



AgriPower

INCORPORATED

TECHNOLOGY ADVANTAGES AND BENEFITS OF AGRIPOWER'S SYSTEMS

AgriPower, Inc. manufactures, sells and services its unique and proprietary line of *advanced technology*, modular and transportable Waste-to-Energy Heat Only (“**HO**”) and Combined Heat and Power (“**CHP**”) “**Systems**” that were specifically designed and engineered to provide the following technological advantages and benefits:

1. Using various configurations of Waste Heat Generators (“**WHGs**”), the CHP Systems can generate from 125 kW to 1.3 MW (gross) of on-site, base load electric power and Heat Energy (500,000 to 30 MM BTU/hr) from one or more fuel sources.
2. They use “best of breed” technology, components and vendors.
3. Their modular and skid mounted design makes them easy to handle, ship and transport. Their modules are container sized so they can ship in, or as, standard 20’ or 40’ shipping containers.
4. Their design enables them to be easily transported to where the fuel is located. This eliminates most of the cost, and the carbon footprint, normally associated with gathering Biomass and bringing it to a large, centrally located furnace.
5. They are prefabricated and have quick connect fittings which enables their rapid installation and removal. They can be installed, set-up (or dismantled) and producing electricity and Heat Energy in only 1 to 2 months after delivery (depending on site conditions, crew size and configuration).
6. Their modest footprint and weight makes them suitable for many types of locations and applications.
7. They utilize well established combustion, power generation, air conditioning and refrigeration technologies for reliable, durable and resilient operation. Their use of high quality, readily available, commercial off-the-shelf components provides extremely low operating and maintenance costs. Their uptime is expected to be >95% and at least 40,000 hours (5 years) between major overhauls with minimal maintenance.
8. Our combustors have several significant advantages compared to other technologies. For example, their proprietary “multi-zone, variable temperature” combustion technology can operate at a wide range of temperatures (from 1,000F to 2,200F) and they use a unique over- under- and mid-fire air distribution system. Many emissions problems arise because of chemical reactions that frequently occur in the 1,600°F to 1,800°F range or the incomplete combustion of fuel. Our combustor’s ability to operate below 1,600°F enables them to combust fuel below the chemical reaction point where harmful emissions occur; this reduces pollution and enables the use of more waste materials (such as palm and rice waste) as fuel. Their highly controlled air flow distribution and timed screw auger fuel feed systems enables them to “cleanly” operate without requiring expensive emission control equipment. Their efficient operation produces only minimal residual ash.
9. Their unique dual combustion chamber design enables volatile chemicals on or in the waste such as glue or paint to be completely and cleanly combusted. This enables them to utilize a wide variety of waste materials as fuel including construction and demolition debris and most types of plastic (if permitted).
10. They are environmentally friendly. Their extended combustion chamber design provides significant “dwell time”; this enables thorough and efficient fuel combustion and enables them to will comply with all air permitting regulations.
11. They provide excellent flexibility and can operate from 100% to 20% of their rated capacity to accommodate various operating schedules and seasonal fuel availability and output requirements.

12. Their “high temperature” WHG technology provides higher net power outputs and greater customer value than other Systems. They work extremely well in very high and very low temperature environments.
13. Their proven automated operating software provides reliability and enables maximum operating flexibility, continuous System optimization and constant emissions monitoring and compliance. Their ability to be remotely monitored by the customer or AgriPower via telephone, satellite or the Internet eliminates the need for an on-site engineer or technician.
14. They use low air pressure and are non-condensing (i.e., they do not require water or steam to operate). They do not require difficult to find or expensive ultra-pure water or an expensive on-site engineer or technician for high pressure safety reasons or to oversee a complicated or difficult-to-operate unit.
15. They are able to combust a wide variety of low cost Biomass (with up to 50% moisture content) and many other waste materials as fuel including commercial, industrial, municipal, agricultural and forest waste.
16. They generate Heat Energy that is suitable for heating buildings and producing hot water, steam and numerous valuable “**Co-Generation**” applications such as air conditioning and refrigeration (without the need for electric power), water desalination and purification and making ice.
17. Their Heat Energy can also be used as a totally free energy source for commercial applications such as pre-heating cold water, heat bonding; and drying various products (such as paint and wood products) including drying excessively wet Biomass (more than 50% moisture content) so it can be used as fuel in the System.
18. If the electricity and the Heat Energy are used, the System has a 60%+ efficiency ratio. If the customer can also use the low-grade heat for pre-heating water or heating buildings or greenhouses, they have an 80%+ efficiency ratio.
19. They are available in numerous (gross) heat output configurations from 500,000 to 30 MM BTU/hr and electrical configurations from 125 kW to 1.3 MW (gross). They can be run in parallel and are especially well suited for mission critical applications. They require very little power to operate. Each System only requires about 25 to 50 kW of parasitic load to operate its computer, fans, blowers, motors and other integrated equipment.
20. They are scalable and can be custom configured to satisfy each customer’s specific requirements. Numerous System and 50-Hz and 60-Hz configurations provide a wide range of electric and heat, hot water, steam and Co-Generation options such as air conditioning, refrigeration and water purification.
21. Their relatively low daily fuel requirement (from 1 to 60 tons of waste per day) and their high electrical and Heat Energy output, make them suitable for a large number of on-grid and off-grid locations and applications.
22. They can be configured to automatically expel non-combustible items (i.e., dirt, sand, rocks, nails and screws), thereby eliminating most manual sorting expenses.
23. They can be connected to the grid to facilitate the generation and sale of electricity to the local power company and sized to generate excess Heat Energy that can be sold to nearby buildings and greenhouses.
24. Their fuel feed hopper or silo can be sized to accommodate each customer’s fuel storage requirements (e.g., they can hold from 1 to 60 days (or more) of fuel before they must be refilled).
25. They may generate recurring annual carbon credits for methane avoidance and/or for replacing diesel generators and may qualify for significant tax benefits, grants and subsidies.
26. They do NOT use for fuel any materials that can be used for food or animal feed.
27. They enable AgriPower’s customers to avoid the commodity risks associated with purchasing diesel fuel oil in the open market at unpredictable prices and to enjoy energy reliability, resilience and security by responsibly and sustainably using their Biomass and other waste streams as low cost fuel.