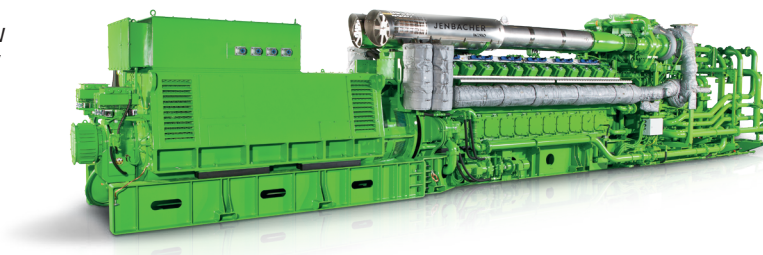


Jenbacher type 6

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 installation costs. The type 6 pre-combustion 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 efficiency combined with improved flexibility over a wide range of ambient conditions.



Reference installations

J616 & J620 BMW in Regensburg and Leipzig, Germany

Fuel	Engine type	Electrical output	Thermal output	Commissioning
Natural gas	4 x J616 1 x J620	10,700 kW 3,000 kW	32,786 MBTU/hr 10,655 MBTU/hr	2011 2007

The cogeneration plants installed at BMW Group**'s factories in Regensburg and Leipzig can generate on-site power and capture and use engine waste heat to support the factories' production processes. Winter heating is obtained through a combination of the engines' waste heat and heat from existing boilers.



J620 Coca-Cola Hellenic, Romania

Fuel	Engine type	Electrical output	Thermal output	Commissioning
Natural gas	2 x J620	6,082 kW	7,541 MBTU/hr	2009

Since 2009, two J620 engines have been supplying the Coca-Cola Hellenic Bottling Company with energy and heat, as well as hot and chilled water for its operations. By fulfilling the facility's on-site power needs, the installed engines help reduce the company's carbon footprint and lower its overall operational costs.



J624 Hakha CES in Daejeon, South Korea

Fuel	Engine type	Electrical output	Thermal output	Commissioning
Natural gas	6 x J624	25,182 kW	86,575 MBTU/hr	2014

With a total of six J624 engines running on natural gas, the Hakha, Daejeon site reaches a total of 25,182 kW of electrical output while achieving total efficiency of 87%. With the installation of these Jenbacher engines, the site has become one of the largest gas engine plants in South Korea.



J624 2-stage turbocharged Serres Vinet Greenhouse in Machecoul, France

Fuel	Engine type	Electrical output	Thermal output	Commissioning
Natural gas	2 x J624 2-stage turbocharged	8,800 kW	27,403 MBTU/hr	2011

At this greenhouse facility, two Jenbacher J624 2-stage turbocharged gas engines enable French grower Serres Vinet to generate all of the hot water and electricity required for its extensive tomato and lettuce greenhouse operations. These are the first 2-stage turbocharged gas engines in France and give Serres Vinet the flexibility to switch among the energy sources to either provide electrical energy and thermal energy as economics dictate.



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 NOx 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 (inch)	7.48			
Stroke (inch)	8.66			
Displacement / cylinder (cu.in)	381			
Speed (rpm)	1,500 with gearbox (60 Hz)			
Mean piston speed (in/s)	433 (1,500 rpm)			
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 (cu.in)	4,568	6,090	7,613	9,135

Dimensions l x w x h (inch)				
Containerized package	J612-J620	540/590 x 120/240 x 320		
	J624	740 x 240 x 380		
Generator set	J612	360 x 90 x 110		
	J616	400 x 90 x 110		
	J620	420 x 90 x 110		
	J624	570 x 100 x 120		
	J612	360 x 90 x 110		
Cogeneration system	J616	400 x 90 x 110		
	J620	420 x 90 x 110		
	J624	570 x 100 x 120		
	J612	J616	J620	J624
Weights empty (lbs)	J612	J616	J620	J624
Generator set	53,360	67,470	80,030	112,680
Cogeneration system	54,460	68,570	81,360	112,680

Outputs and efficiencies

Natural gas 1,500 rpm 60 Hz						
NOx ¹	Type	Pel (kW) ²	ηel (%) ¹	Pth (MBTU/hr) ²	ηth (%) ²	ηtot (%)
1.0 g/bhp.hr	J612	2,760	44.7	6,533	43.3	88.0
	J616	3,681	45.3	8,588	42.9	88.2
	J620	4,601	45.2	10,871	43.2	88.4
	J624	6,023	46.3	13,917	43.1	89.4
0.6 g/bhpr	J612	2,760	43.6	6,644	42.9	86.6
	J616	3,681	44.3	8,741	42.8	87.0
	J620	4,601	44.4	10,936	42.7	87.1
	J624	6,023	45.5	14,071	42.8	88.3

Biogas 1,500 rpm 60 Hz						
NOx ¹	Type	Pel (kW) ²	ηel (%) ¹	Pth (MBTU/hr) ²	ηth (%) ²	ηtot (%)
1.0 g/bhp.hr	J612	2,509	43.4	5,726	40.5	83.9
	J616	3,346	43.6	7,636	40.5	84.2
	J620	4,183	43.8	9,545	40.5	84.3
0.6 g/bhpr	J612	2,509	42.5	5,893	40.8	83.3
	J616	3,346	42.8	7,864	40.9	83.6
	J620	4,183	42.9	9,821	40.8	83.7

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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