

# Product Datasheet



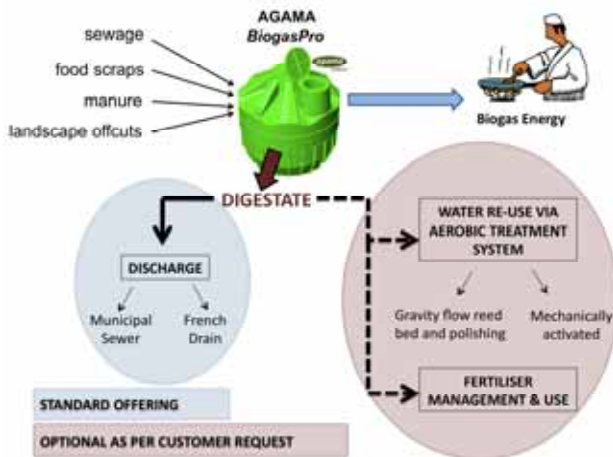
The *BiogasPro* is a prefabricated biogas digester designed specifically to meet the waste management needs of households and farms. Based on 10 years of experience in the design and implementation of biogas systems, AGAMA Biogas engineers have built a digester that meets the needs of our customers and overcomes the 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, as an integrated waste management system. The *BiogasPro* is appropriate for all households, rural clinics, schools and community centres. The *BiogasPro* combines convenience efficient performance and competitive price to provide the best small biogas digester value on the market.

The *BiogasPro* is highly reliable, with no moving parts prone to failure and all quality assurance performed in a controlled factory environment. It differs from all other small digesters, in that it is fully prefabricated and incorporates unique design features that allow for co-digestion of multiple feedstocks.

## KEY FEATURES & BENEFITS

### Improved operation

**Feedstocks** – Multi-feedstock capability ensures high gas production. Feedstocks include sewage, food scraps, animal manures and grass (silaged)



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

**Multiple Connections** – Provide flexibility for connecting different waste flows

**Large Inlet** – Ensures larger quantities of feedstocks may be directly added to the digester

**Large Outlet** – Minimises the opportunity for blocking of outlet connection

### Greater Energy Supply

**High efficiency** – Our patented design ensures maximum biogas production under all temperature conditions

### Extremely High Reliability

**Quality** – Manufacture takes place in a tightly controlled 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, 100087 & 827.

### Other Features

**Installation** – Two different sewer inlet depths are catered for: 330 mm and 600 mm below natural ground level. The deeper installation makes use of extended risers and a reinforced unit that can handle higher underground pressures.

**Flexibility** – It can be a stand-alone energy system or form part of a larger 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 on-site wastes

**Utilisation** – 50% of the nominal daily biogas production (1.9 m<sup>3</sup> of biogas per day) can be stored in the digester – ideal for a regular daily cooking routine. Higher gas production is possible with higher loading, up to a limit

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

### Certification

**3rd party structural** – November 2009

**SAPGA Safe Equipment** – November 2010

## TECHNICAL SPECIFICATIONS

### Mechanical specifications

- Reactor volume: 4,050 litres
- Gas store volume: 950 litres
- Expansion volume: 1,000 litres
- Total volume: 6,000 litres
- Access chambers: 520 mm diameter
- Max gas pressure: 6.75 kPa
- Dimensions - BiogasPro-6:
  - Diameter: 2,160 mm
  - Height: 2,225 mm
  - Weight: 230 kg
  - Wall thickness: 8 – 11 mm
  - Sewer inlet depth: 330 mm
- Dimensions - BiogasPro-6D:
  - Diameter: 2,160 mm
  - Height: 2,525 mm
  - Weight: 300 kg
  - Wall thickness: 8 – 11 mm
  - Sewer inlet depth: 600 mm

### Environmental specifications

- Operating temperature: +10 °C to +40 °C
- COD reduction: 50% – 98% (feedstock and loading conditions dependent)

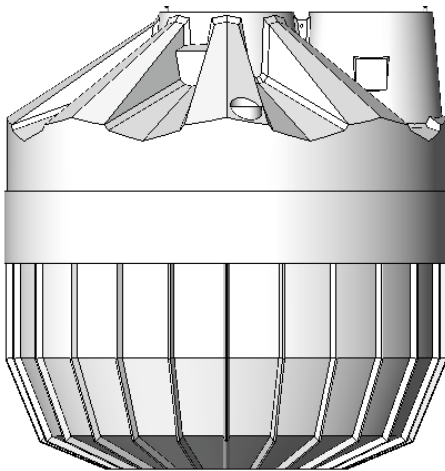
### Loading specifications

- Feeding rates are feedstock and temperature dependent. A maximum of 1,000 litres of water can be added daily.
- Expect a difference in gas production between winter and summer months. Loading should be reduced in winter to account for the slower biological activity
- Daily loading limits
  - Cow Manure 50 kg/day
  - Food waste 35 kg/day
  - Grass Silage 25 kg/day
- The minimum ratio of fresh feedstock to water is 1:1

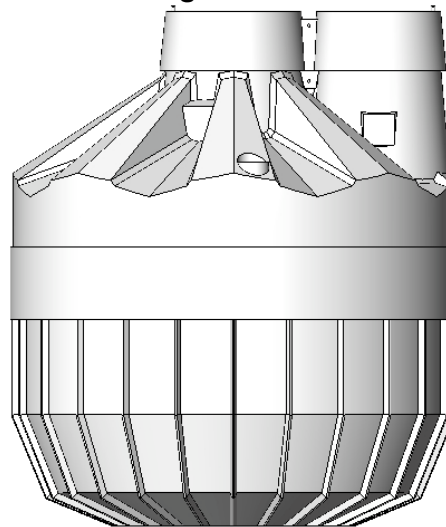
### Energy specifications

- Biogas production is proportional to the amount of feedstock and operating temperature
- Biogas contains approximately 60% methane (CH<sub>4</sub>), 39% carbon dioxide (CO<sub>2</sub>) and 1% hydrogen sulphide (H<sub>2</sub>S)
- Each cubic metre of biogas has the heating value of approximately 0.43 kg LP Gas
- The nominal daily energy output is equivalent to approximately 0.8 kg LP Gas

**BiogasPro-6**



**BiogasPro-6D**



Distributor contact details:

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

### AGAMA Biogas (Pty) Ltd

Tel: 021-7013364 | Fax: 021-702 4920

Web: [www.biogaspro.com](http://www.biogaspro.com)

E-mail: [info@biogaspro.com](mailto:info@biogaspro.com)

