

organic waste and energy

bio gas/ bio methanation

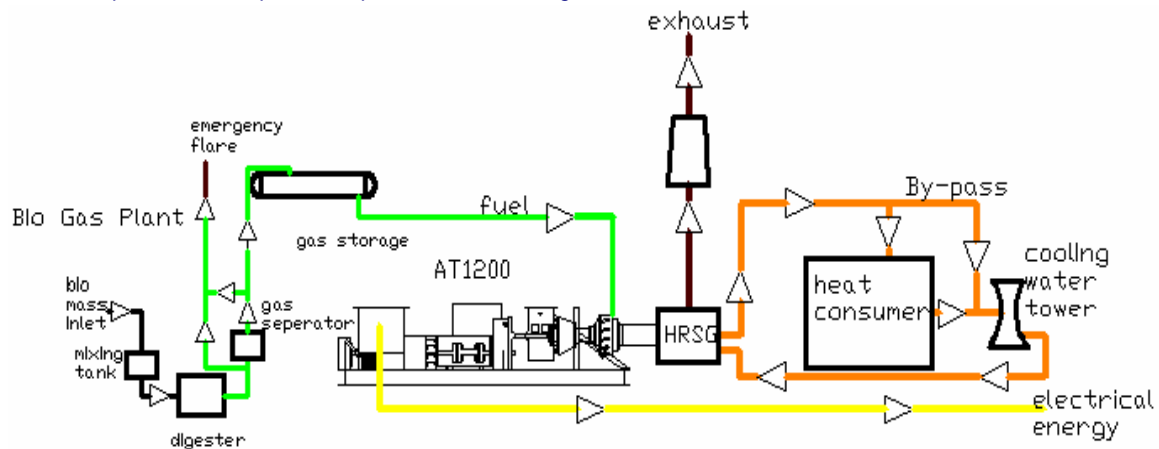


biogas – Sustainable and Renewable Energy

Disposal of organic waste has always posed a problem for the waste industry. Organic waste varies from farm animal waste, agriculture waste and food waste. When these wastes are subject to anaerobic fermentation, a gas with a mixture of methane and carbon dioxide is obtained. This bio gas when used in the AT1200 economically produces very efficient energy.

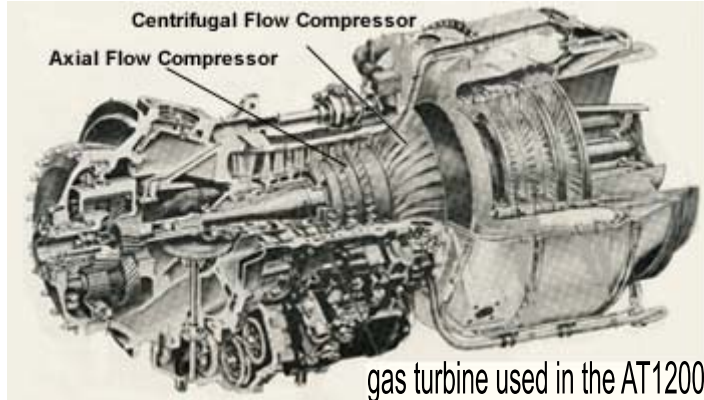
The organic waste is collected, mixed with equal amounts of water and inserted in the digester. All of the valves are then closed and the bacteria begins to work in an anaerobic atmosphere. Over a period of time, a consistent bio gas is produced. The gas produced contains approximately 60%-65% methane and 35% Carbon dioxide with a calorific value of 17-22 MJ/Nm³. As an added benefit, a slurry/sludge is obtained as a byproduct of the process that can be used as fertilizer. Bio gas is corrosive to most engines, however the technology used in the AT1200 provides for an economic and efficient electrical generation unit.

The electrical energy can be utilized for the operations of the plant or fed into the public power grid. The thermal energy obtained from co-generation can be used in applications where heat/steam is required. Also, when coupled with a vapor absorption chiller, cooling is achieved.



Advantages of the AT1200 using Bio Gas

- ⇒ Economical and efficient conversion of waste to energy
- ⇒ Eliminates the disposal and treatment of waste
- ⇒ Bio gas renewable and sustainable fuel
- ⇒ The byproduct can be used as a fertilizer
- ⇒ Provides onsite electricity energy and thermal energy
- ⇒ Ideal solution for less developed agricultural regions for power
- ⇒ Reduces emissions by 50% when compared to flaring



Output:

1200 KW electricity
3000 KW thermal energy

These figures will sustain,

Electricity.....	1,000 to 1,200 North American Homes, small scale industry, distillery or 1 to 2 supermarkets.
3,000 KW of thermal energy.....	800 TR
1 TR (US) = 3.5 KWhr, 1 TR (metric) = 3.86 KWhr	
Cooling.....	1,300 m ² (13,993 ft ²) of office space
Calorific value of bio gas.....	17-22 MJ/Nm ³



NOTES

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