

JENBACHER TYPE 6

Hot & Humid countries— cutting-edge technology

Continuously refined based on our extensive experience, Jenbacher Type 6 engines are reliable, advanced products serving the 2 to 4.5 MW power range. The 1,500 rpm engine speed provides high power density and low specific installation costs. The Type 6 precombustion chamber enables high efficiency with low emissions. Proven design and enhanced components support a service life of 60,000 operating hours before the first major overhaul. The J624 model features the advanced 2-stage turbocharging technology, which offers high electrical and total efficiencies combined with improved flexibility over a wide range of ambient conditions.



Reference installations

J612 & J620—Mamuda Foods Nigeria Ltd., Nigeria



Three Jenbacher J612 and seven Jenbacher J620 engines fueled with natural gas derived from LNG meet the power needs at the Mamuda Foods plant in Kano, Nigeria. This infrastructure project includes a long-time agreement with one of the largest Nigerian LNG companies, which trucks LNG to the site.

Engines	3 x J612, 7 x J620
Electrical output	29.47 MW
Thermal output	-
Energy source	Natural gas (LNG)
Commissioning	2020, 2021, 2022, 2023

J612—Vitalait, Tunisia



With two Jenbacher J612 engines and a total electrical output of 4 MW, this cogeneration plant helps reduce Vitalait's energy costs with monthly savings of more than €51,000¹. Plus, carbon emissions are reduced by more than 6,000 metric tons (tonnes) per year.

Engines	2 x J612
Electrical output	4 MW
Thermal output	3.1 MW
Energy source	Pipeline gas
Commissioning	2019, 2021

J624—City Group in Narayanganj, Bangladesh



Based in Narayanganj, City Group is one of Bangladesh's leading conglomerates and consumer goods manufacturers. Nine Jenbacher J624 gensets generate a total of 39,573 kW of electricity to support the factory and office buildings.

Engines	9 x J624
Electrical output	39.57 MW
Thermal output	-
Energy source	Pipeline gas
Commissioning	2019, 2020

J624—Walton Hi-Tech Industries PLC. in Gazipur, Bangladesh



Walton Hi-Tech Industries PLC. is an electrical and electronics manufacturing company based in Gazipur. Five Jenbacher J624 gensets generate a total of 21,985 kW of electricity to support the company's refrigeration and air conditioning manufacturing section, its home appliance section, and its office buildings.

Engines	5 x J624
Electrical output	21.99 MW
Thermal output	-
Energy source	Pipeline gas
Commissioning	2021

¹ 166,000 Tunisian Dinar

Technical features

Feature	Description	Advantages
Four-valve cylinder head	Centrally located purged pre-combustion chamber, developed using advanced calculation and simulation methods (CFD)	Reduced charge-exchange losses, highly efficient and stable combustion, optimal ignition conditions
Heat recovery	Flexible arrangement of heat exchanger, two stage oil plate heat exchanger on demand	High thermal efficiency, even at high and fluctuating return temperatures
Air/fuel mixture charging	Fuel gas and combustion air are mixed at low pressure before entering the turbocharger	Main gas supply with low gas pressure, mixture homogenized in the turbocharger
Pre-combustion chamber	The ignition energy of the spark plug is amplified in the pre-combustion chamber	High efficiency, lowest NO _x emission values, stable and reliable combustion
Gas dosing valve	Electronically controlled gas dosing valve with high degree of control accuracy (for natural gas)	Very quick response time, rapid adjustment of air/gas ratio, large adjustable calorific value range
2-stage turbocharging	Next generation turbocharging technology concept (for J624 only)	Improved performance in terms of output and efficiency, increased flexibility regarding ambient conditions

Technical data

Configuration	V 60°
Bore (mm)	190
Stroke (mm)	220
Displacement / cylinder (lit)	6.24
Speed (rpm)	1,500 (50 Hz) 1,500 with gearbox (60 Hz)
Mean piston speed (m/s)	11 (1,500 1/min)
Scope of supply	Generator set, cogeneration system, containerized package
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	J612 J616 J620 J624
No. of cylinders	12 16 20 24
Total displacement (lit)	74.9 99.8 124.8 149.7

		Dimensions l x w x h (mm)
Generator set	J612	7,600 x 2,200 x 3,000
	J616	8,300 x 2,200 x 3,000
	J620	9,500 x 2,200 x 3,000
	J624	12,800 x 2,500 x 3,100
Cogeneration system	J612	7,600 x 2,200 x 3,000
	J616	8,300 x 2,200 x 3,000
	J620	8,900 x 2,200 x 3,000
Containerized package²	J612-J624	12,000 – 20,500 x 3,000 – 6,000 x 3,800 – 15,000
	Weights empty (kg)	
Generator set	J612	24,000
	J616	29,200
	J620	36,900
	J624	52,100
Cogeneration system	J612	24,500
	J616	29,700
	J620	37,500
	J624	52,100

Dimensions and weights are valid for 50 Hz applications

Outputs and efficiencies

Natural gas		1,500 1/min 50 Hz					
NO _x ^c	Type	PeI (kW) ³	ηel (%) ³	Heat rate (kJ/kWhe) ⁴	Pth (kW) ⁵	ηth (%) ⁴	ηtot (%)
500 mg/m ³ _N	J612	2,000	44.9	8,018	2,017	45.3	90.2
	J616	2,677	45	8,000	2,701	45.4	90.3
	J620	3,349	44.8	8,036	3,396	45.4	90.3
	J624	4,496	46.3	7,775	4,035	41.6	87.9

² The dimensions refer to the standard base models with horizontal exhaust silencer.

³ Type 6 gas engine with site condition ≤ 50 m above sea level and T1 ≤ 40°C

⁴ Technical data and fuel consumption according ISO 3046

⁵ Total heat output @ hot water profile 70°C–90°C

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

In general, "Ready for H₂" 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.

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