



agenitor® 09-2010

CHP Cogeneration Module **agenitor®**

Reduced Fuel Consumption and low Emissions:

- Thermodynamically optimized for most efficient gas combustion.
- Proprietary lean burn technology and a patented combustion geometry increase the efficiency and achieves lowest NOx emissions well below EPA requirements.

agenitor® Product Line:

220ekW 60Hz / 480V
2G A206 BG **agenitor®**

250ekW 60Hz / 480V
2G A306 BG **agenitor®**

400ekW 60Hz / 480V
2G A212 BG **agenitor®**

450ekW 60Hz / 480V
2G A312 BG **agenitor®**

500ekW 60Hz / 480V
twin-pack® Module
2G A306 BG **agenitor®**

Additional Models are Under Development.

Small on Size, big on Power

Unmatched Performance, Value adding Technology, and a higher Degree of Excellence



The 2G **agenitor®** cogeneration plant is available for biogas, landfill, coalmine, sewage gas, syngas, and for all natural gas applications. Because of highest electrical and thermal efficiencies, this CHP plant represent an outstanding capital investment. Intelligently designed, and manufactured to highest quality standards, the 2G **agenitor®** provides customers with attractive advan-

tages and value-added solutions. Unmatched technologies for profitable electricity and heat generation. A compact CHP design with integrated control-and switchgear, thermal energy distribution system and advanced enclosure options.

More efficient - economical - eco friendly - and more advanced than anything else available <500ekW in today's market. The new thermodynamic configuration elevated the electrical efficiency to 40.6% and thermal efficiency up to 50.45%.

The Ultimate CHP <500ekW

Less Input,... more Output,... with exceptional Efficiency and proven Reliability



2G® **agenitor®** natural gas, syngas, and biogas CHP systems are designed for unsurpassed

operation economy. We created the next generation of energy efficient CHP modules.



2G[®] CHP Systems are operational in many Countries.

“Since many Years we are the Originators, and Innovators,... never the Imitators.”

“Building efficient CHP Systems requires more Know-How than just packaging a standard Engine.”

“We continue to lead the Way with an unparalleled Team of Gas Engine Experts and significant R&D Investments .”



More than 1500 CHP's installed

2G[®] is worldwide the Market Leader for compact Natural Gas, Biogas & Syngas CHP

In late 2009 our factory reached a milestone of 1200 CHP cogeneration systems manufactured, supplied and installed. Thanks to an additional production plant opened in 2009 and a new factory extension to be operational in Oct. 2010, the total number of installed CHP systems is expected to reach 1900 by the end of

2011. Since years 2G[®] is the most trusted CHP manufacturer with the largest installed number of biogas CHP's <500ekW worldwide. Besides being more efficient, 2G[®] cogeneration systems are designed “connection ready”. MAN[®] prime mover engine cores are thermodynamically optimized and improved for

most efficient biogas utilization. All modules are fully factory tested prior to shipping. This allows for extreme fast and cost-effective installation, increases product reliability, and assures trouble-free operations. No other CHP manufacturer of similar products has comparable capabilities, resources, and experiences.

Why settle for Less?

A small modular Footprint saves Space,... and our Performance Advantage saves \$\$\$



When it comes to efficient CHP <500ekW our customers don't take chances. Time after time the worlds leading natural gas & biogas plant developers select 2G[®] to safeguard their investment and success. Why? Because there is no higher level of quality, efficiency, and durability available. We could offer you promising words,... but the numbers of installed units say it all.

The three most important aspects of a biogas CHP cogeneration plant are efficiency, reliability, and durability. High electrical and thermal efficiencies are the key to economical operations. Reliability and durability of biogas engines with a long usable life and low maintenance cost will assure your plant generates the desired economical result. Comparing our CHP systems with competitors (all based on LHV) confirms 2G[®] systems are leading with highest efficiencies.

| FIVE STARS = MOST EFFICIENT | |
|-----------------------------|--|
| ★★★★★ | 2G MAN 2G [®] Optimized |
| ★★★★ | 2G MWM 2G [®] Optimized |
| ★★★★ | 2G JENBACHER 2G [®] Optimized |
| ★★★ | WAUKESHA |
| ★★ | GUASCOR |
| ★ | CAPSTONE |
| ★ | CATERPILLAR |

A new Generation of Modular Biogas CHP's

“All-In-One” and “Connection Ready”. The most professional and “Best-In-Class” Cogeneration Module Design



Modular Design with small Footprint

The modular design and construction of 2G[®] CHP cogeneration systems makes their installation fast and provides the flexibility of incremental expansion as power needs increase. Hence, the owner can start with

a small plant that meets current power demands and then the plant can be enlarged later should power demand increase along with business growth. This feature ensures fast revenue flow with the ability to keep production optimized to demand. 2G[®] container modules are highly efficient and economic systems designed especially for CHP applications.

The container represents an economic overall package consisting of all cogeneration components tuned to each other in the best way possible, perfectly aligned with the special requirements of CHP operations, “all-in-one” and “connection ready”. The entire unit is not only extremely compact, but also ensures easy transportation and quick relocation. The design concept is based on years of experience and development. The quality is “second-to-none”.



“A proven technology, very reliable, successfully operating thousands of times in many markets around the world.”



Unique and perfectly designed “ready to use” cogeneration module. All system components are of highest quality, and easily accessible.

Electronically controlled ignition system with bus coupler to the master control. Early detection of vibration and abnormal conditions caused by spark plug wear or ignition coil failure.

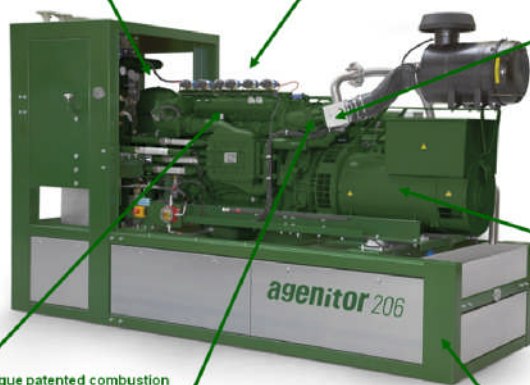
Optimized gas mixer for improved start-up properties, minimization of pressure losses in the intake section, and higher efficiency. Automatic tracking of gas qualities and heat value fluctuations.

Oversized generator for optimized efficiencies and extended operating life.

Unique patented combustion chamber geometry.

Unique patented turbocharger system and positioning with optimized exhaust path.

Extremely sturdy and robust torsion-resistant machine frame with the option to easily add a sound protection enclosure.



Best-In-Class-Technology,... the 2G-Drive[®]

2G-Drive[®] Technology added to conventional MAN[®] Engines leads to increased ROI, lower O&M Cost, & higher Durability

Traditionally cogeneration plants in North America have been sized between 1 and 10MW because smaller engines could not provide the same high efficiencies. 2G[®]'s thermodynamically optimized MAN[®] gas engines with 2G-Drive[®] technology are ideal for combined heat and power (CHP) installations. Now customers can also effectively utilize CHP's <500ekW for on-site power generation, heat pro-

duction, cooling, and for agricultural or industrial heat recovery applications in decentralized locations. The technology behind 2G[®] gas engines and their controls makes them highly reliable, offering superior efficiency with low lifecycle costs. The added benefits of these 2G-Drive[®] MAN[®] gas engines over the conventional standard MAN[®], or any other gas engine in a similar size range, include

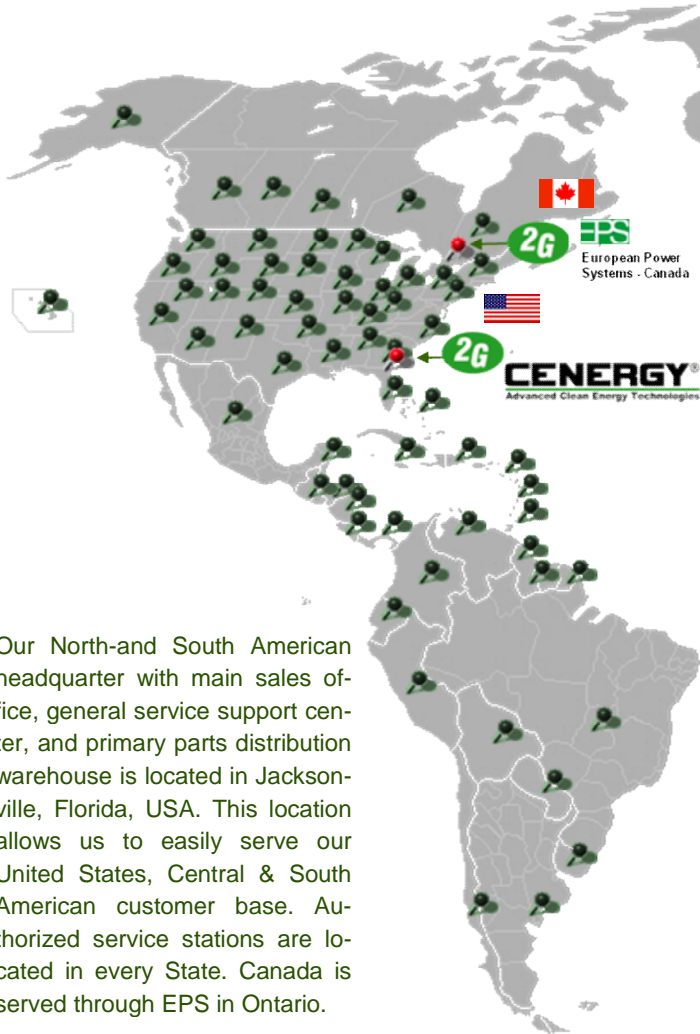
up to 25% higher electrical efficiency, lower maintenance cost, and a longer life cycle. We offer more value than our competition by focusing on advanced technology improvements “superior by design”, and “system efficiency”, rather than just packaging a standard gas engine.



25% higher Efficiency and up to 35% less Maintenance Cost elevated Return on Investment and outstanding Reliability

2G[®] Service & Product Support

Dependable Service & Maintenance Support 24/7 throughout the Americas



Our North-and South American headquarter with main sales office, general service support center, and primary parts distribution warehouse is located in Jacksonville, Florida, USA. This location allows us to easily serve our United States, Central & South American customer base. Authorized service stations are located in every State. Canada is served through EPS in Ontario.

2G[®] product support is customized to meet your needs. We provide customers with the highest quality of after sales service, incl. maintenance contracts for dependable ongoing support.

The Factory



2G Main Factory



Factory 2



Factory 3



Research & Development



Production Line with...



...highest Quality Standards



Pre-shipment Quality Testing



Container Module Assembly 1



Qualified Personnel



Container Module Assembly 2



Attention to Detail



Customer & Operators Training



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2G - CENERGY[®] is a renowned manufacturer dedicated to the production of decentralized power generation systems, providing customers with advanced, highly efficient, and dependable CHP cogeneration modules. The company maintains a "Best-In-Class" product portfolio. 2G[®] is a solid and financially strong corporation publically traded at the Frankfurt Stock Exchange.

