IVECO
ENGINE BUSINESS UNIT

G

GAS GENSET

G.E. 8210 SRG 85

NATURAL GAS

Generating set performance

	1500 rpm				1800 rpm				
	110%	100%	75%	50%	110%	100%	75%	50%	
Peak efficiency net rated output	220	200			-	210			kVA
Peak efficiency net active power output at 0,8 p.f.	175	160			-	170			kW
Lean burn net rated output (*)	-	175			-	175			kVA
Lean burn net active power output at 0,8 p.f.	-	140			-	140			kW
Voltage available (L - L)	190 to 440				190 to 480				V

(*) According to TA-Luft emissions rule

Prime mover performance

Peak efficiency power	197	180	134	90	-	191	143	95	kW
Lean burn power	-	159	118	79	-	158	119	79	kW
Mean piston speed	7,8				9,4				m/s

Derating

(see general genset installation manual)

Prime mover data

Type	Four stroke cycle	
Induction type	TCA air / water	
Cylinders, number and arrangement	6L	
Bore x Stroke	137 x 158	mm
Total displacement	13,8	l
Cooling system	closed circuit	
Exhaust manifold pattern	wet	
Speed governor	electronic	
Max speed drop steady conditions	isochronous	
Engine rotation mass moment of inertia (less flywheel)	1,088	kgm^2
Moment of inertia of flywheel	2,84	kgm^2
Engine rotation (viewed facing flywheel)	CCW	
Compression ratio	12:1	

Lubrication system

Total lube oil capacity (including filters)		27,5	l
Oil sump capacity:	min	13,2	l
	max	22	l
Lube oil specifications		see Technical Data	
Maximum oil temperature		120	°C
Minimum oil pressure at rated speed		1,96	bar
Max Specific lube oil consumption		0,8% max of gas consumption	

	1500 rpm				1800 rpm			
	110%	100%	75%	50%	110%	100%	75%	50%

Intake and exhaust system

Maximum allowable intake restriction with clean air filter	250								mmH2O
Maximum allowable intake restriction with dirty air filter	500								mmH2O
Air filter type	dry, paper cartridge								
Maximum allowable back pressure in exhaust system	1500								mmH2O
Charge pressure (peak efficiency)		0,85				1,1			bar
Charge pressure (lean burn)		1				1,2			bar

Carburation

Venturi based air/gas mixer and zero pressure governor. Interfaceable with automatic lambda control system

Ignition

Digital, single firing On request interfaceable with knocking control system

Electric system

Breakaway current	1670	A
Cranking motor rating	6,6	kW
Minimum recommended battery capacity	2 x 150	Ah
Auxiliary voltage	24	V
Alternator with voltage electronic control unit (negative earth)	28V, 30A	
Terminal connection board	Standard	

Cooling system

Coolant capacity (engine only)	~30								l
Coolant capacity (engine + radiator)	~90								l
Coolant pump flow rate		22				26			m³/h
Max allowable pressure drop on external water circuit		0,1				0,12			bar
Max static pressure on exhaust side of radiator	10								mmH2O
Fan power consumption	12				24				kW
Electric fan power consumption	-				-				kW
Fan air flow	5,7				8				m³/s
Max engine outlet water temperature (alarm)	98								°C
Recommended coolant	50% water, 50% glycol								
Radiator core size B x H	1025 x 1034								mm
Water pressure drop in the jacket water coolant circuit at minimum coolant flow (#)	1,9								bar
Minimum allowable water coolant flow to intercooler (#)	11								m³/h
Max pressure drop on external intercooler water circuit (#)	0,25								bar
Max inlet water temperature to intercooler (#)	54								°C
Max inlet water temperature to oil cooler (#)	-								°C

(#) to utilize only with alternative exchanger (no std radiator)

1500 rpm	1800 rpm

	110%	100%	75%	50%	110%	100%	75%	50%

Synchronous generator data

Poles	4	
Phases	3 + N	
Standard winding connections	STAR	
Windings treatment	for humide and saline climates	
Stator/rotor impregnation	class H	
Temperature rise	according to class H	
Frame mounting	B2	
Enclosure (according to IEC 34-5 Standards)	IP21	
Cooling	air	
Damper windings	for parallel (optional)	
Maximum overspeed	2250	min^{-1}
Waveform distorsion	no more than 5%	
Overexcitation device	for Icc>3In (optional)	
Exciter	brushless rotating exciter design with solid state	
Voltage regulator	static electronic design	
Steady voltage precision	within ± 1% Vn from no load to full at 0,8 ÷ 1 p.f.	%

Basic data

Installation dimensions (width x length x height)	1424 x 3002 x 1892	mm
Dry weight (with standard accessories)	~3150	kg
Wet weight (with standard accessories)	~3270	kg

Electric control board (only on request)

The manual starting control panel has been designed and built to combine all the instruments control and warnings lights both for the engine and the

1500 rpm	1800 rpm

Heat balance (Peak efficiency) (§)

	110%	100%	75%	50%	110%	100%	75%	50%	
Input energy (LHV)	556(100)	519(100)	405(100)	300(100)	-	592(100)	478(100)	358(100)	kW (%)
Work	197(35,4)	180(34,7)	134(33,1)	90(30,1)	-	191(32,2)	143(29,8)	95(26,6)	kW (%)
Heat to coolant (water + oil)	180(32,4)	175(33,8)	154(38)	129(43,1)	-	199(33,6)	182(38)	153(42,8)	kW (%)
Heat to exhaust (LHV)	142(25,5)	129(24,8)	99(24,5)	73(24,2)	-	154(26)	124(25,9)	93(26)	kW (%)
Heat to intercooler	23,5(4,2)	23,5(4,5)	9,1(2,3)	1,3(0,4)	-	33,7(5,7)	21,6(4,5)	10,8(3)	kW (%)
Heat to radiation	13,6(2,4)	11,1(2,1)	8,7(2,1)	6,5(2,2)	-	14,9(2,5)	8,4(1,8)	5,5(1,5)	kW (%)
Heat to exhaust cooled to 140 °C	102,7	94,1	73,5	53,9	-	113	91,8	70	kW
Max exhaust temperature (after turbine)	420	425	440	444	-	440	450	460	°C
Exhaust gas flow	1019	915	680	490	-	1050	825	590	kg/h
Induction air flow	770	690	510	367	-	790	620	445	m³N/h
SFC - Specific fuel consumption	10,2	10,4	10,9	12	-	11,2	12,1	13,5	MJ/kWh
BMEP	11,4	10,4	7,8	5,2	-	9,2	6,9	4,6	bar

Heat balance (Lean burn) (§)

Input energy (LHV)	-	525(100)	412(100)	300(100)	-	570(100)	443(100)	350(100)	kW (%)
Work	-	159(30,2)	118(28,8)	79(26,3)	-	158(27,8)	119(26,7)	79(22,5)	kW (%)
Heat to coolant (water + oil)	-	175(33,3)	159(38,6)	130(43,4)	-	190(33,4)	160(36,2)	152(43,4)	kW (%)
Heat to exhaust (LHV)	-	151(28,8)	118(28,7)	82(27,4)	-	168(29,4)	130(29,4)	105(30)	kW (%)
Heat to intercooler	-	28,8(5,5)	14,4(3,5)	5,2(1,7)	-	33,7(5,9)	20,2(4,6)	1,3(0,4)	kW (%)
Heat to radiation	-	11,8(2,3)	1,6(0,4)	3,4(1,1)	-	19,7(3,5)	13,8(3,1)	12,9(3,7)	kW (%)
Heat to exhaust cooled to 140 °C	-	111	87	61	-	122	95	77	kW
Max exhaust temperature (after turbine)	-	435	440	445	-	445	450	460	°C
Exhaust gas flow	-	1070	825	565	-	1135	865	670	kg/h
Induction air flow	-	810	625	425	-	860	655	505	m³N/h
SFC - Specific fuel consumption	-	11,9	12,5	13,7	-	12,9	13,5	16	MJ/kWh
BMEP	-	9,2	6,9	4,6	-	7,7	5,7	3,8	bar

(§) Indicative average figures depending on installation, setting of speed regulator and carburator