



Technical Datasheet		GC358N6			
93800020025_V02_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	--			
Exhaust gas temperature	°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	179	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
Heat of exhaust gas cooled down to (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	255	452
Generator efficiency at power factor = 1	%	95.8	95.4	94.3	95.6
Electrical efficiency ⁵⁾⁶⁾	%	36.5	35.0	32.3	36.2
Total efficiency	%	90.0	90.0	90.3	90.5
CHP Coefficient		0.68	0.64	0.56	0.67
Power consumption ¹⁵⁾					
Combustion air / Exhaust gas					
Combustion air volume flow ¹⁾	ft ³ /min	937	732	529	856
Combustion air mass flow	lb/hr	4533	3541	2560	4140
Exhaust gas volume flow, wet ¹⁾	ft ³ /min	962	738	518	873
Exhaust gas volume flow, dry ¹⁾	ft ³ /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/ft ³	CH ₄ > 95 Vol. %			
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	966 / 870 - 1063			
Exhaust gas emissions ⁶⁾					
NOx, stated as NO ₂ (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					
Number of cylinders / configuration		12 V			
Engine type		E3042Z6			
Engine speed	rpm	1800			
Bore	in	5.12			
Stroke	in	5.59			
Displacement	in ³	1380			
Mean piston speed	ft/sec	27.9			
Compression ratio		12			
BMEP at nominal engine speed min ⁻¹	psi	160			
Lube oil consumption ⁸⁾	gal/hr	0.02			
Max. exhaust back pressure after genset / module	in H ₂ O	8.04			
Generator					
Rating power (F)	kVA	518			
Max. allowable p.f. inductive (overexcited) / capacitive (underexcited) ¹⁶⁾		0.8 / 1.0			
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 past 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				
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	@	768.70	psi delta p
CVs value ¹⁰⁾				33.7	
Max. operation pressure (heating water)	psi			232	
Space ventilation					
Genset ventilation heat ¹¹⁾	kBTU/hr	119.4			
Combustion air temperature: (min./design/max.)	°F			50 / 77 / 77	
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			4000	
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	11.5			
Undamped 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				0.6 % / 1.0 °F > 86 °F	
Intercooler 2nd stage temperature (in)				- -	
Methane number				0.8 % / MN < 70	
Boundary conditions and consumables					
				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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