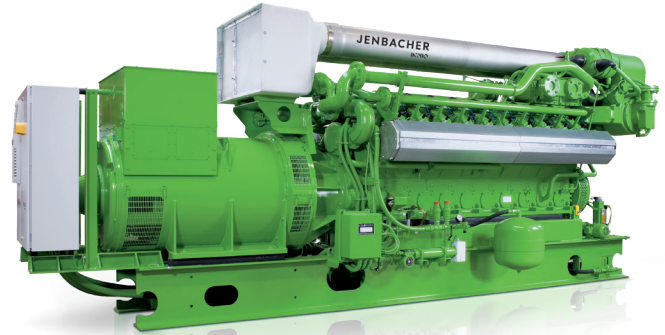


Jenbacher type 3

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

J312 & J320 Landfill Site in Durban, South Africa

Fuel	Engine type	Electrical output	Commissioning
Landfill gas	1 x J312	526 kW	2006
	1 x J320	1,064 kW	

At the Durban Landfill, two containerized Jenbacher generator sets with a total electrical output of 1,590 kW generate electricity for the local municipal grid. Moreover, the use of landfill gas for power generation curbs environmental pollution and health problems associated with the escaping landfill gas.



J316 Combined Cooling, Heat & Power Plant at the Hospital in Beijing Qinghe, China

Fuel	Engine type	Electrical output	Thermal output	Commissioning
Natural gas	2 x J316	3,189 kW	6,321 MBTU/hr	2012

The Qinghe Hospital building and facility installed two J316 engines with a total electrical output of 3,189 kW. With a total efficiency of more than 70%, the J316 units improve the facility's energy supply security while also providing exhaust heat and hot water.



J320 Ensign Drilling Jonah Field in Wyoming, US

Fuel	Engine type	Electrical output	Commissioning
Natural gas	24 x J320	24,168 kW	2011

In southwest Wyoming, a major gas producer has deployed 24 J320 engines to repower a drilling rig using natural gas instead of diesel. In the Jonah field, available site gas allows the producer to capture cost savings and reduce overall site emissions.



J320 Amtex Textile Center in Punjab, Pakistan

Fuel	Engine type	Electrical output	Commissioning
Natural gas	12 x J320	12,072 kW	2002, 2003, 2004, 2005, 2008

A dozen J320 natural gas-driven units generate electricity for spinning mills in one of Pakistan's most important textile centers. The plant relies on the Jenbacher engines' ability to operate efficiently in a difficult environment that includes high ambient temperatures, dusty inlet air, and island mode operation.



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	203 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	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 (cogeneration)	J312	46,370
	J316	53,870
	J320	64,980

Outputs and efficiencies

Natural gas		1,800 rpm 60 Hz				
NOx <	Type	Pel (kW) ¹	Pth (MBTU/hr) ²	ηel (%) ¹	ηth (%) ²	ηtot (%)
1.0 g/bhp.hr	J312	635	2,774	39.0	50.0	89.0
	J316	847	3,699	39.1	50.0	89.1
	J320	1,062	4,644	39.2	50.2	89.4
0.6 g/bhpr	J312	635	2,890	38.0	50.7	88.8
	J316	847	3,852	38.1	50.7	88.8
	J320	1,062	4,772	38.2	50.3	88.5

Biogas		1,800 rpm 60 Hz				
NOx <	Type	Pel (kW) ¹	Pth (MBTU/hr) ²	ηel (%) ¹	ηth (%) ²	ηtot (%)
1.0 g/bhp.hr	J312	635	2,743	38.5	48.7	87.2
	J316	847	3,658	38.5	48.7	87.2
	J320	1,062	4,576	38.6	48.7	87.4
0.6 g/bhpr	J312	635	2,917	37.0	49.9	87.0
	J316	847	3,890	37.1	49.9	87.0
	J320	1,062	4,763	37.7	49.6	87.3

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.

