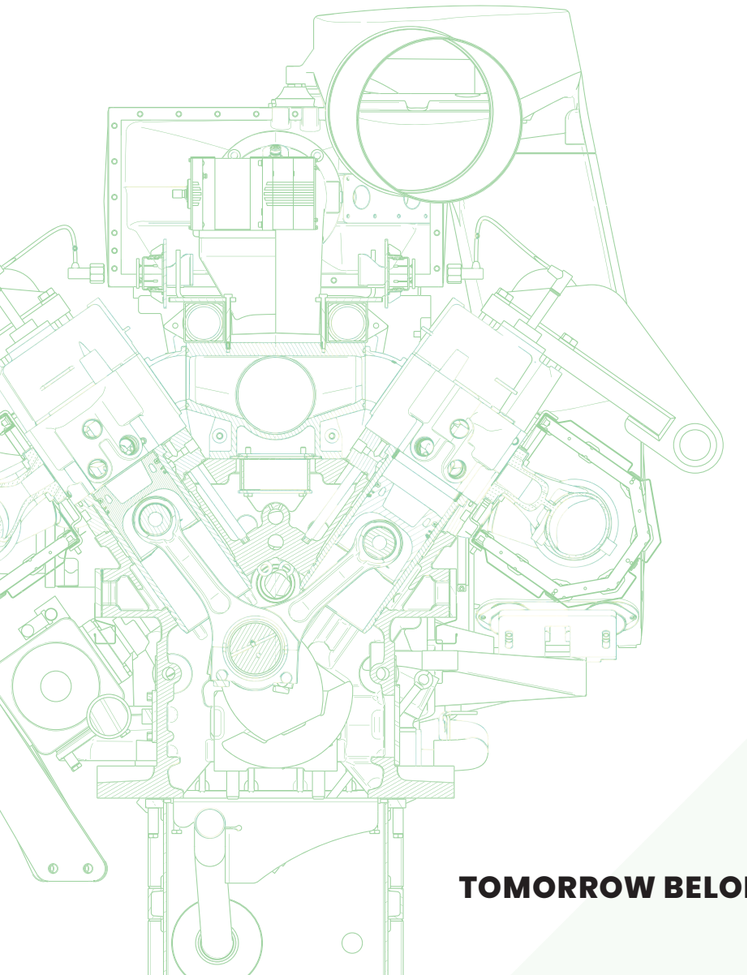
IJB-319006-EN

INNIO* is a leading solutions provider of gas engines, power equipment, a digital platform and related services for power generation and gas compression at or near the point of use. With our Jenbacher* and Waukesha* product brands, INNIO pushes beyond the possible and looks boldly toward tomorrow. Our diverse portfolio of reliable, economical and sustainable industrial gas engines generates 200 kW to 10 MW of power for numerous industries globally. We can provide life cycle support to the more than 50,000 delivered gas engines worldwide. And, backed by our service network in more than 100 countries, INNIO connects with you locally for rapid response to your service needs. Headquartered in Jenbach, Austria, the business also has primary operations in Welland, Ontario, Canada, and Waukesha, Wisconsin, US.

For more information, visit: innio.com

*Indicates a trademark

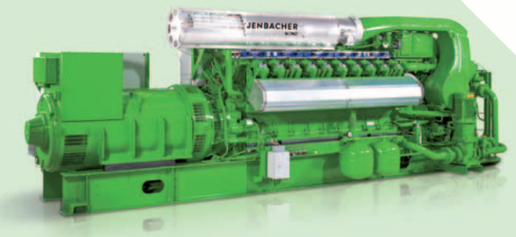


TOMORROW BELONGS TO THE BOLD.

JENBACHER

DON'T WASTE **WASTE WATER.**

Jenbacher J420



Jenbacher sewage gas solutions
from INNIO – your gas engine expert

TURNING **SEWAGE GAS** INTO ENERGY

Previous generations of waste water professionals have often accepted the high costs of operating waste water treatment facilities as a consequence of meeting their discharge permit requirements. However, as the cost of energy rises and emphasis on renewable energy increases, municipalities are now seeking cost-effective and energy-efficient solutions. INNIO's* Jenbacher* gas engines provide tailored solutions that result in long-term savings for waste water treatment plants.

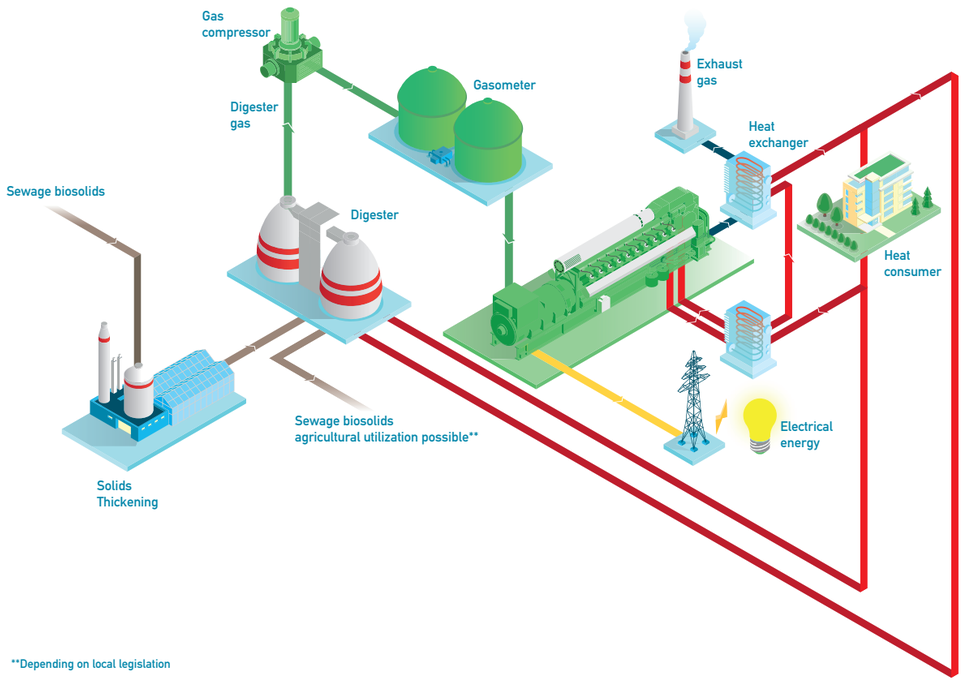
ENERGY COSTS

Water treatment processes in waste water treatment plants (WWTP) include energy-intense operations, such as aeration and pumping. Second only to personnel, the leading expense to WWTP owners is the cost of energy – and these costs are on the rise. As electricity prices rise, plant operators are facing increasing energy costs in order to meet discharge permit requirements.

INNIO provides a solution for rising operating costs. In plants that employ anaerobic digestion for biosolids treatment the sewage gas that is produced can be used to produce electricity. Using modern gas engines, this renewable energy source can efficiently and reliably be converted into electricity. This can cover up to 80% (100%) of a plant's electricity needs and eliminate the need to use fossil fuels to heat the plant.

VOLUME AND PRODUCTION PROCESS FIGURES

Gas produced in anaerobic digesters from municipal WWTPs generally contains 55% to 65% methane and has a typical heating value of 6 kWh/Nm³. As a general rule, approximately 1 MW of electricity can be generated from the biosolids of waste water treated from approximately 500,000 population equivalents.



**Depending on local legislation

THE JENBACHER CONCEPT

INNIO's Jenbacher gas engines high electrical efficiencies provide renewable energy solutions and are robustly designed to handle the variable nature of sewage gas. Our extensive portfolio of engine sizes and outputs allow project designers and operators to properly match fuel availability with the engine ensuring maximum energy production, long-term reliability and the highest possible budget savings.

ADVANTAGES

- LEANOX* controls with turbocharger bypass ensure the correct air to gas ratio under all operating conditions to minimize exhaust gas emissions while maintaining stable engine operation.
- Excellent electrical efficiency reaching up to 44% generates more electricity with the available sewage gas, reducing the need to purchase energy from the public grid.
- High levels of reliability thanks to the fully-developed monitoring concept which includes remote monitoring.
- Minimal maintenance costs with 60,000 operation hours until major overhaul and up to 30,000 operation hours of cylinder head lifetime.
- Seamless dual fuel mixing smoothens gas production fluctuations by supplementing natural gas on the fly and maximizes plant performance.
- The high power density of the engines reduces the space required and, in turn, installation costs. In addition, the low-vibration engine has a negligible impact on buildings.

OUR COMPETENCE

INNIO's Jenbacher gas engines team has more than 30 years of experience providing energy solutions for WWTPs. More than 750 systems gas fueled Jenbacher systems with a total electrical output of approximately 610 MW have been delivered worldwide