



# **12kW MICRO TURBINE GENSET**

**CLEAN, QUIET, RELIABLE SOLUTION  
FOR TELECOMS POWER**



**CLEAN POWER. TODAY.**

## OVERVIEW

The Bladon Micro Turbine Generator MTG12TL 230Vac is the next generation in liquid fuelled power generation designed specifically for offgrid and badgrid telecom tower power.



### **CLEAN**

- Significantly lower emissions than EU Stage V requirements



### **QUIET**

- Vibration free with no long-range low frequency sounds, and less than 60dBA @ 7m



### **RELIABLE**

- The Engine-Alternator comprises just one moving part floating on Bladon's patented air bearings technology



### **MAINTENANCE-FREE**

- 12 months between services (8760 hours) with each service taking less than 45 minutes. There's no oil or coolant, just add one of the many compatible fuels.

## KEY FEATURES

- Fuel Flexibility - operate on diesel, kerosene, paraffin and other approved liquid fuels
- Once a year or 8760 hours between servicing regardless of duty cycle or load
- No oil, coolant or exhaust fluid - just add your chosen fuel
- Pure inverter sinewave 230Vac 50Hz Single Phase output
- Low Noise with no low frequency rumble
- No vibration offering improved reliability and more mounting solution options
- Self-recovering overload protection
- Telemetry as standard for remote control and monitoring
- Significantly better than EU Stage V emissions requirements, with unmeasurably low soot / smoke and no complaints from combustion odours

## MULTI-FUEL CAPABLE

The Bladon MTG12TL uses an electronically controlled fuel and combustion system that meters and atomises the fuel independent of density, viscosity or calorific value. This means that the MTG can use any fuel provided it doesn't contain harmful chemical compounds. The MTG has been tested with:

- Diesel
- C1 Kerosene
- C2 Kerosene
- Illuminating Paraffin
- Synthetic biofuels including HVO (Hydrotreated Vegetable Oil)

Furthermore the fuels can be blended in any ratio to reduce cost or deter theft by making the fuel useless for other appliances.

## 8,760 HOURS BETWEEN SERVICING

A service takes less than 45 minutes and only needs to be performed once per year regardless of run hours. With a standard Diesel Generator requiring a service at least every 500 hours the Bladon reduces service visits by around 95%. The MTG also affords the following service advantages:

- No overhauls, No 'Major' and 'Minor' services - just a standard service one per year
- Simple servicing using small, lightweight parts and requiring no advanced expertise
- No oil or coolant disposal
- The engine incurs zero wear while operating, enabling operators to completely eliminate the need to reduce running hours and therefore simplifying site design
- High reliability thanks to few moving parts: just one engine, three simple pumps and electronics cooling fans

## ULTRA QUIET WITH NO VIBRATION

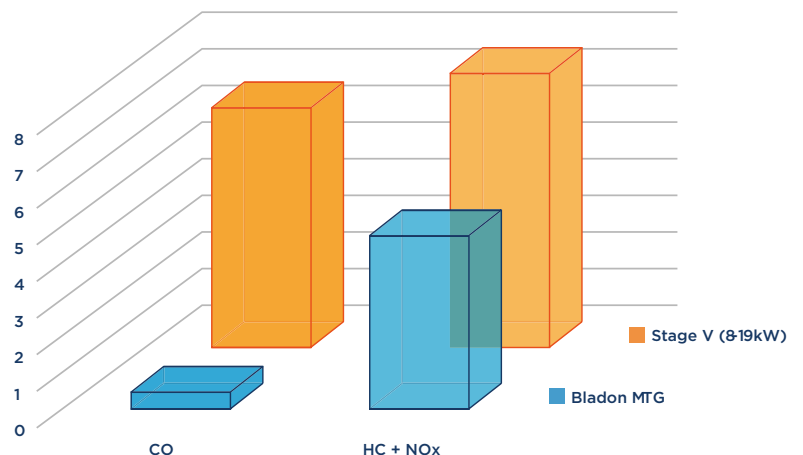
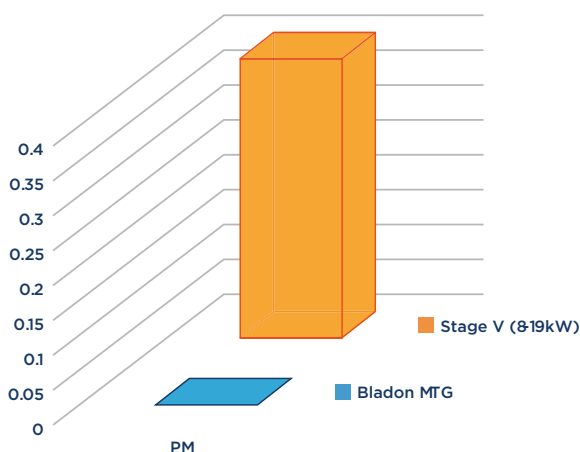
Bladon's world leading air bearing technology means the engine's shaft, the only moving part, is floating on air. It produces no vibration, and hence very low noise

- Low noise of <60dBA at 7 meters
- No low frequency rumble, meaning that the noise does not travel across distance and cannot penetrate through walls
- No vibration - giving operators freedom for many more mounting arrangements, including on buildings or in close proximity to vibration sensitive equipment such as renewables
- Eliminate residential noise complaints. Most people can't even tell the MTG is running!

## ULTRA LOW EMISSIONS

Testing at independent emissions laboratories confirms that the Bladon MTG's emissions are significantly better than the requirements for EU Stage V, with clean and efficient combustion at all load conditions. This even includes continuous operation at no load with no risk of degradation or coking / carbon deposits.

- Suitable for operating in 'Clean Air Zones'
- Combustion efficiencies of 99.9% across the full load range with Bladon's advanced combustion technology
- Unmeasurably low particulates/soot
- Exceptionally low carbon monoxide (CO) and unburned hydrocarbons (HC)
- Oxides of nitrogen (NOx) emissions significantly below limits



## FUTURE FUEL READY

With already exceptional emissions and a unique multi-fuel proposition the MTG is uniquely positioned to take advantage of alternative low-carbon fuels, and in particular synthetic diesels, kerosene's and paraffins.

- Fuel flexibility will enable operators to choose the cheapest and most available clean fuel in their region, or blend clean fuels with fossil fuel to obtain the desired emissions targets at the lowest cost.
- Take advantage in clean fuel innovations in Aerospace fuels, automotive fuels, heating fuels, cooking fuels and fuels produced from waste recycling.
- No changes required to fuel systems for anticipated synthetic future fuels

## REMOTE CONTROL AND TELEMETRY

The Bladon MTG is equipped with a Deepsea 7320 control interface as standard, offering the following standard features:

- Easy to use and understand display
- Volt-free / Dry contact terminals for MTG start / stop control by external equipment, such as rectifier controllers or site energy management systems.
- Automatic Transfer Switch (ATS) control, and simple configuration between 'Grid-Standby' and 'Off-Grid' operating modes.
- Fuel tank level sensor input



Also equipped is a Deepsea DSE890 MKII Gateway unit and built-in antenna, which can be connected to the internet for remote monitoring and remote control:

- Connect to the internet using a mobile SIM card or ethernet cable to a network switch
- Monitor and control the MTG via a web browser or via the DSEWebNet® app for Android and iPhone
- Receive automatic alerts from Alarm and Warning conditions, such as low fuel level and door alarms

## WARRANTY, SUPPORT AND TRAINING

The Bladon MTG comes with a full one year or 8760 hour parts and labour warranty as standard. An optional extended warranty is also available.

Bladon will provide comprehensive support and training during the installation and commissioning phases of new deployments and ongoing support to help customers get the best value from their Bladon MTG fleet.

## MTG12TL SPECIFICATIONS

<b>Power Output</b>	0kW to 12kW (Prime / Standby) 230Vac 50Hz
<b>Power Factor</b>	1.0
<b>Earthing Configuration</b>	TN-S
<b>Fuel</b>	Diesel Kerosene Illuminating Paraffin Hydrotreated Vegetable Oil Mix in any ratio of the above Other fuels upon request
<b>Cooling</b>	Air cooled
<b>Lubrication</b>	Air bearings
<b>Noise</b>	<60dB(A) at 7 meters with no low frequency rumble
<b>Vibration</b>	None / Negligible
<b>Environmental Operating Temperature</b>	-10°C to +45°C Further range upon request
<b>Operating Altitudes</b>	Up to 2000 meters
<b>Environmental Air Density Power De-Rate</b>	Approximately 100W per 1°C above 15°C. Approximately 130W per 100m above 0m. Efficiency and emissions are not affected
<b>Overload</b>	Self-recovering software controlled overload protection
<b>Internal Battery</b>	4x 12V lead acid (supplied fitted as standard)
<b>Communications</b>	RS485 Deepsea DSE 890 MKII Gateway 4G (GSM) and Ethernet with built-in roof mounted antenna
<b>Controls</b>	Deepsea 7320 MKII Control Module positioned behind the main access doors.
<b>Warranty</b>	Manufacturers 12 months or 8760 hours parts and labour. Optional extended warranty available.

# **ABOUT BLADON**

Bladon is a pioneer in the design, development and manufacture of Micro Turbine Gensets.

Bladon is the world's first manufacturer of microturbine gensets for the telecom market. The company has developed revolutionary patented microturbine, heat exchanger and air bearing technologies to deliver cost effective reliable power.

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\*\*8,000 hours service life subject to suitable air and fuel quality.

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Bladon Micro Turbine is a registered trade mark and a trading name of members of the Bladon Jets group of companies.

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Bladon Approved Reseller