



Product Datasheet



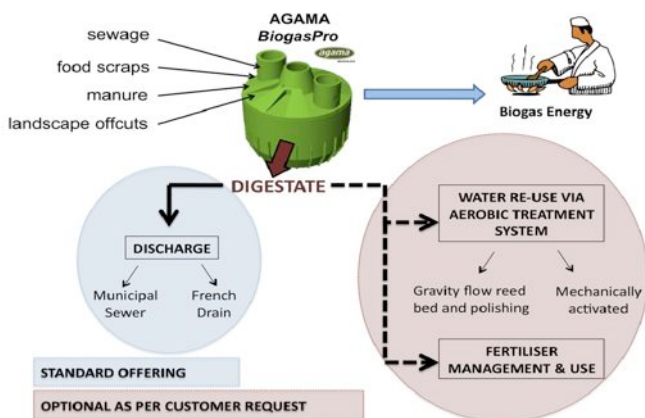
The **BIOGASPRO** is a prefabricated biogas digester designed specifically to meet the waste management needs of households. It has been developed using AGAMA Biogas expertise in the design and implementation of biogas systems, combined with ten years of experience and appreciation of the needs of customers and limitations of other systems. It can be used in the rural context as an on-site thermal energy generator; in the urban context as a sanitation and energy generation technology; and for all contexts, an integrated waste management system. The product is applicable for all households, and rural clinics, schools and community centres. The **BIOGASPRO** combined performance, features and competitive price provides the best small biogas digester value on the market.

It is highly reliable, with all quality assurance taking place in a controlled factory environment and having no moving parts prone to failure. It differs from all other small digesters, being fully prefabricated and incorporating unique design features that allow for co-digestion of multiple feedstocks.

KEY FEATURES & BENEFITS

Improved operation

Feedstocks – The multi-feedstock capability ensures optimal gas production. Feedstocks include sewage, food waste, animal manures and grass (silaged)



Large Volume – Provides extended retention time for optimal biodegradable waste (biowaste) treatment and maximum biogas production

Multiple Connections – Provides flexibility for connecting different waste flows

Large Inlet – Ensures larger sizes of biowastes may be directly added to the digester

Large Outlet – Minimises the opportunity for blocking of outlet connection package plant arrangement for sewage treatment

Greater Energy Supply

High efficiency – A high efficiency due to its patented design ensures maximum biogas production under all temperature conditions

Extremely High Reliability

Quality – Manufacture takes place in a factory environment, using only the best quality Linear Low Density Polyethylene (LLDPE)

Installation – Installation is performed using certified plumbers and gas practitioners in accordance with SANS 1200 and SANS 087

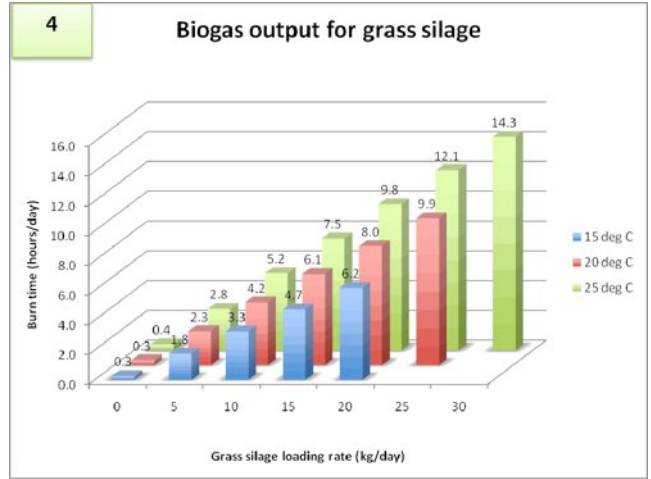
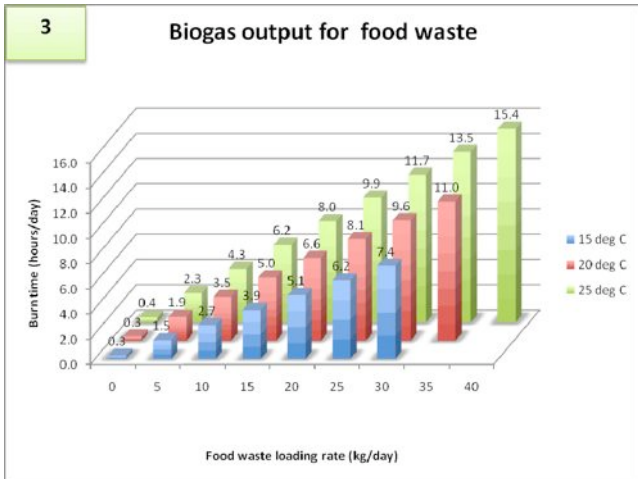
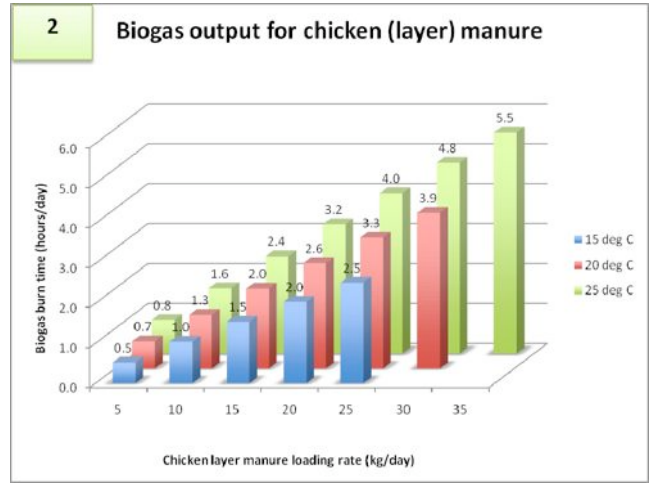
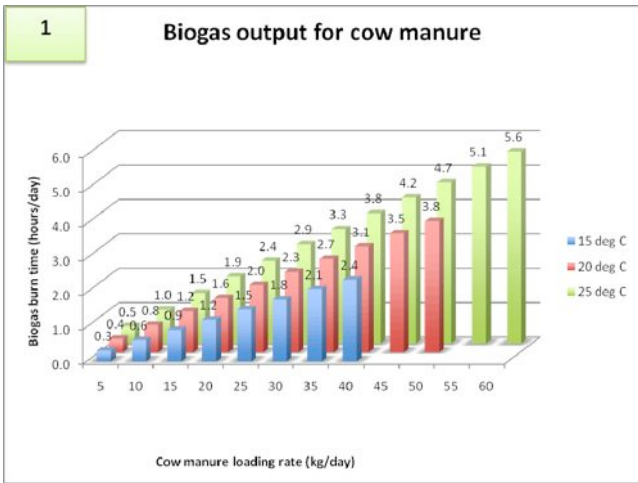
Other Features

Flexibility – Installed it can be a stand-alone energy system or as part of a large package plant arrangement for sewage treatment

Convenience – Installation planning ensures that the optimal product location leads to the highest convenience for the customer when it comes to disposing of food wastes

Utilisation – the gas holding capacity allows for 60% of the nominal daily biogas production (1.9 m³ of biogas per day) to be contained – ideal for a regular daily cooking routine. For greater biowaste loading – with subsequent increased gas production – alternative biogas use options such as heating can be considered

Maintenance – great care in design of the top section and the gas outlet area allows for easy, regular maintenance



Note: in graphs (3) & (4) the biogas inputs assume only 50 l of sewage water per day, equivalent to 0.125 kg solids in that volume per day. The gas production shown with no added solids reflects the gas from the solids in the sewage.

TECHNICAL SPECIFICATIONS

Energy specifications

- Biogas production is proportional to the amount of feedstock. The graphs above indicate the biogas production rates for different loading rates at different temperatures
- Biogas contains approximately 60% methane (CH₄), 39% carbon dioxide (CO₂) and 1% hydrogen sulphide (H₂S)
- Each cubic metre of biogas has the heating value of approximately 0.45 kg LP Gas

Mechanical specifications:

- Volume: 6,000 litres
- Dimensions: 2,200 mm diameter x 2,500 mm high (including access risers)
- Weight: 300 kg
- Access chambers: 450 mm diameter
- Thickness: 8 – 12 mm
- Gas storage: 1.13 m³ maximum
- Maximum gas pressure: 8.5 kPa

Loading specifications

- Feeding rates are feedstock and temperature dependent. A maximum of 1,000 litres of water can be added daily.
- Note the different limits on mass of feedstocks between winter and summer conditions as depicted in the graphs above

DAILY LOADING LIMITS (kg/day)

Temp (deg C)	15	20	25
Cow Manure	40	50	60
Chicken Manure	25	30	35
Biowaste	30	35	40
Grass Silage	20	25	30

- The optimal ratio of fresh feedstock to water is 1:1

Environmental specifications

- Operating temperature: +10 °C to + 70 °C
- COD reduction: 50 – 98% (feedstock dependent)

WARRANTY: The **BIOGASPRO** has a 3-year warranty. The complete installation when undertaken by AGAMA Biogas (Pty) Ltd or an accredited agent is guaranteed for 1 year.

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