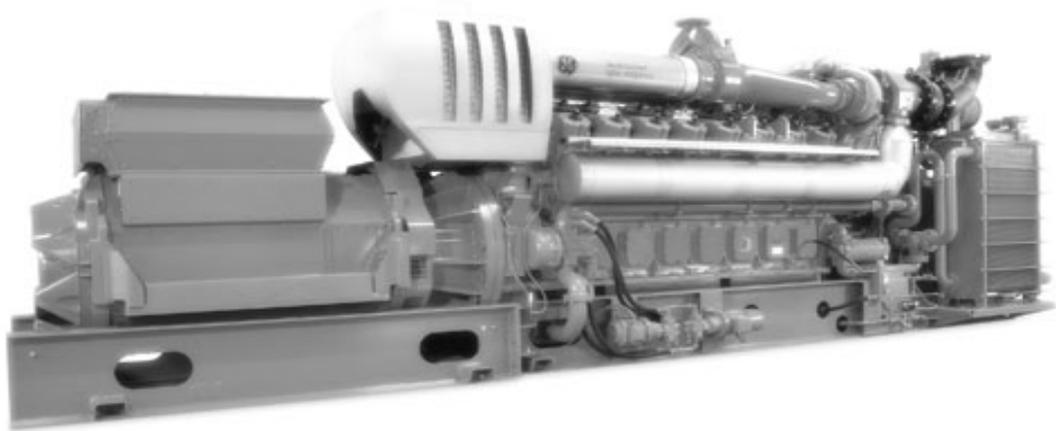




Jenbacher gas engines

Technical Specification



JMS 616 GS-N.L

Natural gas 2.435kW el.



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CO-GEN Module data:

Electrical output	kW el.	2.435
Recoverable thermal output (120 °C)	kW	2.413
Energy input	kW	5.606
Fuel Consumption based on a LHV of 9,5 kWh/Nm ³	Nm ³ /h	590
Electrical efficiency	%	43,4%
Thermal efficiency	%	43,0%
Total efficiency	%	86,5%
Heat to be dissipated (LT-Circuit)	kW	117

Emission values:

NO_x < 500 mg/Nm³ (5% O₂)

Engine data:

Engine type		J 616 GS-E01
Configuration		V 60°
No. of cylinders		16
Bore	mm	190
Stroke	mm	220
Piston displacement	lit	99,80
Nominal speed	rpm	1.500
Mean piston speed	m/s	11
Mean effe. press. at stand. power and nom. spe	bar	20,00
Compression ratio	Epsilon	11,0
ISO standard fuel stop power ICFN	kW	2495
Spec. fuel consumption of engine	kWh/kWh	2,25
Specific lube oil consumption	g/kWh	0,30
Weight dry	kg	10.000
Filling capacity lube oil	lit	530
Based on methane number Min. methane num	MZ	94 80

Additional information:

Sound pressure level (engine, average value 1m)	dB(A)	101
Sound pressure level exhaust gas (1m, 30° off engine)	dB(A)	119
Exhaust gas mass flow rate, wet	kg/h	13.950
Exhaust gas volume, wet	Nm ³ /h	11.001
Max.admissible exhaust back pressure after engine	mbar	60
Exhaust gas temperature at full load	°C [8]	418
Combustion air mass flow rate	kg/h	13.547
Combustion air volume	Nm ³ /h	10.480
Max. inlet cooling water temp. (intercooler)	°C	40
Max. pressure drop in front of intake-air filter	mbar	10
Return temperature	°C	70
Forward temperature	°C	90
Hot water flow rate	m ³ /h	103,6

Alternator:

Manufacturer		AVK e)
Type		DIG 142 c/4 e)
Type rating	kVA	3.760
Efficiency at p.f. = 1,0	%	97,6%
Efficiency at p.f. = 0,8	%	97,0%
Ratings at p.f. = 1,0	kW	2.435
Ratings at p.f. = 0,8	kW	2.421
Frequency	Hz	50
Voltage	kV	6,3
Protection Class		IP 23
Insulation class		F
Speed	rpm	1.500
Mass	kg	9.450

Technical parameters:

Applicable standards:

Based on DIN-ISO 3046

Based on VDE 0530 REM with specified tolerance

Standard conditions:

Air pressure: 1000 mbar or 100 m above sea level

Air temperature: 25 °C or 298 K

Relative Humidity: 30%

Engine output derating:

for plants installed at > 500m above sea level and/or intake temperature > 30 °C, the reduction of engine power is determined for each project.

Gas quality:

according to TA 1000-0300

Gas flow pressure: 120 - 200 mbar

(Lower gas pressures upon inquiry)

Prechamber gas pressure: 3,0-4,0 bar

Max. variation in gas pressure: ±10%



>>> Scope of supply genset - JGS 616 GS-N.L

Basic engine equipment:

- *Exhaust gas turbocharger, Intercooler
- *Motorized carburator for LEANOX control
- *Electronic contactless high performance ignition system
- *Lubricating oil pump (gear driven)
- *Lubricating oil filters in main circuit
- *Lubricating oil sump; Lubricating oil heat exchanger
- *Jacket water pump
- *Fuel-, lubricating oil and jacket water pipe work on engine
- *Flywheel for alternator operation; Exhaust gas manifold
- *Viscous damper
- *Knock sensors

Engine accessories:

- *Electric starter motor
- *Electronic speed governor
- *Electronic speed monitoring device including starting and overspeed control
- *Transducers and switches for oil pressure, jacket water temp., jacket water pressure, charge pressure and mixture temperature
- *One thermocouple per cylinder

Supplied loose:

Gas train according to DIN-DVGW consisting of:

- *Manual stop valve, fuel gas filter, two solenoid valves, Leakage control device, gas pressure regulator
- Prechamber Gas Train

Documentation:

- *Operating and maintenance manual
- *Spare parts manual
- *Drawings

Assembly, painting, testing in Jenbach/Austria

>>> Scope of supply module - JMS 616 GS-N.L

Identical to Genset except that heat recovery is included.

- *jacket water heat exchanger mounted on module frame
- *exhaust gas heat exchanger delivered loose
- *all heat exchangers with complete pipework
- *Heat exchangers and all inherent auxiliaries

Module equipment:

- *Base frame for gas engine, alternator and heat exchangers
- *Internal pole alternator with excitation alternator and with automatic voltage regulator; p.f. 0,8 lagging to 1,0
- *Flexible coupling, bell housing
- *Anti-vibration mounts
- *Air filter
- *Automatic lube oil replenishing with level control
- *Wiring of components to module interface panel
- *Crankcase breather
- *Jacket water electric preheating

Module control panel:

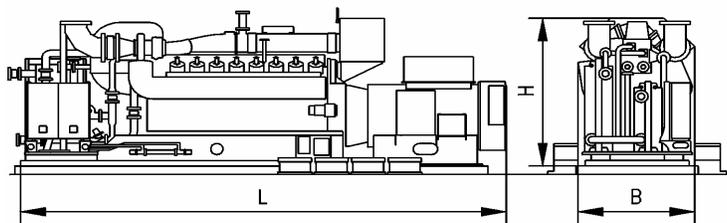
- *Totally enclosed, single door cubicle, wired to terminals and ready to operate, protection IP 41 outside, IP 10 inside, according to VDE-standards

Control equipment:

- *Engine-Management-System dia.ne (Dialog Network)
- **Visualisation (industry PC-10" color graphics display): Operation data, controller display, Exh. gas temp., Generator electr. connection, etc.
- **Central engine- and module control: Speed-, Power output-, LEANOX-Control and knock control, etc.
- *Multi-transducer
- *Lockable operation mode selector switch
Positions: "OFF", "MANUAL", "AUTOMATIC"
- *Demand switch



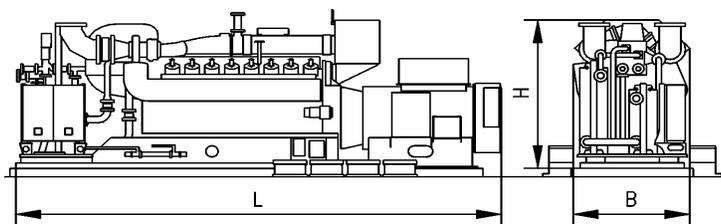
Genset



Main dimensions and weights (approximate value)		
Length L	mm	8.300
Width B	mm	2.200
Height H	mm	2.800
Weight empty	kg	26.000
Weight filled	kg	27.000

Connections (at genset)		
Jacket water inlet and outlet	DN/PN	100/10
Exhaust gas outlet	DN/PN	600/10
Fuel gas (at gas train)	DN/PN	100/16
Intercooler water connection:		
Low Temperature Circuit	DN/PN	65/10

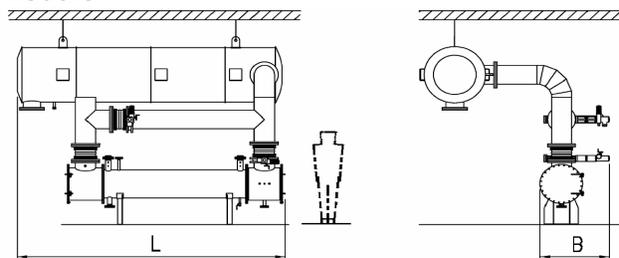
Module



Main dimensions and weights (approximate value)		
Length L	mm	8.300
Width B	mm	2.200
Height H	mm	2.800
Weight empty	kg	26.500
Weight filled	kg	27.500

Connections (at module)		
Hot water inlet and outlet	DN/PN	100/10
Exhaust gas outlet	DN/PN	600/10
Fuel gas (at gas train)	DN/PN	100/16
Intercooler water connection:		
Intercooler water-Inlet/Outlet 2nd stage	DN/PN	65/10

Heat recovery module



Main dimensions and weights (approximate value)		
Width B	mm	> 1962
Height H	mm	> 4600
Length L	mm	> 5800

Connections (on heat recovery module)		
Hot water inlet and outlet	DN/PN	100/10
Exhaust gas outlet	DN/PN	600/10
Condensate drain	DN/PN	65/10
Drain line	1/2"	1/2"