JENBACHER ENERGIE

JMS 320 GS-N.L

NATURAL GAS

1,063 kW el.

USA

CO-GEN MODULE DATA:

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

ADDITIONAL INFORMATION:

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

ENGINE DATA:

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

ALTERNATOR:

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

TECHNICAL REQUIREMENTS:

APPLICABLE STANDARDS: Based on DIN-ISO 3046

Based on VDE 0530 REM with specified tolerance

STANDARD CONDITIONS:
- Barometic 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%

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

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

ASSEMBLY, PAINTING, TESTING in Jenbach/Austria

SCOPE OF SUPPLY MODULE
JMS 320 GS-N.L

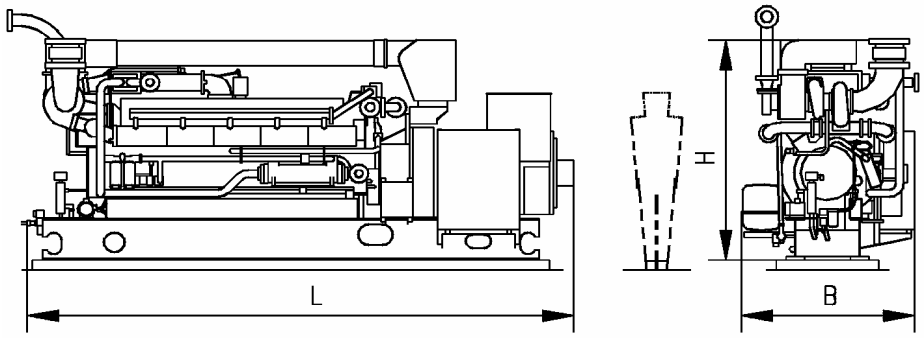
Identical to Genset except that heat recovery is included.
*jacket water heat exchanger mounted on module frame
*exhaust gas heat exchanger mounted as separate heat recovery module
*all heat exchangers with complete pipework
*Heat exchangers and all inherent auxiliaries

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

DIMENSIONS

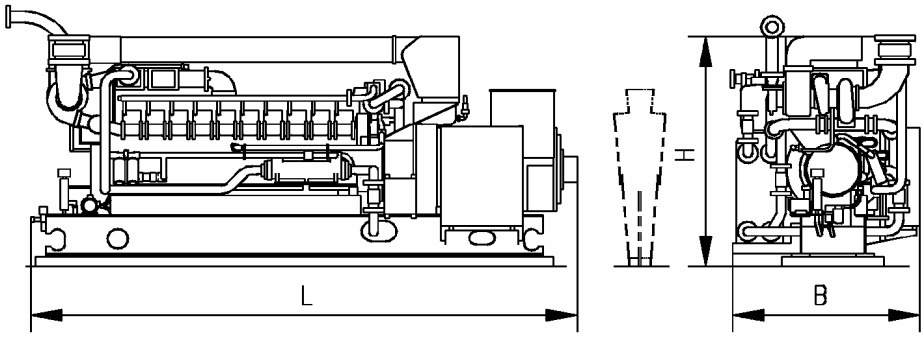
GENSET



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

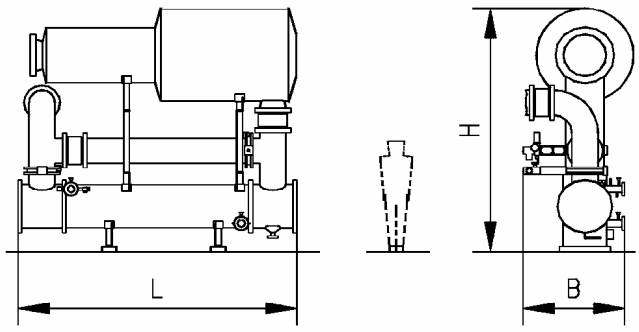
MODULE



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"