, demineralizer water purifiers, Ultra and nano Filtration systems and Dissolved air flotation systems for raw water from river and ground water.



Oxytech Reclamation:

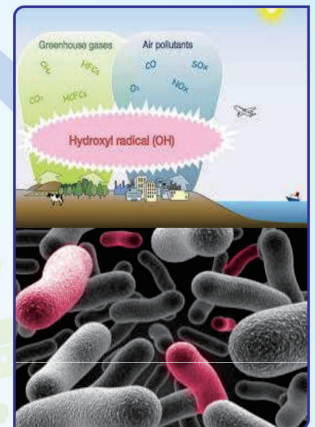
Harnessing the power of Biology, we have developed products based on enzymes and Microbes which are 100% safe to humans and environment. These inputs do not leave any toxic residues and provide a fresh environment wherever they are applied. We are offering solutions to manage Sanitation and cleanup of Industrial Wastewater, Sewage and solid wastes generated at your campus to simple nutrients which can be used as fertilizer.

Bioremediation of Polluted drinking water bodies. Combining the benefits of Biotechnology with Green chemistry we have developed Highly Advanced Oxidation technologies, which are safe, only produce oxygen, release no toxic gases and improve the ambient air quality while treating the polluted waters.

These reagents are economical and complement the biological processes. While chemical treatment systems like chlorine and bleaching release toxic fumes, produce carcinogenic chloramines, Trihaloamines and dioxanes, Products manufactured by Akshaya do not have any of these ill effects. They are completely safe to humans and have zero exposure risk.

Advantages of Oxytech Reclamation:

- ✦ Powerful Hydroxyl radical Power degrades organic matter in minutes.
- ✦ Reduces foul odors in closed tanks, pools, septic tanks and drainages.
- ✦ Improves oxygen levels in water as well as in ambient air.
- ✦ Improves freshness of rooms and living spaces.
- ✦ Repels insects and rodents.
- ✦ No harmful chemicals used so no risk to environment.
- ✦ Degradation products are only carbon dioxide, water and oxygen.
- ✦ Does not pose any health risks to users.
- ✦ Does not release toxic and corrosive fumes like chemical cleaners.
- ✦ Free from chlorine and bleach.



Cleaning up Blocked Underground Drains in 21st Division of Vijayawada with Biooxidation



Before Application



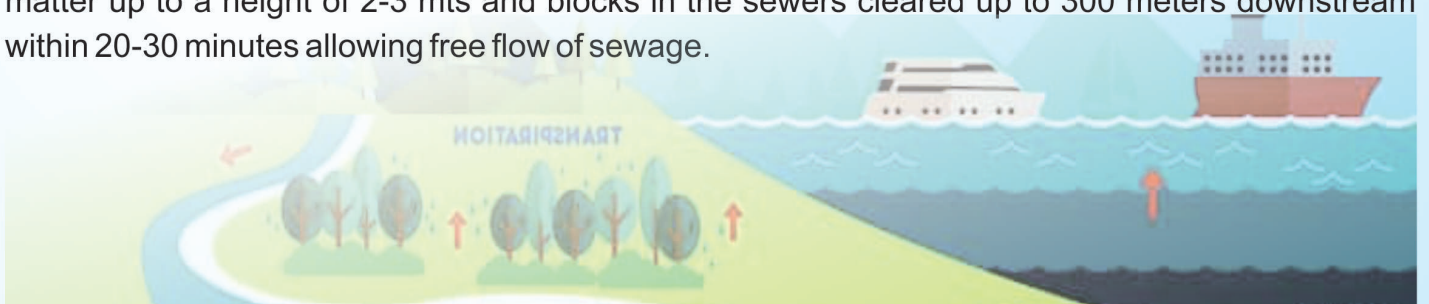
10 Minutes after Application



1 Hour after Application

No Blocks in UGD lines treated with Biooxidation for more than 1 month in 21st division

The results of our work in Guntur, have opened up an opportunity in Vijayawada where the problem of overflowing Manholes due to blockages in the underground sewer systems. a pilot was done in an area of 25 Square kilometers. The enzymes were dosed at manholes without any human intervention and cleaned up. Each manhole has an average accumulation of debris and organic matter up to a height of 2-3 mts and blocks in the sewers cleared up to 300 meters downstream within 20-30 minutes allowing free flow of sewage.



Sewage Treatment Systems

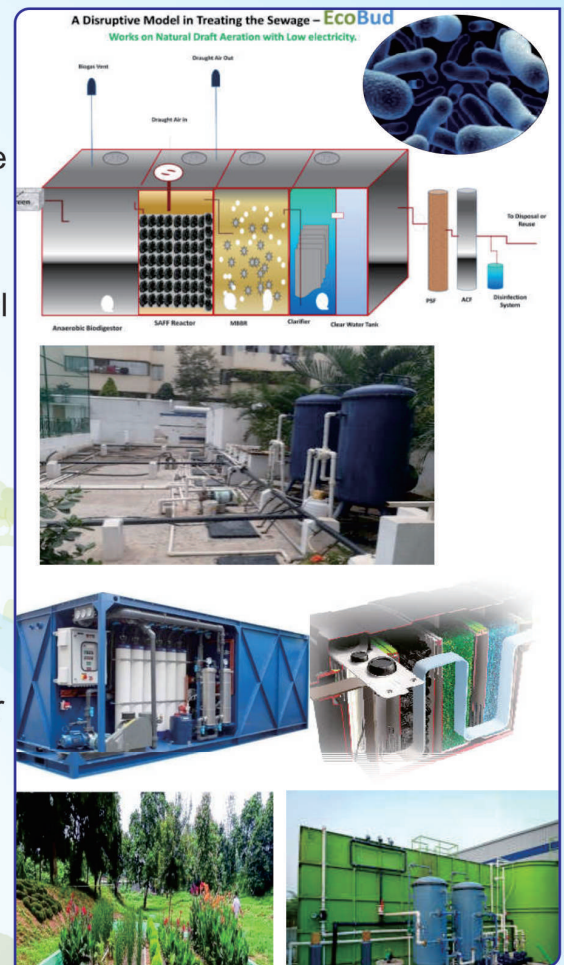
EcoBud: A Revolutionary Low powered zero maintenance system for treatment of sewage and commercial effluents.

Salient Features of EcoBud STP:

- ✦ Equalization tank converted to Anaerobic Digester reducing 50% Organic loads.
- ✦ Second Stage is Submerged Aerobic Fixed Film (SAFF) Bioreactor, reduces BOD by further 20-30%, unique feature of the **Eco-Bud system**.
- ✦ Third stage MBBR reactor requires only 30% of oxygen to remove another 25% loads, reducing 70% Power.
- ✦ Metered dosing system is provided to have better control on dosing rate and to avoid the wastage of chemical.

Advantages of EcoBud STP:

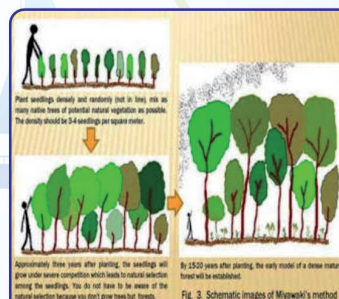
- ✦ STP is compact, has minimum Moving Parts and odor free.
- ✦ Works on very low power (60-70% less electricity used),
- ✦ Minimum maintenance & Chemical intervention
- ✦ Minimum sludge generation and Zero odors
- ✦ 100% water recovery and reuse, capable of handling shock loads.
- ✦ Customized Microbes with high Enzymatic activity.
- ✦ Scope for energy recovery through Biogas, hence Faster Return on Investment.
- ✦ All electro-mechanical equipment's are proposed with standby units. Pumps, blowers shall be operational in auto mode through level controllers, timers etc. for easier operation.
- ✦ The system can be run on an ON-OFF Mode.
- ✦ Can be placed underground conserving space.



Effluent Treatment Solutions:

We provide Turnkey based Customised Effluent Treatment Solutions for Food, Chemical, Pharma, Textile, Sugar, Sew Food Processing, Paper, Pulp and other Industries.

We also Provide Compliance Management Services like CFE, CFO, Reports and Audits.



Agri and Chemical Effluent Treatment Plants

Miyawaki Forests Projects

Zero Liquid Discharge Systems:



Solid waste management solutions

Biogest S: Akshaya Biodigester for Biomethanation of food, vegetable, and agriculture wastes.

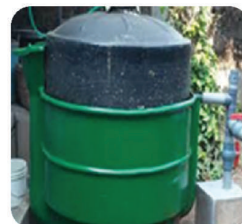
Biogest S : a proprietary Biodigester which can handle a wide variety of organic wastes including left over oils and fats.

Features: Three stage Biomethanation Process. Acidogenesis, Volatilization and Methane generation done in three different chambers in the Biodigester.

Improved Microbes used in the biodigester for Low HRT and High Organic Loading rates, High gas Output and Minimal Hydrogen Sulfide, Ammonia Formation.

Higher gas yield compared to competitor Products.

Minimum maintenance and Nitrogen Rich Fertilizer as Byproduct.



Floating Dome PP FRP Biodigester



FRP Biodigester for Homes



Commercial Biogas Unit for large scale production of Bio CNG from Poultry, Slaughter House, Fruit and Vegetable processing, Municipal solid wastes.

Akshaya SWM Series:

Solid waste management solution for garbage and domestic wastes to organic manure and Briquettes/Blocks.

Domestic Solid Wastes:

Generally packed in polythene bags and disposed off leading to foul odors and air pollution. Attracts pests and rodents which transmit diseases. Converting wastes to manure is an option but needs segregation manually and high capital costs as well as manpower requirement making the process inefficient. Non-biodegradable materials not completely utilized. Lead to piles of woody materials, rags and trash which cannot be disposed off.

Working Principle of Akshaya SWM Series Biocomposter:

- + Feeding of un-segregated organic waste into composting machine.
- + Shredding of waste and adding Bio-culture as Suggested.
- + Processing of waste into compost machine.
- + Segregation of compost and undegraded wastes, Ready compost for use.
- + Non-biodegradable wastes compacted into blocks.

Advantages :

Low power and Minimal Manpower requirement, single structure completely enclosed modular system with Complete automation.

- + Valuable Compost Recovered with no risk of pests, flies and rodents, Zero V odors and nuisance free.
- + Low Investment and Requires Low space and Aesthetically designed.
- + All parts made of high-quality Mild steel, and contact parts of SS-304, Meets ASTM quality norms and IE-54 Safety norms.



