



Technical Datasheet		GR358N6			
93800020026_V02_US	with engine	E3042Z6			
Fuel		Natural Gas			
Voltage / Frequency		480 V		60 Hz	
Heating water temperatur (in/out)	°F	158 / 185			
NOx emissions ¹⁾	g/bhp-hr	< 1			
Intercooler 2nd stage temperatur (in)	°F	--			
Exhaust gas temperature	°F	984,2			
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	178	322
Energy input ^{5) 7)}	kBTU/hr	3347	2614	1890	3033
Thermal output total ⁴⁾	kBTU/hr	877	781	607	884
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	--	--	--	--
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	95,4	95,6
Electrical efficiency ^{5) 6)}	%	36,5	35,0	32,2	36,2
Total efficiency	%	62,7	64,9	64,3	65,4
CHP Coefficient		1,39	1,17	1,00	1,24
Power consumption ¹⁵⁾	kW	4,5	4,5	4,5	4,5
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		--			
CO ₂ / CH ₄ volume ratio					
Minimum methane number	MN	70			
Range of heating value: design / operation range	BTU/ft³				
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, 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	1380			
Mean piston speed	ft/sec	27,9			
Compression ratio		12			
BMEP at nominal engine speed min ⁻¹	psi	159,5			
Lube oil consumption ⁸⁾	gal/hr	0,02			
Max. exhaust back pressure after genset / module	in H ₂ O	20,09			
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				
Coolant temperature (in/out)	°F				
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	190 / 180			
Heating water temperatur (in/out)	°F	160 / 185			
Heating water volumetric flow ⁹⁾	gal/min	70,4	@	1,45	psi delta p
CVs value ¹⁰⁾				50,6	
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⁾	ft ³ /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			155,1	
Width	in			66,5	
Height	in			83,9	
Gross weight / dry weight	lb			12346 / 11684	
Power derating					
Altitude				1.2 % / 328 ft > 328 ft NN	
Combustion air temperature				1,8 % / 1 °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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03.07.2012

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