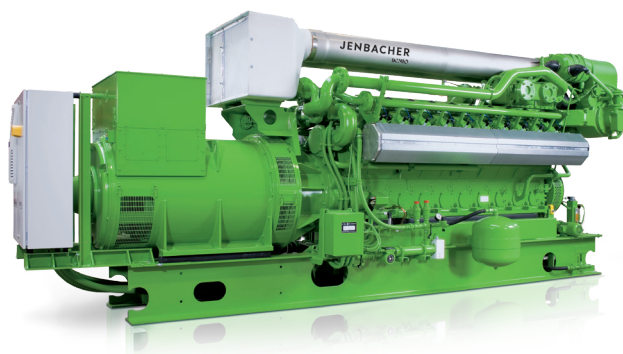


Jenbacher type 3

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	1,670 kW	1,851 kW	2012

The Qinghe Hospital building and facility installed two J316 engines with a total electrical output of 1,670 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 (mm)	135		
Stroke (mm)	170		
Displacement / cylinder (lit)	2.43		
Speed (rpm)	1,500 (50 Hz)	1,200 / 1,800 (60 Hz)	
Mean piston speed (m/s)	8.5 (1,500 1/min)	6.8 (1,200 1/min)	10.2 (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. 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 (lit)	29.2	38.9	48.7

Dimensions l x w x h (mm)			
Generator set	J312	4,700 x 1,800 x 2,300	
	J316	5,200 x 1,800 x 2,300	
	J320	5,700 x 1,700 x 2,300	
Cogeneration system	J312	4,700 x 2,300 x 2,300	
	J316	5,300 x 2,300 x 2,300	
	J320	5,700 x 1,900 x 2,300	
Container	J312	12,200 x 2,500 x 2,600	
	J316	12,200 x 2,500 x 2,600	
	J320	12,200 x 2,500 x 2,600	

Weights empty (kg)			
Generator set	J312	8,100	
	J316	10,100	
	J320	13,900	
Cogeneration system	J312	9,500	
	J316	11,200	
	J320	14,400	

Outputs and efficiencies

Natural gas		1.500 1/min 50 Hz					1.800 1/min 60 Hz					1.200 1/min 60 Hz				
NOx <	Type	Pel (kW) ¹	Pt (kW) ²	ηel (%) ¹	ηth (%) ²	ηtot (%)	Pel (kW) ¹	Pt (kW) ²	ηel (%) ¹	ηth (%) ²	ηtot (%)	Pel (kW) ¹	Pt (kW) ²	ηel (%) ¹	ηth (%) ²	ηtot (%)
500 mg/m ³ _N	J312	392	508	39.6	51.2	90.8										
	J312	598	685	41.1	47.1	88.2										
	J312	635	739	40.8	47.4	88.2	635	813	39.0	50.0	89.0	473	539	40.7	46.4	87.1
	J316	851	991	40.7	47.3	88.0	847	1,084	39.1	50.0	89.1	634	720	40.9	46.5	87.4
	J320	1,000	1,130	41.4	46.9	88.3										
	J320	1,067	1,231	41.1	47.5	88.6	1,062	1,361	39.2	50.2	89.4	793	893	41.1	46.3	87.4
250 mg/m ³ _N	J312	635	766	39.5	47.6	87.1	635	847	38.0	50.7	88.8	473	548	40.0	46.3	86.3
	J316	851	1,028	39.5	47.8	87.3	847	1,129	38.1	50.7	88.8	634	730	40.2	46.2	86.4
	J320	1,067	1,283	40.1	48.3	88.4	1,062	1,399	38.2	50.3	88.5	793	907	40.4	46.2	86.6

Biogas		1,500 1/min 50 Hz					1,800 1/min 60 Hz				
NOx <	Type	Pel (kW) ¹	Pt (kW) ²	ηel (%) ¹	ηth (%) ²	ηtot (%)	Pel (kW) ¹	Pt (kW) ²	ηel (%) ¹	ηth (%) ²	ηtot (%)
500 mg/m ³ _N	J312	548	558	41.7	42.4	84.1					
	J312	635	711	40.2	45.0	85.2	635	804	38.5	48.7	87.2
	J316	851	940	40.3	44.5	84.7	847	1,072	38.5	48.7	87.2
	J320	1,067	1,175	40.7	44.8	85.5	1,062	1,341	38.6	48.7	87.4
250 mg/m ³ _N	J312	635	730	39.0	44.8	83.8	635	838	37.4	49.4	86.9
	J316	851	964	39.3	44.5	83.7	847	1,119	37.5	49.5	87.0
	J320	1,067	1,214	39.5	44.9	84.4	1,062	1,397	37.6	49.4	87.0

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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