

# HIGH SOLID TREATING COMPACT DIGESTER CUM BIOGAS PLANT

## INTRODUCTION

Biogas is a mixture of different components and the composition varies depending upon the characteristics of feed materials, amount of degradation, etc. Biogas predominantly consists of 50 to 70 per cent methane, 30 to 40 per cent carbon dioxide and low amount of other gases. Methane is a combustible gas. The energy content of biogas depends on the amount of methane it contains. Methane content varies from about 50 percent to 70 percent. The production of biogas from organic material under anaerobic condition involves sequence of microbial reactions. During the process complex organic molecule present in the biomass are broken down to sugar, alcohols, pesticides and amino acids by acid producing bacteria. The resultant products are then used to produce methane by another category of bacteria. The laboratory has developed a process for treating organic wastes in a compact digester working on dry digestion principle. It can treat any organic waste without any water addition, and it produces more biogas. The design of the system prevents mosquito breeding and the highly stable slurry (odour free) can be used as organic manure. Unlike the conventional biogas plants, this can operate under higher organic loading rate with better volatile solid removal efficiency (~90%). This scalable process unit presently operates from 5kg to 500 Kg/day wet weight of organic waste in the field.t

## APPLICATIONS

Recovering biogas and manure from organic wastes from houses to commercial units.

## SALIENT FEATURES

- Compact size
- Needs no water along with organic waste (high solid loading).
- Can treat any food waste (egg shell, lemon, onion, etc.)
- Yields more biogas with high methane content.
- No mosquito breeding problem
- Less slurry out that can be used directly as manure

