

Gas Standards and Safety

Fact Sheet

FS136 December 2018 Version 1.1

DOMESTIC BIOGAS SYSTEMS

Biogas is an escalating sustainable industry. Domestic biogas systems provide individual households with their own renewable energy source.

ABOUT BIOGAS

Biogas is a mixture of gases that are produced by the breaking down of organic matter – the decomposition of common household waste products. It's mostly made up of methane and carbon dioxide, with lesser amounts of hydrogen sulphide, water vapour and other gases.

Biogas systems are currently being made in Australia and also imported from overseas to be sold on the Australian domestic market.

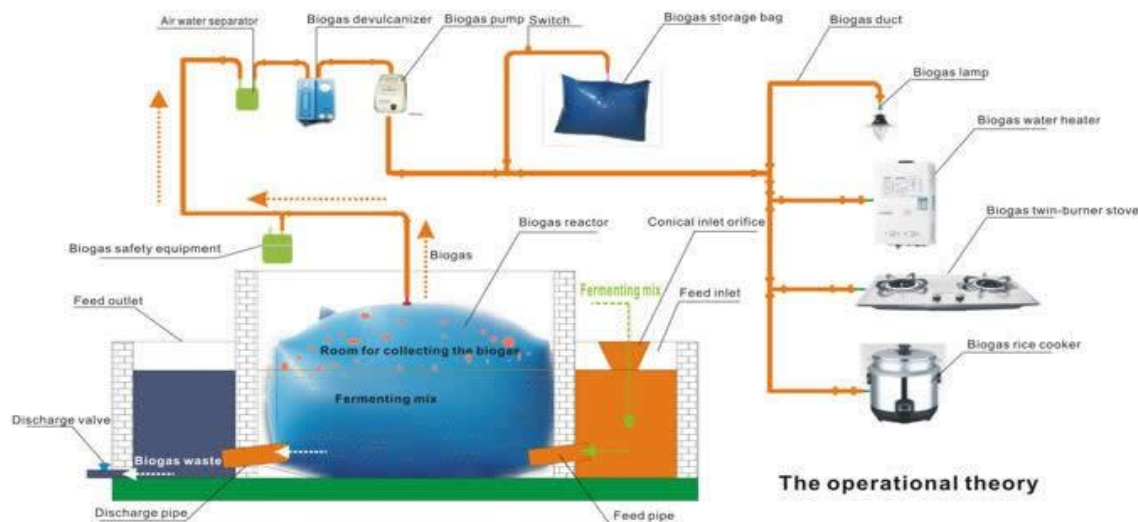
Distributors of biogas systems sell biogas digesters (to produce the biogas), gas collectors (to store the biogas) and various other system components, accessories and appliances for cooking, lighting, water heating and other purposes.

WHAT YOU NEED TO KNOW

If you are considering installing a biogas system, you should contact Building Standards and Occupational Licensing, Gas Standards and Safety unit to make sure you comply with the regulation around these systems.

Biogas systems are regulated under the *Gas Act 2000* and some things to consider before purchasing a biogas system include:

- A biogas system may require approval (acceptance) in some instances.
- There are restrictions around the installation of biogas systems in Tasmania – they must be installed by a licensed gasfitter in accordance with the Standard AS/NZS 5601.1 Gas Installations and AS 3814 Industrial and commercial gas-fired appliance Appendix P where applicable.
- An appliance that is supplied with a biogas system or that is intended for use with a system must be certified by an accredited certifying body. The appliance must have a compliance plate displayed prominently, which bears an Australian gas appliance certification number.



The operational theory

Explanation:

1. The fermenting mix (manure, sewage, some other waste mix etc.) enter into the feed inlet by the conical inlet orifice.
2. The fermenting mix will enter into the biogas reactor by the feed pipe automatically.
3. All the fermenting mix will stay in the biogas reactor in the anaerobic conditions for fermenting. The various organic matter microorganisms will produce the biogas under the action of microorganism. Because the biogas' water insoluble, it will go up to the room for collecting biogas from the bottom in the form of bubbles. (Therefore, the air tightness of the biogas reactor is very important.)
4. After about 7---15 days, the whole process of producing biogas is complete. The remaining matters are the biogas liquid and the biogas dregs which is called the biogas waste. It will enter into the feed outlet by the discharge pipe.
5. Open the discharge valve; the biogas waste will flow out of the feed outlet automatically.
6. Some part of biogas liquid can be reused for fermenting again. The others will be the good organic fertilizer for plants and animals.
7. The biogas will enter into the biogas-guide tube.
8. Biogas safety equipment: Its main function is to release some biogas to ease the pressure of the biogas when the pressure is over 3000pa.
9. Air-water separator: It gets rid of the water in the biogas.
10. Biogas devulcanizer: It gets rid of the H₂S in the biogas.
11. Biogas pump: It pressurizes the biogas when its pressure is low. It can assure that the biogas appliance run constantly and stably.
12. The biogas storage bag: It holds the biogas when you want to use the biogas any time.

MORE INFORMATION

For further information please contact Consumer, Building and Occupational Services, Gas Standards and Safety unit on **1300 654 499**

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