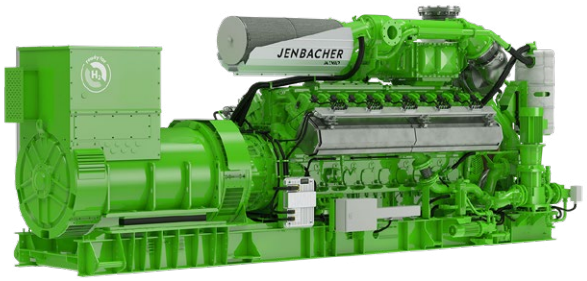
JENBACHER

JENBACHER TYPE 4

An efficiency milestone for hot and humid countries

Based on proven design concepts of Types 3 and 6, the modern Jenbacher Type 4 engines in the 800 to 1,560 kW power range are characterized by high power density and outstanding efficiency. Enhanced control and monitoring support simplified preventative maintenance, as well as high reliability and availability.



Reference installations

J420 – Chengdu Chang'an Landfill Gas Comprehensive Utilization Project, China



This Chengdu Chang'an project is one of the largest single-unit landfill gas power generation projects in China. In the first phase, completed in May 2017, 14 Jenbacher J420 gensets running on landfill gas were installed, providing an electrical capacity of 20.82 MW. In November 2018, the second phase added six more Jenbacher J420 units, bringing the project's total installed capacity to 29.74 MW.

Engines	20 x J420
Electrical output	29.74 MW
Thermal output	-
Energy source	Landfill gas
Commissioning	2017, 2018

J420 – Jaremar Group, Honduras



The Jaremar Group aimed to use a byproduct from its palm oil extraction plant – palm oil mill effluent (POME) – for power generation. In 2008, the company installed a Jenbacher J316 delivering 840 kW of electrical output. More than a decade later, it added a Jenbacher J420, which delivers an additional 1.43 MW. Through anaerobic fermentation, the POME produces biogas, which then is captured and fed into the engine to generate power.

Engines	1 x J316, 1 x J420
Electrical output	2.27 MW
Thermal output	-
Energy source	Biogas
Commissioning	2008, 2019

J420 – Chok Yuen Yong Industry Co., Ltd, Thailand



Five Jenbacher J420 biogas-fueled engines produce more than enough electric power to supply Chok Yuen Yong Industry's tapioca starch factory. The excess electricity produced by the engines – about 1,000 kW – is supplied to the public grid to further reduce the facility's power costs.

Engines	5 x J420
Electrical output	7.1 MW
Thermal output	5.2 MW
Energy source	Biogas
Commissioning	2012, 2017

J420 – Blue Planet Knit Composite Ltd, Gazipur, Bangladesh



Blue Planet Knit Composite has a composite garment manufacturing facility based in Gazipur. Three Jenbacher J420 gensets support the factory and office buildings with a total of 4,503 kW of electricity.

Engines	3 x J420
Electrical output	4.5 MW
Thermal output	-
Energy source	Natural gas/Propane
Commissioning	2020

JENBACHER

Technical features

Feature	Description	Advantages
Heat recovery	Flexible arrangement of heat exchanger, including an optional two-stage oil plate heat exchanger on demand	— High thermal efficiency, even at high and fluctuating return temperatures
Gas dosing valve	Electronically controlled gas dosing valve with a high degree of control accuracy	— Fast response time — Rapid adjustment of air/gas ratio — Wide adjustable calorific value range
Four-valve cylinder head	Enhanced swirl and channel geometry developed using advanced computational and simulation methods (CFD)	— Reduced charge-exchange losses — Central spark plug position supporting optimal cooling and combustion conditions
Crack connecting rod	Proven technology from the automotive industry applied in high-performance stationary engines	— High dimensional stability and accuracy — Reduced connecting rod bearing wear — Simplified maintenance

Technical data

Configuration	V 70°		
Bore (mm)	145		
Stroke (mm)	185		
Displacement/cylinder (lit)	3.06		
Speed (rpm)	1,800/1,200 (60 Hz) 1,500 (50 Hz)		
Mean piston speed (m/s)	7.4 (1,200 1/min) 9.3 (1,500 1/min) 11.2 (1,800 1/min)		
Scope of supply	Generator set, cogeneration system, generator set/ cogeneration in container		
Applicable gas types	Natural gas, flare gas, biogas, landfill gas, sewage gas, special gases (e.g., coal mine gas, coke gas, wood gas, pyrolysis gas)		
Engine type	J412	J416	J420
No. of cylinders	12	16	20
Total displacement (lit)	36.7	48.9	61.1

		Dimensions l x w x h (mm)
Generator set	J412	5,400 x 1,800 x 2,200
	J416	6,200 x 1,800 x 2,200
	J420	7,100 x 1,900 x 2,200
Cogeneration system	J412	6,000 x 1,800 x 2,200
	J416	6,700 x 1,800 x 2,200
	J420	7,100 x 1,800 x 2,200
Container[1] 40-foot	J412	12,200 x 3,000 x 2,700
	J416	12,200 x 3,000 x 2,700
	J420	12,200 x 3,000 x 2,900
		Weights empty (kg)
Generator set	J412	11,200
	J416	13,500
	J420	17,200
Cogeneration system	J412	11,800
	J416	14,100
	J420	17,800

Outputs and efficiencies

Natural gas — **1,500 1/min | 50 Hz**

NO_x<	Type	Pel (kW)[2]	Pth (kW)[4]	Heat rate (kJ/kWhe)[3]	ηel (%)[3]	ηth (%)	ηtot (%)
500 mg/m³$_N$	J412	902	1007	8494	42.4	47.3	89.7
	J416	1201	1337	8478	42.5	47.3	89.8
	J420	1501	1667	8469	42.5	47.2	89.7
	J420	1562	1697	8350	43.1	46.8	89.9

[1] The dimensions refer to the standard base models with horizontal exhaust silencer.
[2] Type 4 gas engine with site condition ≤ 50 m above sea level and T1 ≤ 35°C
[3] Technical data and fuel consumption according to ISO 3046
[4] Total heat output @ hot water profile 70°C/90°C

All data according to full load and subject to technical development and modification. Additional engine versions available on request.

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

Follow INNIO Group and its brands on in

For more information, visit INNIO Group's website at **innio.com**

© Copyright 2026 INNIO. Information provided is subject to change without notice.

INNIO, Jenbacher, Waukesha, and myplant are trademarks or registered trademarks of the INNIO Group, or one of its subsidiaries, in the European Union, the United States and in other countries. For a list of INNIO Group trademarks, please visit **innio.com/trademarks**. All other trademarks and company names are the property of their respective owners.

Contact us:
jenbacher.com/en/contact

Jenbacher is part of the INNIO Group