

**TURNING WASTE INTO WATTS: FROM FIELD TO FUEL**



# ***ENERSOL BIOPOWER PVT. LTD.***

**PRESENTS**

**BIOGAS/ SYNGAS/PRODUCER  
GAS GENERATOR SETS**



**100KVA / 80KW  
ESB-R  
BIO-GENSET**



**TRANSFORM YOUR ENERGY,  
TRANSFORM YOUR WORLD**

# ABOUT US



With over a decade of expertise in the green energy sector, Enersol Biopower Pvt Ltd stands as a renowned leader in the manufacturing of sustainable energy solutions. Our extensive product portfolio includes biomass gasifiers, biogas generators, biogas plants, smokeless stoves, biomass torrefaction plants, and used oil distillation machines.

At Enersol Biopower, we are committed to delivering high-quality, innovative products that meet the diverse energy needs of our clients while promoting environmental stewardship. Our team of skilled professionals leverages cutting-edge technology and industry best practices to design and manufacture reliable, efficient, and eco-friendly energy solutions.



# ESB-R BIO-GEN100

The ESB-R BIO-GEN100 100KVA Biogas Generator Set is engineered for high efficiency and reliability, delivering significant cost savings and environmental benefits through the exclusive use of biogas. This generator is ideal for medium-sized farms and businesses, converting biogas into a consistent and sustainable power supply.





# KEY FEATURES

## ✓ Versatile Product Line

- **Ready-to-Use Units:** Pre-assembled gensets that minimize setup time and effort.
- **Biogas Compatibility:** Designed to operate efficiently using biogas as fuel.

## ✓ Innovative Design

- **Modern Aesthetics:** Sleek and professional appearance.
- **Space-Saving Size:** Compact design that saves space and cuts installation costs.

## ✓ User-Friendly Maintenance

- **Simplified Design:** Ready-to-use gensets that are easy to install and operate.
- **Ease of Service:** Facilitates routine maintenance, parts replacement, and overhauls.



## ✓ Superior Performance

- **Economical Operation:** Lower operating costs enhance overall efficiency and affordability.
- **Reduced Noise and Vibration:** Engineered to operate with minimal noise and vibration.

## ✓ Eco-Conscious Operation

- **Environmentally Friendly:** Runs on 100% biogas, contributing to a cleaner environment and reducing carbon emissions.

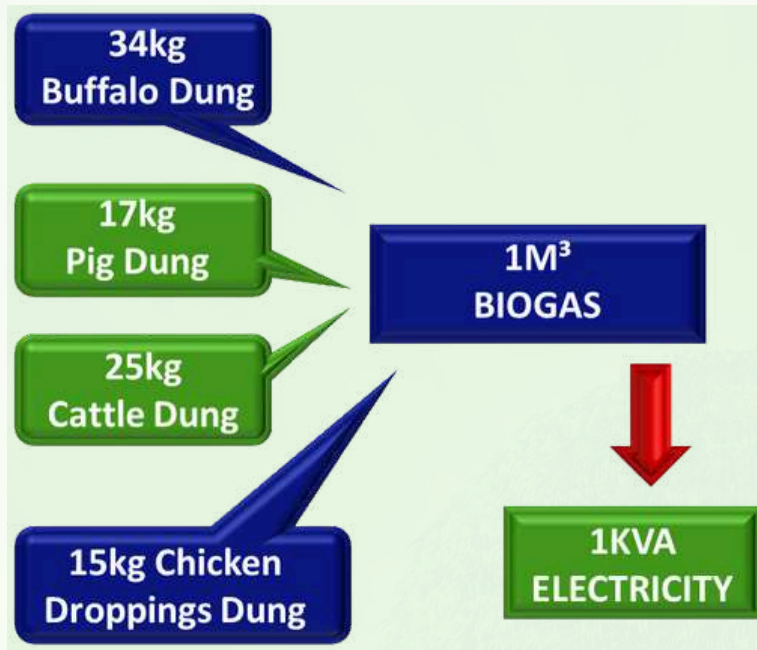
## ✓ Exceptional Reliability

- **Dependable Performance:** Ensures continuous power supply for smooth and uninterrupted operations.
- **Safety Mechanisms:** Includes safety features such as low lube oil pressure protection.
- **Designed for Continuous Use:** Suitable for long-term, continuous operation with advanced technology ensuring consistent performance.

In short, the ESB-R 100KVA biogas generator is a reliable, efficient, and eco-friendly power solution designed to meet a variety of customer needs.



# BASIC DETAILS



**100M<sup>3</sup> BIOGAS IS REQUIRED PER HOUR TO RUN OUR 100KVA BIOGAS GENERATOR SET**



# WORKING PARAMETERS

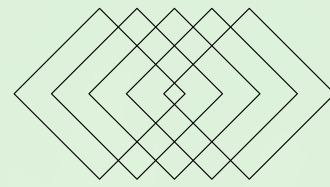
Before entering the engine, the biogas should undergo appropriate filtering, gas-liquid separation, and pressure regulation to ensure no liquid content remains in the gas. The capacity of the biogas pressure-buffering tank should be compatible with the generator's gas consumption.

Additionally, the following specifications must be met:

- The biogas used should contain more than 65% methane.
- Gas temperature must be  $\leq 40^{\circ}\text{C}$ .
- Moisture content must be  $\leq 20$  mg/Nm<sup>3</sup>.
- Impurities particle size should be  $\leq 5\mu\text{m}$ , with impurity content  $\leq 30\text{mg/Nm}^3$ .
- Heat value should be  $\geq 4\text{MJ/Nm}^3$ .
- Gas pressure should range from 3 to 5kPa, with a pressure change rate  $\leq 1\text{kPa/min}$ .
- Maximum Hydrogen Sulfide (H<sub>2</sub>S) content should not exceed 200PPM, and CO & CO<sub>2</sub> levels should not exceed 30%.



# TECHNICAL SPECIFICATIONS



PARTICULAR	DETAILS
Make	- Enersol Biopower®
Fuel Mode	- 100% on biogas
Capacity	- 100KVA/80KW
Power factor	- 0.8 P.F.
Frequency (Hz)	- 50Hz
Voltage (V)	- 415V
Phase	- Three phase
Rated Power per phase	- 130 Amps/phase
Governor	- Electronic governor
Acoustic enclosure (Canopy)	- Provided

**Model Name**  
ESB-R  
BIO-GEN100

**Starter**  
24V Starter

**Model NO.**  
ESB-RBG100

**Biogas Consumption**  
100M<sup>3</sup> /hr.

**Governor**  
Electronic

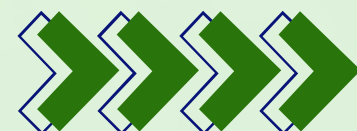
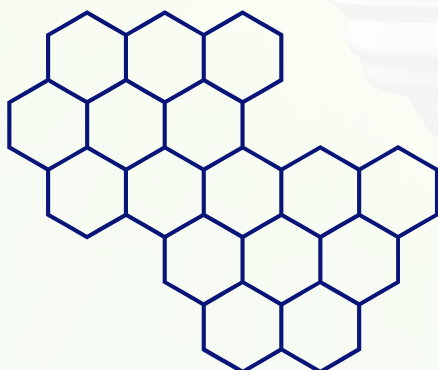
**Weight**  
3.9Ton Approx.

**No. of Cylinder**  
Six Cylinder

**Dimension**  
L180" x W65" x H78"

ENGINE SPECIFICATIONS	
Bore x Stroke (mm)	- 118 x 135
Stroke	- Four stroke engine
Engine power output	- 135HP
Rated speed	- 1500RPM
Cooling System	- Water cooled radiator
No. of cylinder	- 6nos.
Lube oil sump capacity	- 27ltrs.
Lube oil change period	- 1st Change: 50-80 hrs 2nd Change: 150-200 hrs Subsequent Changes: Every 250-300 hrs.
Alternator	- Kirloskar / Cummins /Mahindra etc.

CONTROL PANEL	
Oil pressure gauge	- Yes
Water temperature gauge	- Yes
Starting switch	- Yes
Hour meter	- Yes
Multi meter ( Energy, Voltage, Amps, & Frequency indicators)	- Yes
Phase indicator lamp	- Yes
Overload relay contractor	- Yes
Voltage low/high cutoff protection	- Yes
Frequency low/high cutoff protection	- Yes
Phase loss protection	- Yes
Battery charging indicator	- Yes



# BIOGAS GENSET PICTURES



# OUR PRODUCTS ON YOUTUBE



- <https://www.youtube.com/watch?v=6cYUyY25OXE>
- [https://www.youtube.com/watch?v=iyiz\\_OBGFGw](https://www.youtube.com/watch?v=iyiz_OBGFGw)
- <https://www.youtube.com/watch?v=W9HXk2M-Mgw>
- <https://www.youtube.com/watch?v=-XmU5L6IytM>
- <https://www.youtube.com/watch?v=vY73UXW6aIM>
- <https://www.youtube.com/watch?v=l8NufIvOH4k>
- <https://www.youtube.com/watch?v=7MVHph7NfkY>
  
- <https://www.youtube.com/watch?v=FYPajsGRrrw>
- <https://www.youtube.com/watch?v=LKDl bvXdHyM&t=9s>
- <https://www.youtube.com/watch?v=Rp17MmDRilQ>
- [https://www.youtube.com/watch?v=GTmOj\\_JRLVw](https://www.youtube.com/watch?v=GTmOj_JRLVw)
- <https://www.youtube.com/watch?v=pcQN3qzNfh0>
- <https://www.youtube.com/watch?v=IAGaO9LRVOY>

- <https://www.youtube.com/watch?v=OD9ueNYjf1Q&t=23s>
- <https://www.youtube.com/watch?v=fjULT8k4Ayg&t=9s>
- [https://www.youtube.com/watch?v=rtjSn\\_9P-Yc](https://www.youtube.com/watch?v=rtjSn_9P-Yc)
- [https://www.youtube.com/watch?v=ghm\\_odvyvzc](https://www.youtube.com/watch?v=ghm_odvyvzc)
- <https://www.youtube.com/watch?v=g1iemqc0-80&t=15s>
- <https://www.youtube.com/watch?v=g6ya3XhDBCQ>
- <https://www.youtube.com/shorts/JL5d8YCauc>
  
- <https://www.youtube.com/shorts/wa0S18DqY-Y>
- <https://www.youtube.com/shorts/hIZd0IjVccY>
- <https://www.youtube.com/shorts/LVqJYhPrLXU>
- <https://www.youtube.com/watch?v=0AhISC5Dw00>
- <https://www.youtube.com/shorts/tlTevfsPD0o>
- <https://www.youtube.com/watch?v=Bb8g5ooogaM>
- <https://www.youtube.com/shorts/pSmLx4dQAoQ>

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# OUR CLIENTS



**BITS Pilani**  
Pilani | Dubai | Goa | Hyderabad



# AWARDS & EXHIBITIONS

- Fifth National Grassroots Innovation Award, 2009.
- Innovation Scholars In-residence Program at President House.
- Indian Merchant Chamber (IMC) – Inclusive Innovation Award, 2012.
- Certificate of Appreciation As “Farmer Scientist” By Rajasthan University of Veterinary & Animal Sciences, Bikaner, Rajasthan.
- Certificate of “Farmer Scientist” By Pacific University, Udaipur, Rajasthan.
- Certificate from Department of Science & Technology at National Science Day, Jaipur, Rajasthan.
- Business Expo Kota 2023, Kota, Rajasthan.



# PRESIDENT AWARD WINNER



- Exhibition of Innovations, President House, 2010
- Inauguration of ESB-R Biomass gasifier by former chief minister of Meghalaya, 2013
- Third international conference on creativity & innovations at grassroots at Indian institute of management (IIM), Ahmedabad, 2015
- India International Science Festival (IISF), New Delhi, 2016.
- India International Trade Fair (IITF), New Delhi, 2016.
- Mega Science & Technology and Industry Expo, New Delhi, 2017
- Bollywood movie Padman promotion, 2018.

## Enersol Biopower Pvt. Ltd.

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**GO GREEN**



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<https://www.indiamart.com/enersol-biopower-jaipur/profile.html>



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