



Technical Datasheet		GC358N6			
93800020025_V01_US	with engine	E3042Z6			
Fuel		Natural Gas			
Voltage / Frequency		480 V		60 Hz	
Heating water temperatur (in/out)		°F 158 / 194			
NOx emissions ¹⁾		g/bhp-hr < 1			
Intercooler 2nd stage temperatur (in)		°F 32			
Exhaust gas temperature after heat exchanger		°F 248			
Electrical power COP, parallel to grid acc. ISO 8528-1		100		75 50	
Electrical power PRP, prime power acc. ISO 8528-5 G1		100			
Energy balance					
Electrical power ^{2) 3)}		kWe 358 268 177 322			
Energy input ^{5) 7)}		kBTU/hr 3347 2614 1890 3033			
Thermal output total ⁴⁾		kBTU/hr 1791 1437 1095 1645			
Thermal output engine (block, lube oil, 1st stage intercooler) ⁴⁾		kBTU/hr 877 781 607 884			
Thermal exhaust gas heat exchanger (120°C) ⁴⁾		kBTU/hr 914 655 488 761			
Thermal output 2nd stage intercooler ⁴⁾		kBTU/hr			
Engine power ISO 3046-1 ³⁾		bhp 502 377 251 452			
Generator efficiency at power factor = 1		% 95,7 95,4 94,5 95,6			
Electrical efficiency ^{5) 6)}		% 36,5 35,0 31,9 36,2			
Total efficiency		% 90,0 90,0 89,8 90,5			
CHP Coefficient		0,68 0,64 0,55 0,67			
Power consumption ¹⁵⁾		kW 5,7 5,7 5,7 5,7			
Combustion air / Exhaust gas					
Combustion air volume flow ¹⁾		ft³/min 937 732 529 856			
Combustion air mass flow		lb/hr 4533 3541 2560 4140			
Exhaust gas volume flow, wet ¹⁾		ft³/min 962 738 518 873			
Exhaust gas volume flow, dry ¹⁾		ft³/min 861 660 463 780			
Exhaust gas mass flow, wet		lb/hr 4758 3649 2562 4314			
Exhaust temperature after turbocharger		°F 984 1009 1035 995			
Reference Fuel					
Natural gas		BTU/ft³ CH₄ > 95 Vol. %			
Sewage gas					
Biogas					
Landfill gas					
CO₂ / CH₄ volume ratio					
Minimum methane number		MN 70			
Range of heating value: design / operation range		BTU/ft³ 966 / 870 - 1111			
Exhaust gas emissions ⁶⁾					
NOx, stated as NO₂ (dry)		g/bhp-hr < 1			
CO (dry)		g/bhp-hr < 2			
HCHO (dry) ⁷⁾		g/bhp-hr			
VOC (dry)		g/bhp-hr < 0.7			
Otto-gas engine, lean burn operation with turbocharging					
Number of cylinders / configuration		12 V			
Engine typ		E3042Z6			
Engine speed		rpm 1800			
Bore		in 5,12			
Stroke		in 5,59			
Displacement		in³ 1379			
Mean piston speed		ft/sec 27,9			
Compression ratio		12			
BMEP at nominal engine speed min ⁻¹		psi 159,54			
Lube oil consumption ⁸⁾		gal/hr 0,02			
Max. exhaust back pressure after genset / module		in H₂O 8,04			
Generator					
Rating power (F)		kVA 518			
Max. allowable p.f. inductive (overexcited) / capacitive (underexcited) ¹⁶⁾		0,8 / 1			
Voltage tolerance / frequency tolerance		% ± 5 / ± 5			
Max. ambient temperature		°F 104			
Max. installation altitude		ft 3281			
Engine cooling water system					
Coolant temperature (in/out)		°F 180 / 190			
Coolant flow rate ⁹⁾		gal/min @ psi delta p			
CVs value (Block, lubeoil and 1st stage) ¹⁰⁾					
Max. operation pressure (coolant before engine)		psi			
Exhaust gas heat exchanger (EGHE)					
Exhaust gas temperature (out)		°F 248			
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			

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Oilcooler, external					
Coolant temperature (in/out)	°F				
Coolant volumetric flow ⁹⁾	gal/min		@		psi delta p
CV-Value ¹⁰⁾					
Max. operation pressure	psi				
Intercooler 2nd stage, external					
Coolant temperature (in/out)	°F		158 / 160		
Coolant volumetric flow ⁹⁾	gal/min		@		psi delta p
CVs value ¹⁰⁾					
Max. operation pressure in front of intercooler	psi				
Plate heat exchanger					
Coolant temperature (in/out)	°F		201 / 180		
Heating water temperatur (in/out)	°F		158 / 194		
Heating water volumetric flow ⁹⁾	gal/min	107,9	@	4,35	psi delta p
CVs value ¹⁰⁾	44,7				
Max. operation pressure (heating water)	psi		232		
Space ventilation					
Genset ventilation heat ¹¹⁾	kBTU/hr	119,4			
Combustion air temperature: (min./design/max.)	°F		41 / 77 / 113		
Min. engine room temperature ¹²⁾	°F		41		
Max. temperature difference ventilation air (in/out)	°F		36		
Min. ventilation air flow in (combustion+ventilation) ¹³⁾	ft³/min		4826		
Gearbox					
Gear ratio					
Thermal output gearbox (watercooled)	kBTU/hr				
Efficiency					
Filling quantities					
Lube oil for engine	gal	9			
Coolant for engine	gal	63,4			
Coolant for intercooler	gal	1,32			
Heating water for plate heat exchanger	gal	2,9			
Engine sound level ¹⁴⁾ (1 meter distance, free field)					
Frequency	Hz	63	125	250	500
Sound pressure level	dB	83,0	89,8	95,8	89,1
Frequency	Hz	1000	2000	4000	8000
Sound pressure level	dB	85,6	82,2	80,0	79,9
Sum of pressure levels	Lin dB	98,1			
	dB A	92,3			
Sound power level	dB A	111,5			
Undampened exhaust noise (1 meter distance to outlet within 90°, free field)					
Frequency	Hz	63	125	250	500
Sound pressure level	dB	87,3	85,2	66,0	63,2
Frequency	Hz	1000	2000	4000	8000
Sound pressure level	dB	63,3	56,0	46,6	44,1
Sum of pressure levels	Lin dB	89,4			
	dB A	69,6			
Sound power level	dB A	81,5			
Dimensions					
Length	in	150,4			
Width	in	72,4			
Height	in	89,0			
Gross weight / dry weight	lb	13118 / 12456			
Power derating					
Altitude	1.2 % / 328 ft > 328 ft NN				
Combustion air temperature	1 % / 1.8 °F > 77 °F				
Intercooler 2nd stage temperature (in)	0.6 % / °C > 122 °F				
Methane number	0,8 % / MN < 70				
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 16) Max. allowable cos phi at nominal power (view of producer)					

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