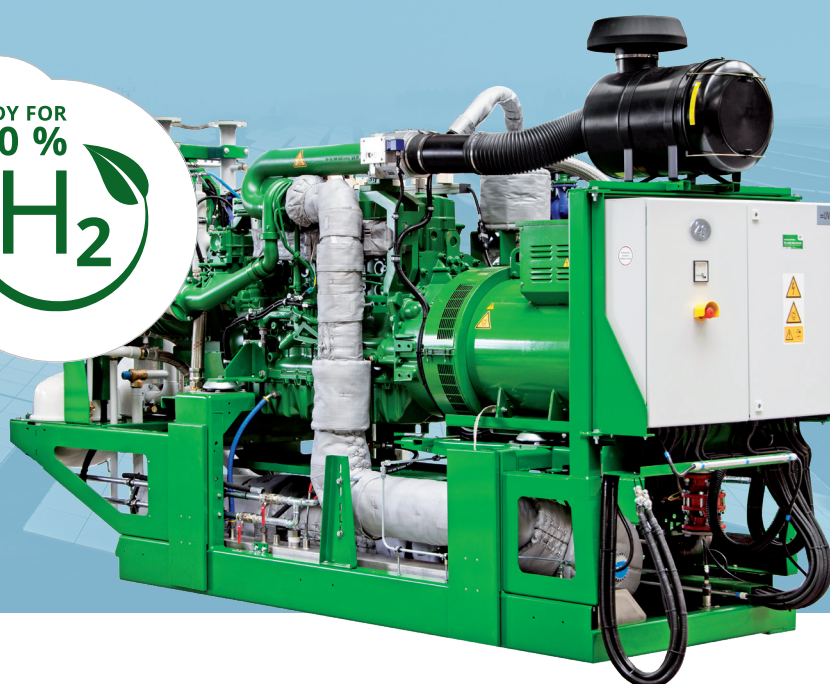




Buy now,
switch to H₂
mode later.

READY FOR
100 %



**Efficient today.
Climate-neutral tomorrow.**

Ready for hydrogen when you are. Your new 2G CHP.

CHP: efficient, flexible, reliable.

2G's CHPs can be the backbone of power plant capacity, which compensates for fluctuating electricity production from wind and solar power plants: they reliably supply electricity and heat whenever they are needed – even in the dark and without wind.

Combined heat and power generation therefore functions as a natural partner of photovoltaic systems. Because unlike the heat pump, for example, which is dependent on the availability

of renewable electricity at a time when photovoltaic systems often do not produce, a CHP provides energy on demand and regardless of the weather conditions.

Thanks to the simultaneous and highly efficient production of electricity and heat, every natural gas-operated CHP system is already helping to reduce greenhouse gas emissions around the world.

And with renewable hydrogen, the energy supply

Almost no loss of efficiency over the entire service life

Compact/high power density

Fast ramp up, good start/stop compatibility



System-friendly due to rotating mass and synchronous generator

High-temperature heat extraction possible

High electrical efficiency

Hydrogen as an energy source.

Climate-neutral without compromise.

The use of hydrogen as an energy source is a milestone on the path to climate neutrality. H_2 is the key technology that enables flexible, safe and time-delayed use of renewable energy in a big way, in all major sectors.

A correspondingly high-performance supply infrastructure is under construction. Hydrogen is already often added to the existing natural gas network. But what will happen to the existing biogas and natural gas CHPs once hydrogen is fully established? Quite simply: they themselves become the building block of this infrastructure.

READY FOR
100 %



How H₂ CHP works.

Hydrogen has different physical properties than natural gas or biogas. This also affects the gas mix formation process.

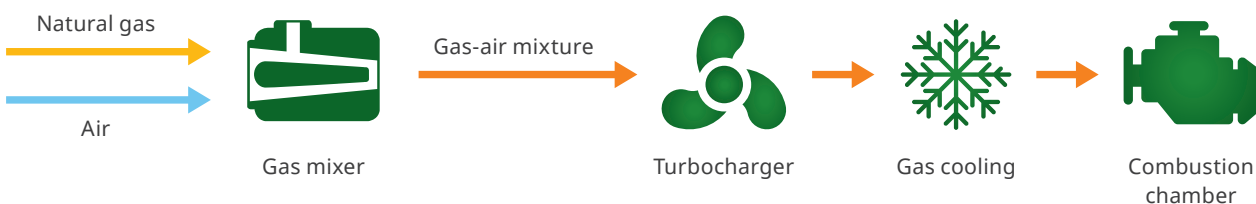
While the external gas mix formation takes place in the gas mixer and before compression in conventional natural gas or biogas operation, with hydrogen, this process takes place directly in front of the combustion chamber in order to avoid uncontrolled ignitions. For this purpose, the hydrogen is fed into the intake system via a gas injector before the ignition-ready mixture is fed

to the combustion chamber – the so-called direct intake pipe injection. In hydrogen mode, only the air is compressed and cooled.

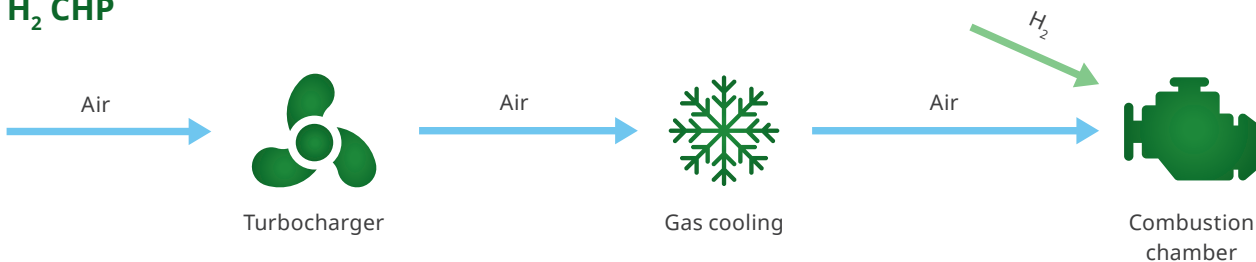
In contrast to natural gas mode, the engine is always run very leanly in hydrogen mode with an air ratio (lambda) greater than 3.

As a result, the theoretical ignition energy of hydrogen is almost identical in direct comparison.

Natural gas CHPs



H₂ CHP



Different gas mix formation natural gas CHP vs. H₂ CHP

Conversion as part of free maintenance.

CHPs are subject to structured maintenance and service schedules, during which the essential components should always be replaced at the same time. For example, as part of the “major overhaul” (M5 maintenance), which is carried out after 30,000 hours, the pistons are replaced, among other things. Since different pistons are

used for hydrogen mode than for natural gas or biogas mode, it is advisable to replace them as part of M5 maintenance.

The best part: if you choose the conversion option, the costs for the corresponding M5 maintenance are completely eliminated.

Ready when you are.

With the agenitor from 2G, you are not only equipped for the energy revolution, but are also actively involved in shaping it. Right from the start. The tried-and-tested agenitor already sets standards in terms of efficiency in operation with natural gas, biogas or gas mixtures. Thanks to the

optimized gas engine, the fuel costs are significantly lower than with comparable models. And there is no need to compromise even when operating with pure hydrogen. Because as a H₂ pioneer, 2G is very familiar with the properties of hydrogen. The result: no loss of efficiency, but 100 % climate neutrality.

	agenitor 404c	agenitor 406	agenitor 408	agenitor 412
Configuration	ct0-0	ct0-0	ct0-0	ct0-0
Electrical power	115 kW	170 kW	240 kW	360 kW
Thermal power	129 kW	183 kW	250 kW	371 kW
Electrical efficiency	37.7 %	39.0 %	40.2 %	40.5 %
Thermal efficiency	42.3 %	41.9 %	1.9 %	41.7 %
Overall efficiency	80.0 %	80.9 %	82.1 %	82.2 %



**Only with 2G: buy CHP today,
convert to H₂ tomorrow.**

Investing in a 2G CHP is more worthwhile than ever before: as the only provider in the world, we enable you to convert a natural gas or biogas-operated CHP to H₂ mode – as part of regular maintenance.

Would you like more information? Contact us.



2G Energy AG

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2G was selected as the award winner for the most innovative project in the energy revolution in the "Industry" category at the renowned Handelsblatt Energy Awards 2018/2019.