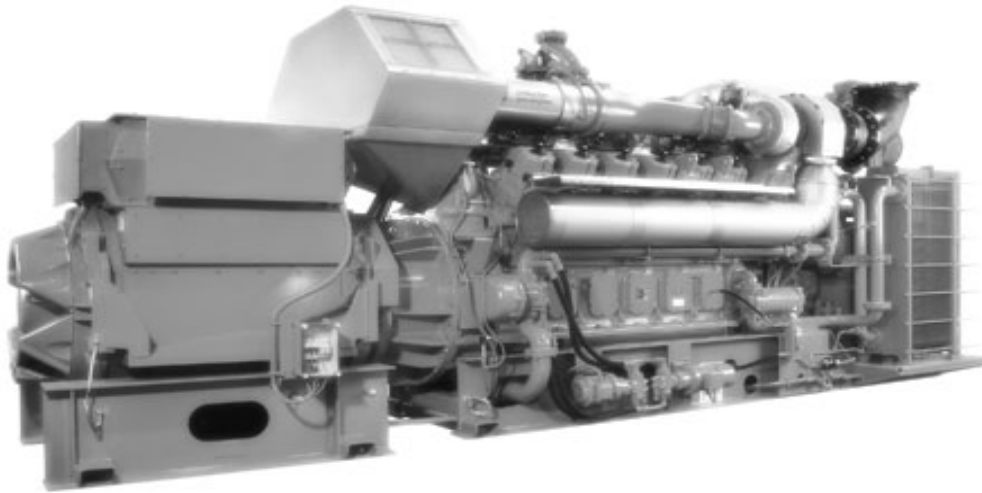




# Jenbacher gas engines

## Technical Specification



### **JMS 612 GS-N.L**

Natural gas 1.819kW el.



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#### Natural gas 1.819kW el.

#### CO-GEN Module data:

Electrical output	kW el.	1.819
Recoverable thermal output (120 °C)	kW	1.807
Energy input	kW	4.200
Fuel Consumption based on a LHV of 9,5 kWh/Nm <sup>3</sup>	Nm <sup>3</sup> /h	442
Electrical efficiency	%	43,3%
Thermal efficiency	%	43,0%
Total efficiency	%	86,3%
Heat to be dissipated (LT-Circuit)	kW	84

Emission values:

NOx < 500 mg/Nm<sup>3</sup> (5% O2)

#### Engine data:

Engine type		J 612 GS-E01
Configuration		V 60°
No. of cylinders		12
Bore	mm	190
Stroke	mm	220
Piston displacement	lit	74,85
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	1871
Spec. fuel consumption of engine	kWh/kWh	2,24
Specific lube oil consumption	g/kWh	0,30
Weight dry	kg	7.800
Filling capacity lube oil	lit	400
Based on methane number Min. methane numt	MZ	94 80

#### Additional information:

Sound pressure level (engine, average value 1m)	dB(A)	100
Sound pressure level exhaust gas (1m, 30° off engine)	dB(A)	116
Exhaust gas mass flow rate, wet	kg/h	10.230
Exhaust gas volume, wet	Nm <sup>3</sup> /h	8.071
Max.admissible exhaust back pressure after engine	mbar	60
Exhaust gas temperature at full load	°C [8]	428
Combustion air mass flow rate	kg/h	9.928
Combustion air volume	Nm <sup>3</sup> /h	7.680
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 <sup>3</sup> /h	77,6

#### Alternator:

Manufacturer		AVK e)
Type		DIG 130 i/4 e)
Type rating	kVA	2.600
Efficiency at p.f. = 1,0	%	97,2%
Efficiency at p.f. = 0,8	%	96,4%
Ratings at p.f. = 1,0	kW	1.819
Ratings at p.f. = 0,8	kW	1.804
Frequency	Hz	50
Voltage	kV	6,3
Protection Class		IP 23
Insulation class		F
Speed	rpm	1.500
Mass	kg	6.900

#### 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 612 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 612 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:

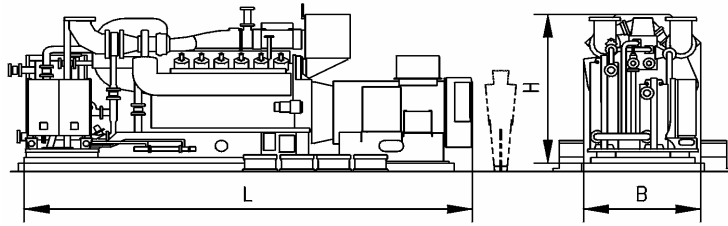
- \*Totally enclosed, single door cubicle, wired to terminals and ready to operate, protection IP 41 outside, IP 10 inside, according to VDE-standards

#### 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**



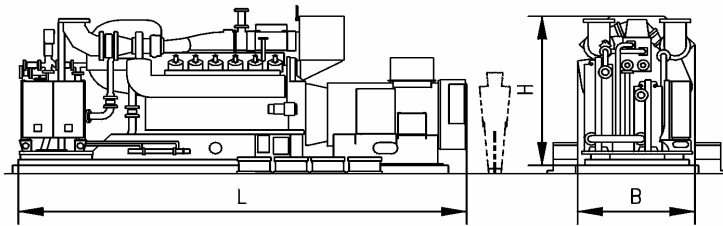
**Main dimensions and weights (approximate value)**

Length L	mm	7.600
Width B	mm	2.200
Height H	mm	2.800
Weight empty	kg	20.900
Weight filled	kg	21.900

**Connections (at genset)**

Jacket water inlet and outlet	DN/PN	100/10
Exhaust gas outlet	DN/PN	500/10
Fuel gas (at gas train)	DN/PN	100/16
Intercooler water connection:		
Low Temperature Circuit	DN/PN	65/10

**Module**



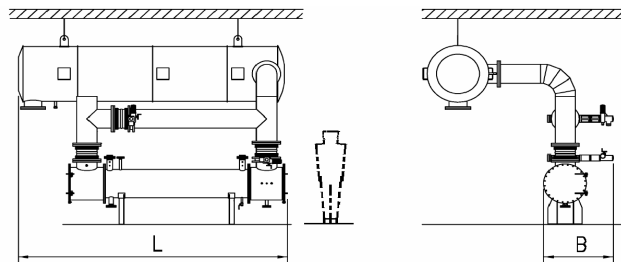
**Main dimensions and weights (approximate value)**

Length L	mm	7.600
Width B	mm	2.200
Height H	mm	2.800
Weight empty	kg	21.400
Weight filled	kg	22.400

**Connections (at module)**

Hot water inlet and outlet	DN/PN	100/10
Exhaust gas outlet	DN/PN	500/10
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	> 1800
Height H	mm	> 4158
Length L	mm	> 5600

**Connections (on heat recovery module)**

Hot water inlet and outlet	DN/PN	100/10
Exhaust gas outlet	DN/PN	500/10
Condensate drain	DN/PN	50/10
Drain line	1/2"	1/2"