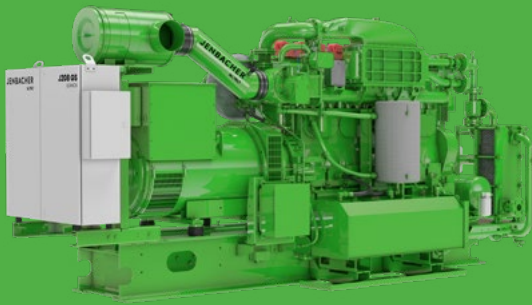


JENBACHER

TYPE 2F

The reference
for durability
and reliability—
now with higher
efficiency



JENBACHER

THE NEXT-GENERATION JENBACHER TYPE 2F ENGINE

The reference for durability and reliability—now with higher efficiency!

Based on our proven Type 2 platform, established in 1976 and continuously developed ever since, the next generation of the Jenbacher Type 2F engine offers proven robustness and reliability while delivering higher efficiency and more power than ever before.

Proven Type 2 engine combined with innovative next-generation technology: the new Jenbacher Type 2F engine. Compared to previous engine versions, efficiency has been increased by up to 3 percentage points, enabling up to 41.8% efficiency when operating with pipeline gas. Additionally, the F generation of the Jenbacher Type 2 engine offers higher electrical output than ever before at up to 360 kWel.

The new F generation of the Jenbacher Type 2 also supports the use of future-proof energy sources, including renewable energy sources like biogas. Additionally, it is possible to equip the engine with a “Ready for Hydrogen” option. The new Type 2F generation characterized by lower THC emissions (total hydrocarbon emissions) and improved ease of serviceability. Moreover, the latest 2F technology can be retrofitted to most installed Jenbacher Type 2 engines.²

Key features of Jenbacher Type 2 engines:



Proven

Since 1976, more than 1,300 engines with an output of over 400 MW have been delivered¹

40 million+ operating hours of experience¹



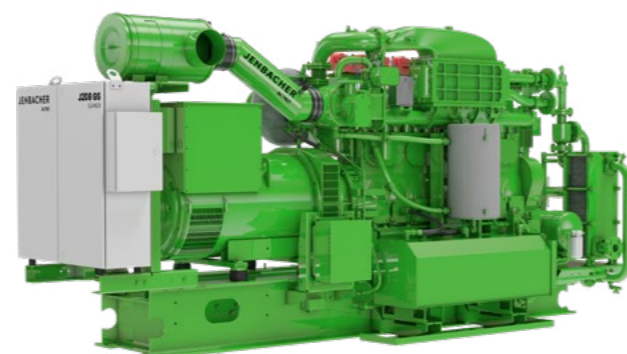
Reliable

Outstanding reliability
Maintenance-friendly engine design
Excellent availability of up to 99%



Flexible

1,500 rpm (50 Hz) & 1,800 rpm (60 Hz)
Fuel flexible: pipeline gas, biogas, and special gases
Application-specific design options: container, genset, or CHP-dedicated versions for 10+ different applications



Notice: All information on the increase in efficiency and performance relates to the comparison with the previous C-version.

¹ Status as of October 2024

² Recommended during minor or major overhaul

BENEFITS at a glance



Higher efficiency

Up to 3 percentage points improved fuel usage means savings for you and a smaller environmental footprint.

Increased output

Delivers up to 360 kWel of output—without compromising on proven reliability and robustness.

Lower THC emissions

Lower THC emissions lead to a smaller environmental footprint.

Reduced oil life-cycle costs

Less consumption and longer lube oil lifetime lower your oil life-cycle costs.

Convenient upgrade

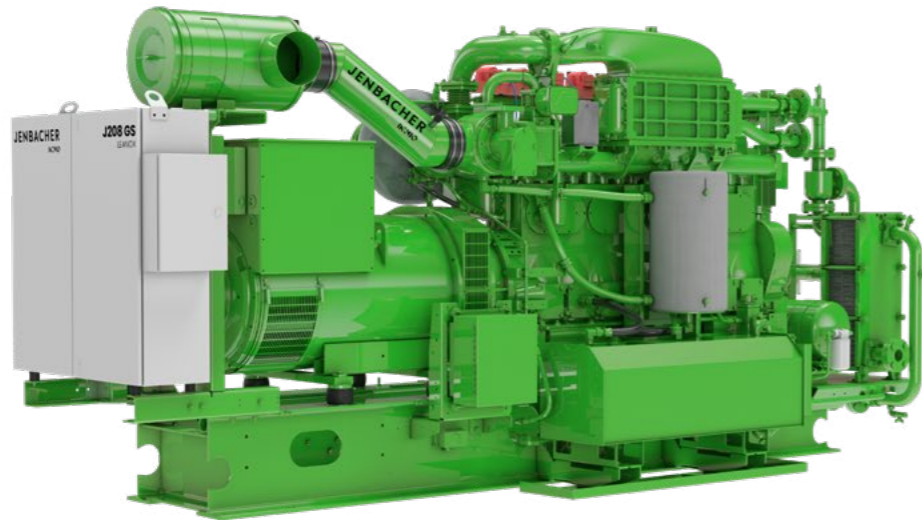
For your installed engines, an upgrade for the latest technology can be applied anytime—ideally during your minor or major overhaul.

Future-proof fuel flexibility

The new F generation Type 2 enables the future-proof use of fuels. This includes renewable energy sources such as biogas and energy sources such as propane or special gases. In addition, the engine can be equipped with a “Ready for Hydrogen” option.

INNOVATIVE DESIGN

The Type 2F engine offers innovative technical features that enable higher efficiency, increased output, lower THC emissions, reduced oil life-cycle costs, and future-proof fuel flexibility. You can easily take advantage of these benefits with our convenient 2F upgrade.



INNOVATIVE DESIGN FEATURES



New cylinder head (4V)

Optimized for better gas exchange and improved cooling, the new cylinder head also delivers reduced THC emissions, improved combustion, and more robust valve and valve seat materials. The new cylinder head was adopted from the successful F generation of the Type 3 engine.



New power unit

The new connecting rod of the Type 2F enables the use of the piston already established in the Type 3F. This helps lower crevice volume for reduced THC emissions, improved combustion, and reduced oil consumption. Other key aspects of the design include a new piston bowl, liner, and scraper ring.



New intercooler

The new intercooler provides 40% more performance and, depending on the version, allows for an intercooler water temperature of 70°C, enabling full use of the entire mixture heat. This results in not only higher overall efficiency but also easier installation and reduced auxiliary power consumption for the low-temperature circuit.



New valve train (4V)

The new valve train, featuring a floating bridge and adapted from the well-established Type 3F, simplifies maintenance.



New camshaft

The new Miller camshaft helps ensure higher efficiency in the charge exchange process, thereby contributing to an enhancement in the engine's overall efficiency. It also reduces THC emissions.



New ignition box

This latest-generation ignition system, also adopted from the Type 3F, enables efficient combustion.

INTEGRATED SOLUTIONS

for Jenbacher Type 2F engines

Containerized units for the Type 2F engine are available with a broad range of options to meet your specific project requirements.

Advantages



Pre-installed package completed with auxiliary systems ensures a quick and easy site installation



Compact footprint consumes minimum amount of space on site



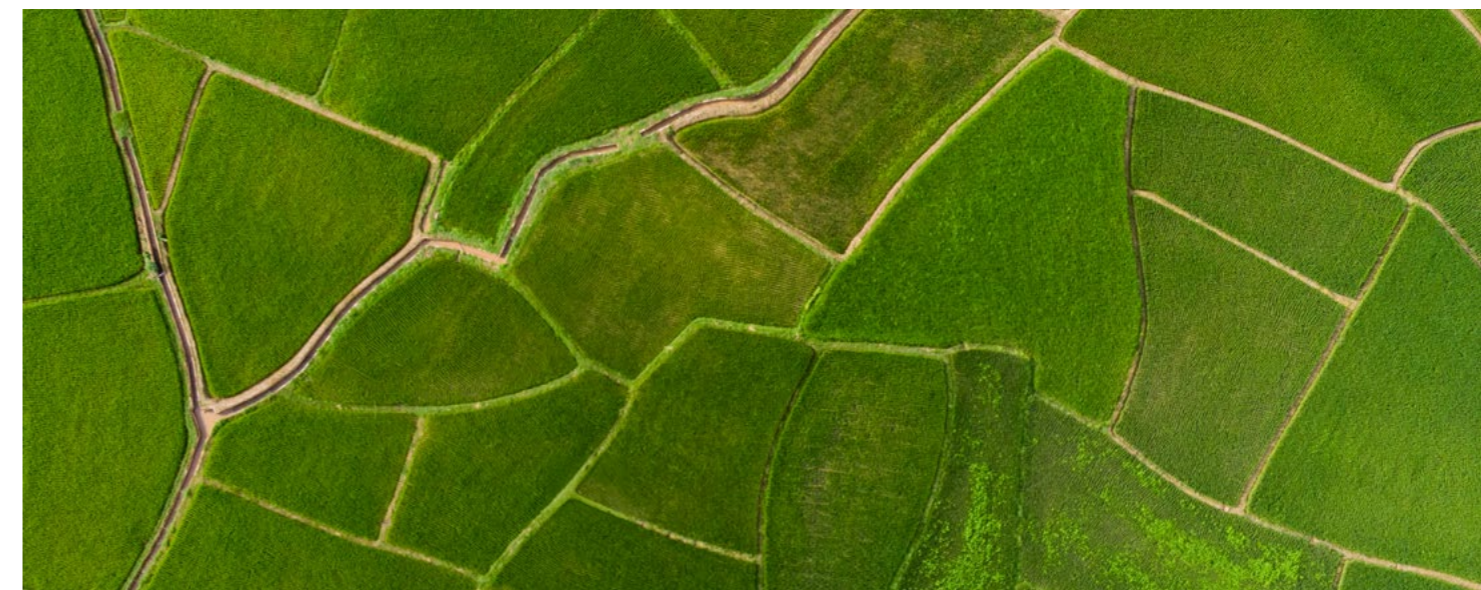
All components matched and tuned to the specific site requirements by Jenbacher engineering experts to help ensure optimal performance

LUBRICATING OILS

The new 2F engine also can be operated with dedicated Jenbacher engine oils.

Our Jenbacher N Oil 40 and S Oil 40 are optimized for performance by our engineering experts and suppliers to deliver:

- extended oil service life for better synchronization of oil changes and other planned maintenance measures
- reduced overall oil consumption—due to fewer changes—that lets you conserve limited resources for greater sustainability
- longer oil filter service life for material and maintenance cost savings
- improved wear resistance, leading to a longer lifespan for valves and cylinder heads
- increased plant availability for more energy production and higher overall yield



TECHNICAL DATA

Meeting customer needs

Our Type 2F technology can help meet a broad range of customer needs with new dedicated applications such as combined heat and power (CHP), biogas, and propane.

Pipeline Gas		1,500 l/min / 50 Hz				
	Version	P _{el} (kW) ³⁾	η _{el} (%) ³⁾	η _{th} (%) ⁴⁾	η _{tot} (%)	
NO _x < 500 mg/Nm ³ ⁵⁾	J208 F	05	360	41.8	39.0	80.8
	J208 F CHP	505	324	40.7	49.3	90
NO _x < 250 mg/Nm ³ ⁵⁾	J208 F	02	360	41	39	80
	J208 F CHP	502	324	40.1	49.2	89.3

CHP version

The CHP version allows for an intercooler water temperature of 70°C, eliminating the need for a low-temperature circuit. This saves not only investments for Balance of Plant (BoP) and avoids parasitic losses and potential sound emissions, but it also results in higher total efficiency.

Biogas		1,500 l/min / 50 Hz				
	Version	P _{el} (kW) ³⁾	η _{el} (%) ³⁾	η _{th} (%) ⁴⁾	η _{tot} (%)	
NO _x < 500 mg/Nm ³ ⁵⁾	J208 F	525	360	40.7	45.6	86.2
NO _x < 250 mg/Nm ³ ⁵⁾	J208 F	528	360	40.0	46.3	86.3

Propane (HD-5)		1,500 l/min / 50 Hz				
	Version	P _{el} (kW) ³⁾	η _{el} (%) ³⁾	η _{th} (%) ⁴⁾	η _{tot} (%)	
NO _x < 250 mg/Nm ³ ⁵⁾	J208 F	56	250	37.3	45.1	82.5

³⁾ Technical data according to ISO 3046

⁴⁾ Total heat output with tolerance at +/- 8% exhaust gas outlet temperature 120 (pipeline gas) and 180° (biogas)

All data according to full load and subject to technical development and modification.

Further engine versions available on request.

⁵⁾ @ 5%O₂ dry exhaust



WEIGHTS AND DIMENSIONS

Configuration	L8	Dimensions l x w x h (mm)	
Bore (mm)	135		
Stroke (mm)	145	Generator set	J208 4,500 x 1,400 x 2,000
Displacement / cylinder (lit)	2.08		
Speed (rpm)	1,500 (50 Hz)	Combined heat and power system	J208 4,500 x 1,900 x 2,000
Mean piston speed (m/s)	8.5 (1,500 l/min)		
Scope of supply	Genset, combined heat and power (CHP) system, genset/CHP in a container	Container	J208 12,200 x 2,500 x 2,600
Applicable gas types	Natural gas, associated petroleum gas, propane, biogas, landfill gas, sewage gas, special gases (e.g., coal mine gas, coke gas, wood gas, pyrolysis gas)	Dry weight (kg)	
Engine type	J208	Generator set	J208 5,150
No. of cylinders	8	Combined heat and power system	J208 9,500
Total displacement (lit)	16.6		



Want a greener future?

Visit jenbacher.com/hydrogen to learn more about INNIO Group's hydrogen solutions.

Zero-carbon H₂ operation of the future

In addition, your Jenbacher equipment can be moved from conventional fuels today to H₂ operation tomorrow, once H₂ becomes more readily available.



OPERATIONAL EXPERIENCE

you can count on

Our next-generation Type 2F technology delivers the established robustness and reliability you expect—with higher efficiency from your specific energy source.



© Zweckverband zur Abwasserbeseitigung am Tegernsee

ZWECKVERBAND ZUR ABWASSERBESEITIGUNG AM TEGERNSEE

The next-generation Jenbacher
Type 2F engine



»We have relied on the Jenbacher J208 engines for over 10 years. That's why we also wanted to benefit from the increased performance of the engine by upgrading to the new F generation. Thanks to the improved fuel efficiency of the Jenbacher 2F generation, we were able to increase our profitability and reduce our ecological footprint at the same time. We are especially impressed by the running performance of the J208 F engine.«

Reinhard Lausecker, Wastewater Manager, and
Markus Strohschneider, Technical Director Operations,
Zweckverband zur Abwasserbeseitigung am Tegernsee
(Special purpose association for wastewater disposal at Tegernsee)

PLANT FACTS

Engines	1 x 208 F
Energy source	Sewage gas
Electrical power	330 kW
Thermal output	395 kW
Total efficiency	86.7%
Year of commissioning	2013
Upgrade to F version	2024



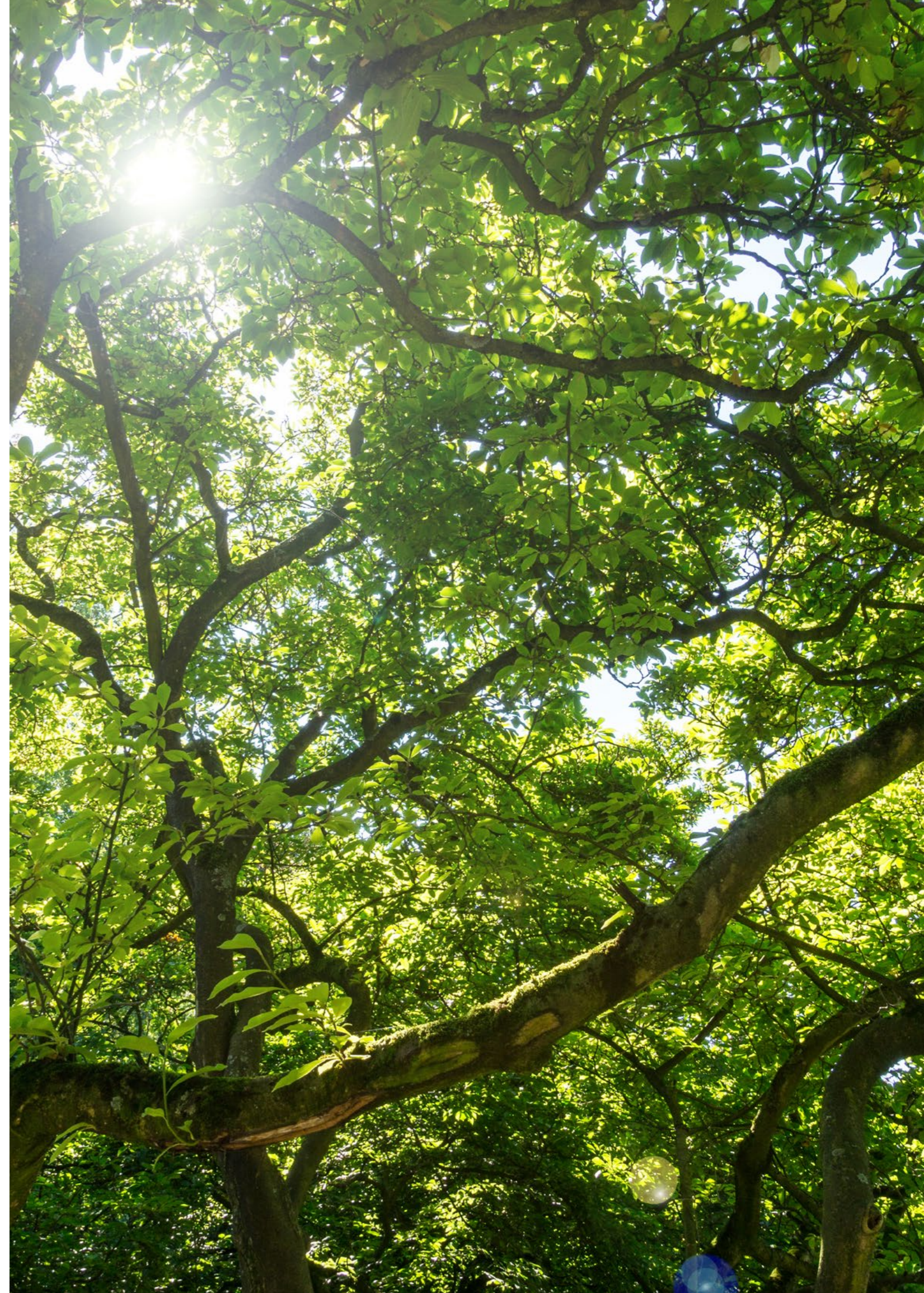
INTERESTED?

INNIO Group is ready to help position you for a greener tomorrow.

Get your individual energy concept now.

Reach out today by completing the contact form online:
jenbacher.com/contact

Our Sales representative will follow up with you.



About INNIO Group

INNIO Group is a leading energy solution and service provider that empowers industries and communities to make sustainable energy work today. With its Jenbacher and Waukesha product brands and its AI-powered myPlant digital platform, INNIO Group offers innovative solutions for the power generation and compression segments that help industries and communities generate and manage energy sustainably while navigating the fast-changing landscape of traditional and green energy sources. INNIO Group is individual in scope, but global in scale. With its flexible, scalable, and resilient energy solutions and services, INNIO Group enables its customers to manage the energy transition along the energy value chain wherever they are in their transition journey.

INNIO Group is headquartered in Jenbach (Austria), with other primary operations in Waukesha (Wisconsin, U.S.) and Welland (Ontario, Canada). Through a service network in more than 100 countries, a team of more than 4,000 experts provides life-cycle support to the more than 57,000 engines that INNIO Group has delivered globally.

INNIO Group's ESG strategy has been recognized and awarded by esteemed rating agencies such as Sustainalytics and EcoVadis. Additionally, the company's near-term climate targets until 2030 have been validated by the Science Based Targets initiative (SBTi).

For more information, visit INNIO Group's website at [innio.com](https://www.innio.com)

Follow INNIO Group and its brands on  (formerly known as Twitter) and 



ENERGY SOLUTIONS.
EVERYWHERE, EVERY TIME.



Online version
available

In general, "Ready for H₂," Jenbacher units can be converted to operate on up to 100% hydrogen in the future. Details on the cost and timeline for a future conversion may vary and need to be clarified individually.

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