



Technical Datasheet		GC128N6			
93800020037_V02_US	with engine	E3066D3			
Fuel		Natural Gas			
Voltage / Frequency		480 V		60 Hz	
Heating water temperatur (in/out)		°F 158 / 194			
NOx emissions <sup>1)</sup>		g/bhp-hr < 1			
Intercooler 2nd stage temperatur (in)		°F --			
Exhaust gas temperature		°F 230			
Electrical power COP, parallel to grid acc. ISO 8528-1		%		100	75
Electrical power PRP, prime power acc. ISO 8528-5 G1		%			100
<b>Energy balance</b>					
Electrical power <sup>2) 3)</sup>		kWe		128	95
Energy input <sup>5) 7)</sup>		kBTU/hr		1283	1037
Thermal output total <sup>4)</sup>		kBTU/hr		730	618
Thermal output engine (block, lube oil, 1st stage intercooler) <sup>4)</sup>		kBTU/hr		409	365
Thermal exhaust gas heat exchanger (110°C) <sup>4)</sup>		kBTU/hr		321	252
Thermal output 2nd stage intercooler <sup>4)</sup>		kBTU/hr		--	--
Engine power ISO 3046-1 <sup>3)</sup>		bhp		181	135
Generator efficiency at power factor = 1		%		94,6	94,2
Electrical efficiency <sup>5) 6)</sup>		%		34,0	31,3
Total efficiency		%		90,9	90,8
CHP Coefficient				0,60	0,53
Power consumption <sup>15)</sup>		kW			0,44
<b>Combustion air / Exhaust gas</b>					
Combustion air volume flow <sup>1)</sup>		ft <sup>3</sup> /min		217	176
Combustion air mass flow		lb/hr		1052	851
Exhaust gas volume flow, wet <sup>1)</sup>		ft <sup>3</sup> /min		240	194
Exhaust gas volume flow, dry <sup>1)</sup>		ft <sup>3</sup> /min		194	157
Exhaust gas mass flow, wet		lb/hr		1116	902
Exhaust temperature after turbocharger		°F		--	--
<b>Reference Fuel</b>					
Natural gas		BTU/ft <sup>3</sup>		CH4 > 95 Vol. %	
Sewage gas				--	
Biogas				--	
Landfill gas				--	
CO <sub>2</sub> / CH <sub>4</sub> volume ratio				--	
Minimum methane number		MN		70	
Range of heating value: design / operation range		BTU/ft <sup>3</sup>		966 / 870 - 1063	
<b>Exhaust gas emissions <sup>6)</sup></b>					
NOx, stated as NO <sub>2</sub> (dry)		g/bhp-hr		< 1	
CO (dry)		g/bhp-hr		< 2	
HCHO (dry) <sup>7)</sup>		g/bhp-hr		--	
VOC (dry)		g/bhp-hr		< 0,7	
<b>Otto-gas engine</b>					
Number of cylinders / configuration				6 R	
Engine typ				E3066D3	
Engine speed		rpm		1800	
Bore		in		5,12	
Stroke		in		6,10	
Displacement		in <sup>3</sup>		753	
Mean piston speed		ft/sec		30,5	
Compression ratio				12	
BMEP at nominal engine speed min <sup>-1</sup>		psi		106	
Lube oil consumption <sup>8)</sup>		gal/hr		0,01	
Max. exhaust back pressure after genset / module		in H <sub>2</sub> O		10,05	
<b>Generator</b>					
Rating power (F)		kVA		210	
Max. allowable p.f. inductive (overexcited) / capacitive (underexcited) <sup>16)</sup>				0,8 / 1,0	
Voltage tolerance / frequency tolerance		%		± 5 / ± 5	
Max. ambient temperature		°F		104	
Max. installation altitude		ft		3281	
<b>Engine cooling water system</b>					
Coolant temperature (in/out)		°F		176 / 190	
Coolant flow rate <sup>9)</sup>		gal/min		@	
CVs value (Block, lubeoil and 1st stage) <sup>10)</sup>				psi delta p	
Max. operation pressure (coolant past engine)		psi			
<b>Exhaust gas heat exchanger (EGHE)</b>					
Exhaust gas temperature (out)		°F		230	
Coolant temperature (in/out)		°F		190 / 198	
Coolant volumetric flow <sup>9)</sup>		gal/min		@	
CVs value <sup>10)</sup>				psi delta p	
Max. operation pressure (coolant water)		psi			

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<b>Oilcooler, external</b>					
Coolant temperature (in/out)	°F				
Coolant volumetric flow <sup>9)</sup>	gal/min		@		psi delta p
CV-Value <sup>10)</sup>					
Max. operation pressure	psi				
<b>Intercooler 2nd stage, external</b>					
Coolant temperature (in/out)	°F				
Coolant volumetric flow <sup>9)</sup>	gal/min		@		psi delta p
CVs value <sup>10)</sup>					
Max. operation pressure in front of intercooler	psi				
<b>Plate heat exchanger</b>					
Coolant temperature (in/out)	°F	198 / 176			
Heating water temperatur (in/out)	°F	158 / 194			
Heating water volumetric flow <sup>9)</sup>	gal/min	44,0	@	2,90	psi delta p
CVs value <sup>10)</sup>				22,4	
Max. operation pressure (heating water)	psi			232	
<b>Space ventilation</b>					
Genset ventilation heat <sup>11)</sup>	kBTU/hr	61,4			
Combustion air temperature: (min./design/max.)	°F			50 / 77 / 77	
Min. engine room temperature <sup>12)</sup>	°F			41	
Max. temperature difference ventilation air (in/out)	°F			36	
Min. ventilation air flow in (combustion+ventilation) <sup>13)</sup>	ft <sup>3</sup> /min			2000	
<b>Gearbox</b>					
Gear ratio					
Thermal output gearbox (watercooled)	kBTU/hr				
Efficiency					
<b>Filling quantities</b>					
Lube oil for engine	gal			5	
Coolant for engine	gal			34,3	
Coolant for intercooler	gal				
Heating water for plate heat exchanger	gal			2,6	
<b>Engine sound level <sup>14)</sup> (1 meter distance, free field)</b>					
Frequency	Hz	<b>63</b>	<b>125</b>	<b>250</b>	<b>500</b>
Sound pressure level	dB	63,8	71,1	69,2	67,5
Frequency	Hz	<b>1000</b>	<b>2000</b>	<b>4000</b>	<b>8000</b>
Sound pressure level	dB	69,7	63,8	58,1	52,6
Sum of pressure levels	Lin dB	76,2			
	dB A	72,4			
Sound power level	dB A	91,0			
<b>Undampened exhaust noise (1 meter distance to outlet within 90°, free field)</b>					
Frequency	Hz	<b>63</b>	<b>125</b>	<b>250</b>	<b>500</b>
Sound pressure level	dB	79,7	87,3	87,5	74,2
Frequency	Hz	<b>1000</b>	<b>2000</b>	<b>4000</b>	<b>8000</b>
Sound pressure level	dB	64,6	58,1	49,7	36,9
Sum of pressure levels	Lin dB	90,9			
	dB A	79,2			
Sound power level	dB A	91,0			
<b>Dimensions</b>					
Length	in			143,7	
Width	in			37,8	
Height	in			73,8	
Gross weight / dry weight	lb			8157 / 7716	
<b>Power derating</b>					
Altitude				1.2 % / 328 ft > 328 ft NN	
Combustion air temperature				1 % / 1.8 °F > 86 °F	
Intercooler 2nd stage temperature (in)				- -	
Methane number				0,8 % / MN < 70	
<b>Boundary conditions and consumables</b>					
DK-BS-0001					
<p>1) Normal ft3 at p = 14.696 psi und T = 32 °F</p> <p>2) Generator gross power at nominal voltage, power factor = 1 and nominal frequency</p> <p>3) At standard reference conditions (ISO 3046-1); atmospheric pressure: 14.5 psi; air temperature: 77 °F; rel. air humidity 30 %</p> <p>4) Thermal output at layout temperature; tolerance +/- 8 %</p> <p>5) According to ISO 3046 (+ 5 % tolerance), using reference fuel used at nominal voltage, power factor = 1 and nominal frequency</p> <p>6) Deviations from the layout parameters respectively the reference fuel can have influence to the obtained efficiency and exhaust emissions</p> <p>7) Emission values during system parallel operation - where required with Oxcat</p> <p>8) Reference value at nominal load (without amount of oil exchange)</p> <p>9) Stated values for pure water, adaption for other cooling fluid composition necessary</p> <p>10) The CVs value declares the volumetric flow in gal/min at a pressure drop of 1 psi</p> <p>11) Only generator- and surface losses</p> <p>12) Frost-free conditions must be guaranteed</p> <p>13) Amount of ventilation air must be adapted to the gas safety concept</p> <p>14) All sound pressure levels at nominal load COP</p> <p>15) Power consumption of all electrical consumer, which are mounted at the module / aggregate</p> <p>16) Max. allowable cos phi at nominal power (view of producer)</p>					

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