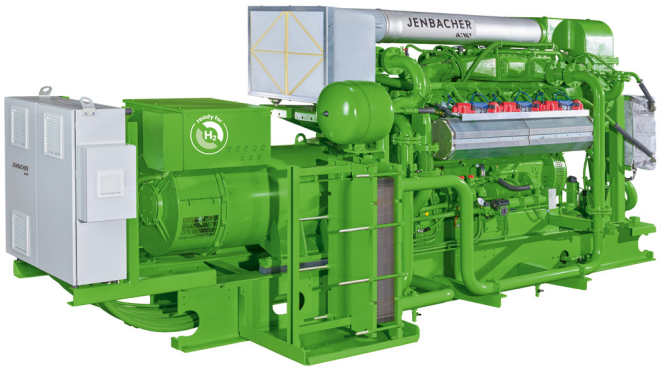
JENBACHER

JENBACHER TYPE 3

Efficient, durable, reliable

Long service intervals, maintenance-friendly engine design and low fuel consumption ensure maximum efficiency in our type 3 Jenbacher engines. Enhanced components prolong service life even when using non-pipeline gases, such as landfill gas. Our type 3 engines offer an outstanding service interval with up to 80,000 operating hours until the major overhaul. This engine type stands out in its 400 to 1,100 kW power range due to its technical maturity and high degree of reliability.



Reference installations

J316 AMCO Produce, Canada

Energy source	Engine type	Electrical output	Thermal output	Commissioning
Pipeline gas	1 x J316	2,900 MBTU/hr	4,094 MBTU/hr	2021

To support its energy- and heat-intensive hydroponic production, AMCO Produce turned to a combined heat and power (CHP) solution centered on a single Jenbacher J316 engine powered by pipeline gas. Equipped with heat recovery systems, the new cogeneration plant delivers 2,900 MBTU/hr of power and 4,094 MBTU/hr of heat to meet the 100-acre greenhouse facility's baseload demand and complement its thermal demand.

J320 Gasgreen Energía, Ecuador

Energy source	Engine type	Electrical output	Commissioning
Landfill gas	2 x J320 3 x J420	17,060 MBTU/hr	2016, 2017

In 2016, two of INNIO's Jenbacher J320 gensets began delivering 6,824 MBTU/hr of power running on renewable landfill gas from the Gasgreen Energía landfill site. Based on that success, three Jenbacher J420 were added in 2017. Today, the power plant delivers a combined 17,060 MBTU/hr of electricity to power more than 25,000 homes in Ecuador and annually saves 26 million cubic meters of landfill gas from being released into the environment.*

* https://www.emgirs.gob.ec/index.php/noticiasep/398-quito-se-destaca-en-el-ecuador%02al-producir-energia-electrica-de-la-basura

J320 Shandong Minhe Biological Technology Co., LTD, China

Energy source	Engine type	Electrical output	Thermal output	Commissioning
Biogas	3 x J320 1 x J620	21,155 MBTU/hr	22,520 MBTU/hr	2009, 2018

The farm's biogas power generation project uses chicken manure and sewage fermentation to produce biogas. Commissioned in 2009, the facility is powered by three Jenbacher J320 biogas-fueled engines, and a J620 biogas-fueled engine was added in 2018.

Technical data

Configuration	V 70°
Bore (inch)	5.31
Stroke (inch)	6.69
Displacement / cylinder (cu.in)	148.5
Speed (rpm)	1,800 (60 Hz)
Mean piston speed (in/s)	402
Scope of supply	Generator set, cogeneration system, generator set / cogeneration in container
Applicable gas types	Natural gas, flare gas, propane, biogas, landfill gas, sewage gas, special gases (e.g., coal mine gas, coke gas, wood gas, pyrolysis gas)

Engine type	J312	J316	J320
No. of cylinders	12	16	20
Total displacement (cu.in)	1,782	2,376	2,970

Dimensions l x w x h (inch)

Generator set	J312	190 x 70 x 90
	J316	210 x 70 x 90
	J320	230 x 70 x 100
Cogeneration system	J312	190 x 90 x 90
	J316	210 x 90 x 90
	J320	230 x 80 x 90
Container 40-foot	J312	480 x 100 x 110
	J316	480 x 100 x 110
	J320	480 x 100 x 110

Weights empty (lbs)

Generator set	J312	18,740
	J316	22,490
	J320	29,770
Cogeneration system	J312	21,830
	J316	24,910
	J320	30,870
Container 40-foot	J312	46,370
	J316	53,870
	J320	64,980

Outputs and efficiencies

Natural gas — 1,800 rpm | 60 Hz

NO_x <	Type	Pel (kW)[1]	Pth (MBTU/hr)[2]	ηel (%)[1]	ηth (%)[2]	ηtot (%)
1.0 g/bhp.hr	J312	635	2,627	40.1	48.7	88.8
	J316	847	3,505	40.2	48.7	88.9
	J320	1,062	4,382	40.3	48.7	89.1
0.5 g/bhpr	J312	635	2,693	39.1	48.7	87.8
	J316	847	3,590	39.2	48.7	87.8
	J320	1,062	4,480	39.3	48.6	87.9

Biogas — 1,800 rpm | 60 Hz

NO_x <	Type	Pel (kW)[1]	Pth (MBTU/hr)[2]	ηel (%)[1]	ηth (%)[2]	ηtot (%)
1.0 g/bhp.hr	J312	635	2,566	39.7	47.1	86.8
	J316	847	3,422	39.8	47.1	86.9
	J320	1,062	4,272	39.9	47.0	86.9
0.5 g/bhpr	J312	635	2,610	39.1	47.2	86.3
	J316	847	3,480	39.2	47.2	86.3
	J320	1,062	4,350	39.3	47.2	86.4

[1] Technical data according to ISO 3046
[2] Total heat output with a tolerance of +/- 8%, exhaust gas outlet temperature 120°C, for biogas gas outlet temperature 180°C
All data according to full load and subject to technical development and modification.
Further engine versions available on request.

Contact us:
jenbacher.com/en/contact
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In general, "Ready for H_2" 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.

Jenbacher is part of the INNIO Group

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