JENBACHER

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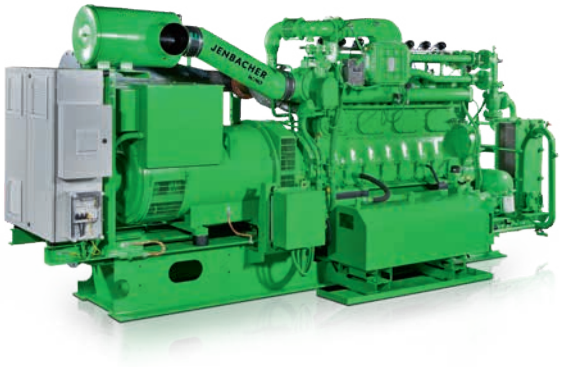
Jenbacher type 2



Continuous development for more than 40 years

Introduced in 1976 and continuously improved, the Jenbacher* type 2 engine offers extremely high efficiency in the 250 to 350 kW power range. Its robust design and stationary engine concept result in excellent component durability and a service life of 80,000 operating hours before the first major overhaul. Enhanced components and a proven control and monitoring concept give this engine outstanding reliability.

Reference installations

J208 Biogas plant in Schlitters, Austria

Fuel	Engine type	Electrical output	Thermal output	Commissioning
Biogas	1 x J208	350 kW	370 kW	2008 2015(1)

A single J208 engine at the combined heat and power (CHP) station in Schlitters annually transforms about 12,000 tons of leftover food and biowaste into electricity and heat. The residual digested biowaste then is compressed into compost or turned into liquid manure to fertilize agricultural fields in the region.

1) Engine replaced by a new J208

J208 Sewage treatment plant in Fritzens, Austria

Fuel	Engine type	Electrical output	Thermal output	Commissioning
Sewage gas	2 x J208	660 kW	761 kW	2002(1) 2005(2)

At the sewage treatment plant in Fritzens, two J208 engines running on sewage gas generate more than 3.3 MWh of electricity to offset the facility's annual electricity demand. Furthermore, heat generated by the engines is used to process food waste and generate additional energy that benefits the plant's waste management operations.

1) First engine 2) Second engine

J208 Sewage treatment plant in Strass im Zillertal, Austria

Fuel	Engine type	Electrical output	Thermal output	Commissioning
Sewage gas	1 x J208 1 x J312	625 kW	724 kW	2009

Two Jenbacher gas engines generate 120% of the electricity and heat needed at the sewage treatment plant in Strass. The excess power is fed into the local grid.

J208 & J320 Arif Habib Group Business Building in Karachi, Pakistan

Fuel	Engine type	Electrical output	Commissioning
Natural Gas	1 x J208 1 x J320	330 kW 1,064 kW	2009 2009

For the Arif Habib Group, a business conglomerate company based in Karachi, two Jenbacher generator sets generate 1,394 kW electricity to support their head office with onsite power. The J208 engine has already achieved more than 50,000 operating hours.

INNIO

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Technical data

Configuration	In line
Bore (mm)	135
Stroke (mm)	145
Displacement / cylinder (lit)	2.08
Speed (rpm)	1,500 (50 Hz) 1,800 (60 Hz)
Mean piston speed (m/s)	7.3 (1.500 1/min) 8.7 (1.800 1/min)
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
Engine type **No. of cylinders** **Total displacement (lit)**	J208 8 16.6

Dimensions l x w x h (mm)	
Generator set	4,900 x 1,700 x 2,000
Cogeneration system	4,900 x 1,700 x 2,000
Container 20-foot (generator set)	6,100 x 2,500 x 2,600
Container 40-foot (cogeneration)	12,200 x 2,500 x 2,600

Weights empty (kg)	
Generator set	6,000
Cogeneration system	6,700

Outputs and efficiencies

Natural gas		**1,500 1/min | 50 Hz**					**1,800 1/min | 60 Hz**				
NOx <	**Type**	**Pel (kW)[1]**	**ηel (%)[1]**	**Pth (kW)[2]**	**ηth (%)[2]**	**ηtot (%)**	**Pel (kW)[1]**	**ηel (%)[1]**	**Pth (kW)[2]**	**ηth (%)[2]**	**ηtot (%)**
500 mg/m³$_N$	J208	300	38.3	409	52.0	90.3					
	J208	330	38.8	371	43.6	82.3	336	37.3	424	47.1	84.4
250 mg/m³$_N$	J208	294	37.6	410	52.4	90.0	336	36.0	423	45.3	81.3

Biogas		**1,500 1/min | 50 Hz**					**1,800 1/min | 60 Hz**				
NOx <	**Type**	**Pel (kW)[1]**	**ηel (%)[1]**	**Pth (kW)[2]**	**ηth (%)[2]**	**ηtot (%)**	**Pel (kW)[1]**	**ηel (%)[1]**	**Pth (kW)[2]**	**ηth (%)[2]**	**ηtot (%)**
500 mg/m³$_N$	J208	330	38.8	413	48.5	87.3	336	36.4	410	44.4	80.7
	J208	249	39.1	275	43.2	82.2					
250 mg/m³$_N$	J208	330	37.8	357	40.9	78.6					

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 engines versions available on request.

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