



GenStation 50kWe Biogas CHP

Standard features:-

- State of the art continuous duty Cummins Industrial Engine.
- State of the art high efficiency Marathon alternator, providing high quality electricity and good load response. Leroy-Somer and Stamford models available on request. Single phase option also available on request.
- Speed control using market-leading GAC (US) governor.
- Throttle control and actuator by Woodward (US).
- Mixture control using market-leading IMPCO (US) base mixer.
- High energy, one coil per cylinder, ignition system by AFS (Canada).
- Mixture adjustment achieved using Danish engine management controller (with lambda display) and by-pass valve from the UK. This ensures that optimum air/fuel mixture is achieved even when methane content changes. It also uses lean-burn technology to limit the inefficiency caused by throttling (lower than full-load).
- Biogas filter from Kromschroeder (Germany).
- Gas pressure regulator by Fiorentini (Italy).
- High efficiency, extremely durable stainless steel Swedish exhaust gas and flat-plate heat exchangers.
- Heat recovery architecture and control designed by Volvox Ltd (UK). Includes heat dump radiator to allow the CHP to keep generating even when heat is not being used elsewhere. The cooling system is sealed and pressure-tested to avoid unnecessary maintenance checks (reliable attendance-free running).
- Uses market-leading Deep Sea Controller (UK) to monitor and manage generator health and performance, and control synchronisation with the grid including a built-in G59 relay. Simple and reliable integration with AD systems, providing remote start/stop and load management (quantity of power exported to the grid) control.
- Galvanized, powder-coated, noise-attenuating, fire-proof, dust-proof, tamper-proof, weather-proof enclosure with removable lockable doors (with stainless steel hinges) and internal lighting. The enclosure includes forklift lifting points and top-mounted lifting eyes.



Electricity Output	50kW, 3-phase (4 wires), 415 VAC, 50Hz
Heat Output	110kW (80°C hot water)
Cooling System	Water cooled, with dump radiator and fan
Electrical Efficiency	29%
Thermal Efficiency	58%
Overall Efficiency	87%
Dimensions (mm)	2600x1300x1600
Weight (KGS)	1600 (net)
Fuel consumption	0.56 m ³ /kWhr on full load
Gas inlet pressure	1 to 5.5 kPa
Minimum methane	55%
Mixer Technology	Closed-loop O ₂ sensor with auto air/fuel adjustment
Max H ₂ S allowed	300ppm
Engine type	Cummins M6BTA
Displacement	5.9 L
Compression ratio	10 : 1
Speed	1500 rpm
Design Life	40,000 hours before major rebuild
Service interval	800 hours (Volvox-specified engine oil required)
Lube oil capacity	14.2 litres
Weather protection	IP23
Noise (at 7m)	72db
Alternator	Marathon MP-50-4
Excitation method	Brushless, self-excitation
Insulation Grade	H level
Controller	Deep Sea DSE7520 (synchronising)
Warranty	1500 hrs, 12 months
Directive Conformance	Low Voltage Directive 2006/95/EC EMC Directive 2004/108/EC Machinery Directive 2006/42/EC CE certified