

# JMS 320 GS-N.LI

NATURAL GAS  
1,063 kW el.

USA

## CO-GEN MODULE DATA:

|                                                      |                   |        |
|------------------------------------------------------|-------------------|--------|
| Electrical output                                    | <i>kW el.</i>     | 1,063  |
| Recoverable thermal output (248 °F)                  | <i>MBTU/hr</i>    | 5,138  |
| Energy input                                         | <i>MBTU/hr</i>    | 9,963  |
| Fuel Consumption based on a LHV of 918.346 BTU/cu ft | <i>s.cu.ft/hr</i> | 10,849 |
| Electrical efficiency                                | %                 | 36.4%  |
| Thermal efficiency                                   | %                 | 51.6%  |
| Total efficiency                                     | %                 | 88.0%  |
| Heat to be dissipated (2nd stage IC-circuit)         | <i>MBTU/hr</i>    | 154    |
| Emission values:<br><br>NOx < 1.1 g/bhp.hr (NO2)     |                   |        |

## ENGINE DATA:

|                                               |                   |              |
|-----------------------------------------------|-------------------|--------------|
| Engine type                                   |                   | J 320 GS-B85 |
| Configuration                                 |                   | V 70°        |
| No. of cylinders                              |                   | 20           |
| Bore                                          | <i>in</i>         | 5.31         |
| Stroke                                        | <i>in</i>         | 6.69         |
| Piston displacement                           | <i>cu.in</i>      | 2,970        |
| Nominal speed                                 | <i>rpm</i>        | 1,800        |
| Mean piston speed                             | <i>in/s</i>       | 402          |
| Mean effe. press. at stand. power and nom. sp | <i>psi</i>        | 218          |
| Compression ratio                             | <i>Epsilon</i>    | 12.5         |
| ISO standard fuel stop power ICFN             | <i>bhp</i>        | 1468         |
| Specific fuel consumption of engine           | <i>BTU/bhp.hr</i> | 6,785        |
| Specific lube oil consumption                 | <i>g/bhp.hr</i>   | 0.22         |
| Weight dry                                    | <i>lbs</i>        | 10,803       |
| Filling capacity lube oil                     | <i>gal</i>        | 98           |
| Based on methane number                       | <i>MN</i>         | 75           |

## TECHNICAL REQUIREMENTS:

### APPLICABLE STANDARDS:

Based on DIN-ISO 3046

Based on VDE 0530 REM with specified tolerance

### STANDARD CONDITIONS:

Barometric pressure: 14.50 psi or 328ft above sea level

Air temperature: 77°F or 298 K

Relative Humidity: 30%

### ENGINE OUTPUT DERATING:

Height: 0.7% for any further 328ft over 1640ft

Temperature: 0.28% for any further 1°F over 77°F

### GAS QUALITY:

according to TA 1000-0300

Gas flow pressure: 1.2 - 2.9 (psi)  
(Lower gas pressures upon inquiry)

Max. variation in gas pressure: ±10%

## ADDITIONAL INFORMATION:

|                                                      |                   |         |
|------------------------------------------------------|-------------------|---------|
| Sound pressure level (engine, average value 3.28ft)  | <i>dB(A)</i>      | 95      |
| Sound pressure level exhaust gas (3.28ft, 30° off er | <i>dB(A)</i>      | 121     |
| Exhaust gas mass flow rate, wet                      | <i>lbs/hr</i>     | 13,614  |
| Exhaust gas volume, wet                              | <i>s.cu.ft/hr</i> | 173,248 |
| Max.admissible exhaust back pressure after engine    | <i>psi</i>        | 0.870   |
| Exhaust gas temperature at full load                 | <i>°F</i>         | 968     |
| Combustion air mass flow rate                        | <i>lbs/hr</i>     | 13,151  |
| Combustion air volume                                | <i>SCFM</i>       | 2,715   |
| Max. inlet cooling water temperature (intercooler)   | <i>°F</i>         | 122     |
| Max. pressure drop in front of intake-air filter     | <i>psi</i>        | 0.145   |
| Return temperature                                   | <i>°F</i>         | 158     |
| Forward temperature                                  | <i>°F</i>         | 194     |
| Hot water flow rate                                  | <i>GPM</i>        | 285.4   |

## ALTERNATOR:

|                         |            |            |
|-------------------------|------------|------------|
| Manufacturer            |            | STAMFORD   |
| Type                    |            | HCI 734 F2 |
| Type rating             | <i>kVA</i> | 1,875      |
| Efficiency at p.f.= 1.0 | %          | 97.1%      |
| Efficiency at p.f.= 0.8 | %          | 96.4%      |
| Ratings at p.f.= 1.0    | <i>kW</i>  | 1,063      |
| Ratings at p.f.= 0.8    | <i>kW</i>  | 1,056      |
| Frequency               | <i>Hz</i>  | 60         |
| Voltage                 | <i>V</i>   | 480        |
| Protection Class        |            | IP 23      |
| Insulation class        |            | H          |
| Speed                   | <i>rpm</i> | 1,800      |
| Mass                    | <i>lbs</i> | 6,766      |

All data are based on engine full load at specified media temperatures and are subject to change.

The technical Instruction TA 1100-0110 "PARAMETER FOR JENBACHER GAS ENGINES" must be strictly observed.

## SCOPE OF SUPPLY GENSET JGS 320 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

### Documentation:

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

**ASSEMBLY, PAINTING, TESTING** in Jenbach/Austria

### 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

### ENGINE 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 d 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

## SCOPE OF SUPPLY MODULE JMS 320 GS-N.L

Identical to Genset except that heat recovery is included.

- \*jacket water heat exchanger mounted on module frame
- \*exhaust gas heat exchanger mounted as separate heat recovery module
- \*all heat exchangers with complete pipework
- \*Heat exchangers and all inherent auxiliaries

## SCOPE OF SUPPLY CONTAINER JG(M)C 320 GS-N.L

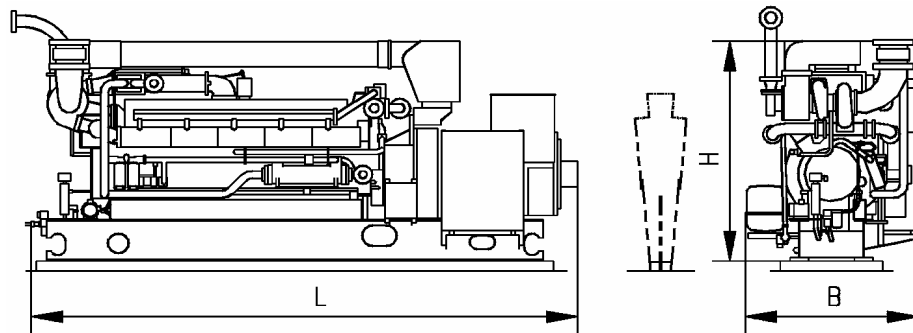
- \*Identical to module/genset but installed in 40' ISO container (65 dB(A) @ 32.8ft); complete with all pipework and fittings
- \*Two-core horizontal radiator for dissipation of intercooler, jacket water and lube oil heat; exhaust ventilation equipment
- \*Gas & smoke detectors; exhaust silencer; lube oil equipment; starting system; flexible connections
- \*Seperate control room complete with generator switchgear and all internal power and monitoring cables

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Scope of Supply & Design Subject to Local Regulations and product development

# DIMENSIONS

## GENSET



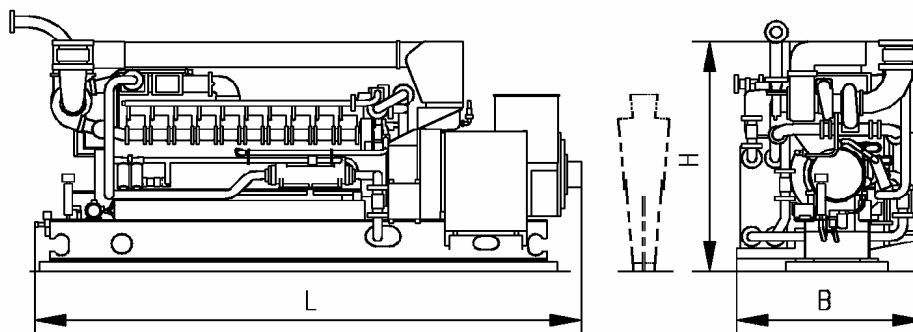
### Main dimensions and weights (approximate value)

|               |     |        |
|---------------|-----|--------|
| Length L      | in  | 220    |
| Width B       | in  | 70     |
| Height H      | in  | 90     |
| Weight empty  | lbs | 23,860 |
| Weight filled | lbs | 24,960 |

### Connections (at genset)

|                               |        |         |
|-------------------------------|--------|---------|
| Jacket water inlet and outlet | in/lbs | 3"/232  |
| Exhaust gas outlet            | in/lbs | 10"/145 |
| Fuel gas (at gas train)       | in/lbs | 3"/232  |
| Intercooler water connection: |        |         |
| Low Temperature Circuit       | in/lbs | 2½"/232 |

## MODULE



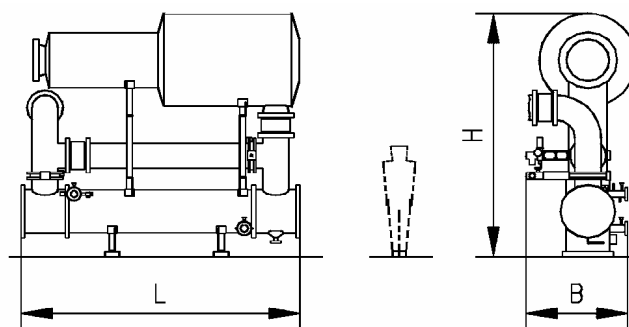
### Main dimensions and weights (approximate value)

|               |     |        |
|---------------|-----|--------|
| Length L      | in  | 210    |
| Width B       | in  | 80     |
| Height H      | in  | 90     |
| Weight empty  | lbs | 24,960 |
| Weight filled | lbs | 26,060 |

### Connections (at module)

|                                          |        |         |
|------------------------------------------|--------|---------|
| Hot water inlet and outlet               | in/lbs | 3"/232  |
| Exhaust gas outlet                       | in/lbs | 10"/145 |
| Fuel gas (at gas train)                  | in/lbs | 3"/232  |
| Intercooler water connection:            |        |         |
| Intercooler water-Inlet/Outlet 2nd stage | in/lbs | 2½"/232 |

## HEAT RECOVERY MODULE



### Main dimensions and weights (approximate value)

|          |    |     |
|----------|----|-----|
| Width B  | in | 61  |
| Height H | in | 140 |
| Length L | in | 183 |

### Connections (on heat recovery module)

|                            |        |         |
|----------------------------|--------|---------|
| Hot water inlet and outlet | in/lbs | 3"/232  |
| Exhaust gas outlet         | in/lbs | 10"/145 |
| Condensate drain           | in/lbs | 2"/232  |
| Drain line                 | ½"     | ½"      |

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