



Technical Data Sheet (preliminary)		GB1149N6			
93800050003_V01_US	with engine	12V4000L62			
Fuel		Natural gas			
Voltage / Frequency		480 V		60 Hz	
NOx emissions (dry, 15% O₂)¹⁾		g/hp-hr		< 1	
Intercooler 2nd stage temperatur (in)		°F		104	
Exhaust gas temperature after heat exchanger		°F		248	
Electrical power COP, parallel to grid acc. ISO 8528-1		%		100	75
Electrical power PRP, prime power acc. ISO 8528-5 G1		%			100
Energy balance					
Electrical power ^{2) 3)}	kW	1149	857	564	
Energy input ^{5) 7)}	kBTU/hr	9638	7408	5256	
Thermal output total ⁴⁾	kBTU/hr	4713	3658	2684	
Thermal output engine (block, lube oil, 1st stage intercooler) ⁴⁾	kBTU/hr	2254	1673	1202	
Thermal output exhaust gas heat exchanger (248 °F) ⁴⁾	kBTU/hr	2196	1790	1325	
Thermal output 2nd stage intercooler ⁴⁾	kBTU/hr	263	195	157	
Engine power ISO 3046-1 ³⁾	hp	1609	1207	805	
Generator efficiency at power factor = 1	%	97.4	97.1	96.3	
Electrical efficiency ^{5) 6)}	%	40.7	39.5	36.6	
Total efficiency	%	89.6	88.9	87.7	
CHP Coefficient		0.83	0.80	0.72	
Combustion air / Exhaust gas					
Combustion air volume flow ¹⁾	ft ³ /min	2730	2055	1434	
Combustion air mass flow	lb/h	13221	9954	6945	
Exhaust gas volume flow, wet ¹⁾	ft ³ /min	2878	2169	1515	
Exhaust gas volume flow, dry ¹⁾	ft ³ /min	2573	1935	1349	
Exhaust gas mass flow, wet	lb/h	13677	10307	7194	
Exhaust temperature after turbocharger	°F	847	894	936	
Fuel					
Natural gas			969		
Sewage gas					
Biogas					
Landfill gas					
CO ₂ / CH ₄ volume ratio					
Minimum methane number	MN	70			
Range of heating value: design / operation range	BTU/ft ³	969 / 773 - 1111			
Exhaust gas emissions⁶⁾					
NOx, stated as NO ₂ (dry, 15% O ₂)	g/hp-hr	< 1			
CO (dry, 15% O ₂)	g/hp-hr				
HCOH (dry, 15% O ₂) ⁷⁾	g/hp-hr				
Otto-gas engine, lean burn operation with turbocharging					
Number of cylinders / configuration		12 V			
Engine typ		12V4000L62			
Engine speed	rpm	1511			
Bore	in	6.7			
Stroke	in	8.3			
Displacement	in ³	3490.56			
Mean piston speed	ft/sec	34.4			
Compression ratio		12.8			
BMEP at nominal engine speed min-1	psi	243.7			
Lube oil consumption ⁸⁾	gal/hr	0.32			
Max. exhaust back pressure after engine	Hg	45			
Generator					
Rating power	kVA				
Allowable p.f. at nominal load (only overexcited)		1-0.8			
Engine cooling water system					
Coolant temperature (in/out)	°F	172 / 194			
Coolant flow rate ⁹⁾	gal/min	56	@	30.5	psi delta p
CVs value (Block, lubeoil and 1st stage) ¹⁰⁾		10.1			
Max. operation pressure (coolant before engine)	psi	87			
Exhaust gas heat exchanger (EGHE)					
Exhaust gas temperature (out)	°F				
Coolant temperature (in/out)	°F	190 / 201			
Coolant volumetric flow ⁹⁾	gal/min		@		psi delta p
CVs value ¹⁰⁾					
Max. operation pressure (coolant water)	psi	232.06			
Intercooler 2nd stage					
Coolant temperature (in/out)	°F	104 / 43			
Coolant volumetric flow ⁹⁾	gal/min	101.27	@	8.7	psi delta p
CVs value ¹⁰⁾		34.3			
Max. operation pressure in front of intercooler	psi	87			

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Plate heat exchanger					
Coolant temperature (in/out)	°F	201 / 180			
Heating water temperatur (in/out)	°F	162 / 194			
Heating water volumetric flow ⁹⁾	gal/min		@		psi delta p
CVs value ¹⁰⁾					
Max. operation pressure (heating water)	psi				
Space ventilation					
Genset ventilation heat ¹¹⁾	kBTU/hr	294			
Combustion air temperature: (min./design/max.)	°F	68 / 77 / 86			
Min. engine room temperature ¹²⁾	°F	59			
Max. temperature difference ventilation air (in/out)	°F	36			
Min. ventilation air flow in (combustion+ventilation) ¹³⁾	ft³/min	11618			
Gearbox					
Gear ratio		1.191			
Thermal output gearbox (watercooled)	kBTU/hr	34			
Efficiency		99.2			
Filling quantities					
Lube oil for engine	gal	58.12			
Coolant for engine	gal	52.83			
Coolant for intercooler	gal	5.28			
Heating water for plate heat exchanger	gal				
Engine sound level ¹⁴⁾ (1 meter distance, free field)					
Frequency	Hz	63	125	250	500
Sound pressure level	dB	71.6	82.4	82	86
Frequency	Hz	1000	2000	4000	8000
Sound pressure level	dB	85	85.6	83.1	82.1
Sum of pressure levels	Lin dB	100.2			
	dB	99.4			
Sound power level	dB	118.4			
Undampened exhaust noise (1 meter distance to outlet within 90°, free field)					
Frequency	Hz	63	125	250	500
Sound pressure level	dB	101.1	110	100.4	97.5
Frequency	Hz	1000	2000	4000	8000
Sound pressure level	dB	84.5	86.6	50.9	64
Sum of pressure levels	Lin dB	118.7			
	dB	106			
Sound power level	dB	118.6			
Dimensions					
Length	in	226			
Width	in	79			
Height	in	96			
Gross weight / dry weight	lb	32849 / 31791			
Power derating					
Altitude					
Combustion air temperature					
Intercooler 2nd stage temperature (in)					
Methane number					
Boundary conditions and consumables					
1) Normal ft3 at p = 14.696 psi und T = 32 °F 2) Generator gross power at nominal voltage, power factor = 1 and nominal frequency 3) At standard reference conditions (ISO 3046-1); atmospheric pressure: 14.5 psi; air temperature: 77 °F; rel. air humidity 30 % 4) Thermal output at layout temperature; tolerance +/- 8 % 5) According to ISO 3046 (+ 5 % tolerance), using reference fuel used at nominal voltage, power factor = 1 and nominal frequency 6) Deviations from the layout parameters respectively the reference fuel can have influence to the obtained efficiency and exhaust emissions 7) Emission values during system parallel operation - where required with Oxcat 8) Reference value at nominal load (without amount of oil exchange) 9) Stated values for pure water, adaption for other cooling fluid composition necessary 10) The CVs value declares the volumetric flow in gal/min at a pressure drop of 1 psi 11) Only generator- and surface losses 12) Frost-free conditions must be guaranteed 13) Amount of ventilation air must be adapted to the gas safety concept 14) All sound pressure levels at nominal load COP 15) Power consumption of all electrical consumer, which are mounted at the module / aggregate					

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