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भारत सरकार, रक्षा मंत्रालय

GOVERNMENT OF INDIA, MINISTRY OF DEFENCE

रक्षा अनुसंधान तथा विकास संगठन

DEFENCE RESEARCH AND DEVELOPMENT ORGANISATION

रक्षा खाद्य अनुसंधान प्रयोगशाला

DEFENCE FOOD RESEARCH LABORATORY

सिद्धार्थ नगर, मैसूर / SIDDHARTHA NAGAR, MYSURU-570011

कर्नाटक, भारत / KARNATAKA, INDIA

आइ.एस.ओ. / ISO 9001:2015, आइ.एस.ओ. / ISO 22000:2018 प्रमाणित / Certified Lab

TO WHOMSOEVER IT MAY CONCERN

DRDO has developed Bio-digester technology for disposal of faecal waste generated onboard Railway coaches, individual households and apartment complexes. It works in different geoclimatic conditions ranging from high altitude areas to island. Hence, it is proposed for the treatment of faecal septage evacuated from septic tanks. An experimental bio-digester (8000 L capacity, 2.5 days HRT, 60 days SRT) has been installed at Rajanukunte, Karnataka. Bio-digester tank installed by M/s MAK India Ltd is functional which is indicated by the flammability of the gas and quality of the outlet water. The bio-digester technology can be used for septage treatment. The outlet water is submitted to NABL accredited water testing lab for quality analysis.

V. Vasudevan
08/04/23
(Dr.V.Vasudevan)

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एक कदम स्वच्छता की ओर



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G. KANNAN
DIRECTOR

Dt:21.12.23

LETTER OF APPRECIATION

In continuation of our visit to Anaerobic Bacteria Digester (ABD) system installed at Central Training College, CRPF, Coimbatore which was installed by M/s MAK India Limited, Coimbatore, we would like to state that the Grey and Black water of Hostels, Messes, Canteens and Quatres for around 2000 personnels are collected through closed conduit and processed at the MAK DRDO Bio Sewerage Treatment System.

After bar screening, sewerage is processed with unique system ie Anerobic Bio Digester, which is developed by the MAK DRDO. Because of the anerobic process, there is no odor present in and around the treatment system. Through the biological process, there is nil sludge formation in the plant.

Also, they have established reed bed system. At the tail end of the reed bed system the visibility of the water is color less, compared to the inlet sewerage. And the quality of the inlet and outlet sewerage parameters prescribed by the CPCB are measured automatically and displayed and stored in the control room. And as we are told, the observed parameters are within the CPCB norms. Also, for tertiary treatment, Sand and Carbon filter are used and the outlet water are used for their gardening purpose. For the entire system, there are less mechanization, Energy Consumption and less maintenance cost involved.

Hence, we appreciate the efforts taken by Central Training College, CRPF and M/s MAK India Limited, Coimbatore for developing such system. And we consider that, the similar system may be suitable for the similar other institutions or Townships or communities or largescale Apartments in processing their Black and Grey water effectivity and efficiently in a cost effective and eco-friendly manner. We thank Central Training College, CRPF, Coimbatore and M/s MAK India Limited, Coimbatore for the opportunity to visit and to see the system developed by them.


DIRECTOR

S.Vengateshwaran M.E.,
Assistant Engineer
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Letter of appreciation

July 31st, 2024

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Sub: Performance of MAK DRDO ABD ST (10 Users X 36 no's)

DRDA would like to state that the MAK-DRDO ABD ST (Anaerobic Bacteria Digester Septic Tank) with a capacity 800 Liters 36 no's connected @ 72 homes / ST along with inoculum supplied and installed at Sri Lankan Tamil refugees camp at, Perambalur are performing as per the DRDO test norms and outlet water is odourless.

Besides being very effective and eco-friendly, it is also maintenance-free for lifetime. We are also using the outlet water for Gardening.

The cost of installing this tank is less than conventional septic tank construction. For homes, as per TNPCB norms we need to construct 6000liters septic tank. It would cost about Rs 90,000/-, whereas DRDA bought and installed at Rs 45,000/- Also, it is easy to set up and use in one day.

We strongly recommend that other Government projects and schemes may also use Mak India Products and reap the benefits of MAK DRDO ABD ST. Their product performance undoubtedly exceeded our expectation, and we thank M/s MAK India Limited for their services and providing us with the exact solution we had looked for as well as the product we had ordered for. Let us join our hands in making a sustainable environment and clean Ground water meant for drinking.

Heartfelt thanks once again.

Regards



S. Vengateshwaran
Assistant Engineer
ASSISTANT ENGINEER
PANCHAYAT UNION
PERAMBALUR.