

Model No: SGR 77



Soundproofed genset Image for illustration purposes only

Features / Benefits

- CE compliant for stationary application
- Model available in openskid and soundproofed with galvanized rustproofed canopy.
- Designed, engineered and manufactured for an optimal performance
- External access to control and power panel
- Easy operation, maintenance and service.
- Wide range of options.

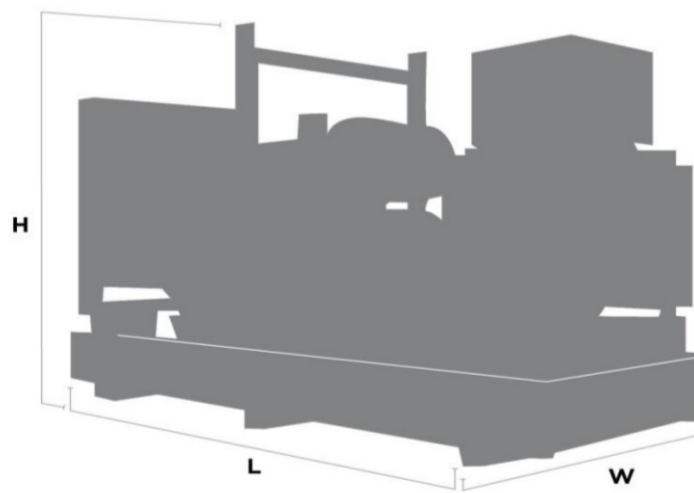
Technical data	50 Hz	60 Hz
Engine	R4105ZD1-1	R4105ZD1-1
Exhaust emission Level	EU0	EPA0
Performance class	G2	

■ Performance class in accordance with ISO 8528/5 (2005) taking into account the behaviour of the generator set in a permanent mode of operation with different load levels, as well as in a temporary mode of operation due to step loads.

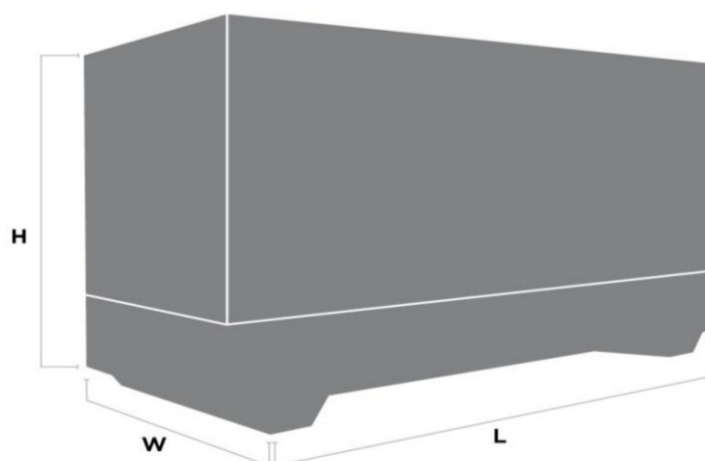
Mechanical structure	Openskid	canopy
Length (L) mm	1970	2250
Width (A) mm	880	1050
Height (H) mm	1735	1505
Weight (kg)	864	1274
Fuel tank capacity (l)	153	124
Acoustic pressure [LpA] (dBA @7m)	-	67
Acoustic power (dB(A))	-	93

Dimensions (mm)

Openskid



canopy



Note: These drawings are provided for illustration purposes only.

Ratings

Power according to the dedicated alternator

50 Hz	Prime Power	Prime Power	Standby Power	Standby Power
	kVA	kW	kVA	kW
380/220 V	70	56	77	61
400/230 V	70	56	77	61
415/240 V		56	77	61

60 Hz	Prime Power	Prime Power	Standby Power	Standby Power
	kVA	kW	kVA	kW
208/120 V	77	61	84	67
220/127 V	77	61	84	67
380/220 V	65	52	71	64
400/230 V	77	61	84	67
440/277 V	77	61	84	67
480/277 V	77	61	84	67

Single-phase

50 Hz	Prime Power	Prime Power	Standby Power	Standby Power
	kVA	kW	kVA	kW
220 V	-	-	-	-
230 V	-	-	-	-
240 V	-	-	-	-

60 Hz	Prime Power	Prime Power	Standby Power	Standby Power
	kVA	kW	kVA	kW
220/110 V	-	-	-	-
230/115 V	-	-	-	-
240/120 V	56	56	61	61

Prime Rating

PRIME POWER: Electrical power data available at a variable load without limits of hours per year. An overload of 10 % is allowed for 1 hour of every 12. In accordance with ISO 8528/1 (2005) – PRP

Standby Power

STANDBY POWER: Electrical power data at variable load in an emergency in accordance with standard ISO 8528/1 (2005) – ESP. Overloads of emergency power are not allowed.

Standard reference conditions

25 °C, 100 kPa and 30% relative humidity

Engine

General	50 Hz	60 Hz
Engine Brand	RICARDO	
Model	R4105ZD1-1	R4105ZD1-1
R.P.M.	1500	1800
Net power (kWm)	59,3	67,5
Fuel	Diesel	
No. of cylinders	3	
Engine Capacity (c.c)	3300	
Bore (mm)	105	
Stroke (mm)	127	
Compression ratio	17,2:1	
Regulation class	ELECTRONIC	
Exhaust emission Level	EU0	EPA0
TA-Luft ompliant	TA-Luft 0	
50/60 Hz Switchable engine	*	

Cooling System	50 Hz	60 Hz
Fan air flow (m3/min)	89	111
Loss of radiator admissible load (Pa)	-	-
Cooling type	WATER	
Coolant capacity (l)	10,2	
Design temperature radiator	45°C	45°C
Maximum working Temp.	-	-

Engine heating system	
Coolant heater power (W)	1 x 750W

Lubrication system	
Oil capacity (l)	8,3
Maximum oil consumption (% fuel consumption)	0,15

Air intake system	50 Hz	60 Hz
Combustion air flow (m3/min)	3,9	4,9
Air filter	Medium	

	Exhaust System			
	Openskid		canopy	
	50 Hz	60 Hz	50 Hz	60 Hz
T exhaust gas (°C)	571	564	571	564
Gas flow (m3/min)	10,4	12,5	10,4	12,5
Maxi. exhaust back pressure (kPa)	7,4	11,8	6,9	11
Number of exhaust	1		1	
Input diameter (")	2,5	2,5	2,5	2,5
Output diameter (")	2,5	2,5	2,5	2,5
Atenuation (dB(A))	11		26	

Start system	
Voltage (V)	12
Battery type	1 x 12V 60Ah - 680A

Fuel consumption able

Load level	PRIME 50 Hz			STAND-BY 50 Hz			PRIME 60 Hz			STAND-BY 60 Hz		
	(L/h)	Aut. (h) Openskid	Aut. (h) canopy	(L/h)	Aut. (h) Openskid	Aut. (h) canopy	(L/h)	Aut. (h) Openskid	Aut. (h) canopy	(L/h)	Aut. (h) Openskid	Aut. (h) canopy
25%	4,0	38,3	31,0	-	-	-	4,8	31,9	25,8	-	-	-
50%	7,1	21,5	17,5	-	-	-	8,7	17,6	14,3	-	-	-
75%	10,2	15,0	12,2	11,3	13,5	11,0	12,3	12,4	10,1	13,3	11,5	9,3
100%	13,6	11,3	9,1	15,1	10,1	8,2	16,6	9,2	7,5	18,2	8,4	6,8
110%	15,1	10,1	8,2	-	-	-	18,2	8,4	6,8	-	-	-

NOTE: range according to the standard configuration.

Electric Panel

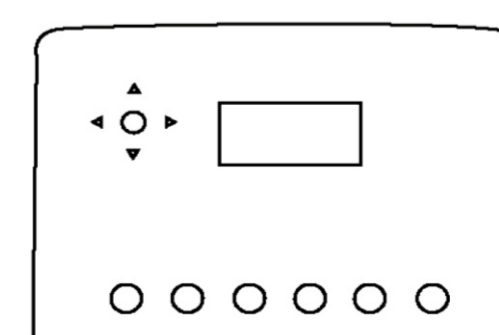
- Grounding system TN quick change and emergency shutdown pushbutton.

Voltage (V)	400/230V	480/277V	208/120V	220/127V	240/120V
Frequency	50 Hz	60 Hz	60 Hz	60 Hz	60Hz
Genset Circuit breaker	3P 100A R	3P 100A R	3P 250A R	3P 200A R	3P 250A F

Battery electronic charger DK309 - 12V 2A

Control Panel DKG 309

- Grid monitor
- Independent operational mode buttons
- Alarms and status indicating LEDs
- Communications via USB, RS232, RS485, as well as DSEnet® for system upgrade
- Completely configurable using a PC in Windows environment and free Scada type software in real time
- Operating modes: TART-UP, SHUTDOWN, AUTO, MANUAL AND TEST.
- Events history log up to 250 events and programming of alarms, events, start-ups and shutdowns.
- Possibility of Ethernet connection (equires a separate module)
- Reading and displaying of parameters with RMS values, real time clock
- MODBUS protocol available for client software
- 32bit microprocessor.
- 132x64 pixel LCD lighting
- 5 navigation menu buttons



Alternator

- 4 pole alternator
- Lifetime lasting eased bearing
- H class insulation
- Brushless
- 2/3 pitch
- AVR
- Incorporates electromagnetic emissions suppressor in accordance with CE legislation
- Joining of engine and alternator through flexible disc coupling.

Regulations:

- IEC 60034
- ISO 8528/3

Low wave distortion:



- THD < 4%
- THF (IEC) < 2%
- TIF (NEMA) < 50

For models with AREP or MAUX excitation system

- Excitation system with auxiliary winding
- Overload capacity 3 times the nominal current for at least 10 s

Model	SGR	SGR	SGR	SGR	SGR	SGR
Manufacturer						
Voltage (V)	400/230	400/230	480/277	208/120	220/127	240/120
Frequency	50Hz	50Hz	60Hz	60Hz	60Hz	60Hz
Alternator power (kVA)	66	71	79,5	77	80	69
Power ratings	(SB 27)	(SB 27)	(SB 40)	(SB 40)	(SB 40)	(SB 40)
Number of wires	12	12	12	12	12	12
Winding	6		6	6	6	6
IP alternator	IP 23	IP 21	IP 23	IP 23	IP 23	IP 23
Excitation system	SHUNT	MAUX	SHUNT	SHUNT	SHUNT	SHUNT
AVR model	R 220	DSR	R 220	R 250	R 250	R 250
Voltage Regulation	±0,5%	±1,5%	±0,5%	±0,5%	±0,5%	±0,5%
Performance at 75% p.f. 0.8 (%)	92	91	92			94
Performance at 100% p.f. 0.8 (%)	91	90	91	90	90	94
Direct sub. reactance X"d (p.u.)	5,8	6,8	5,5			
Subt. time constant (T"d) (ms)	5	14	5			
Zero sequence reactance (Xo) (ms)	14,19	3	11,54			
Short-circuit ratio (cc)	0,47	0,6	0,47			

Commercial references and ratings

Family:	SGR 72	50 Hz			60 Hz				
	Alternator model	Voltage	SGR	SGR	Voltage	SGR	SGR	SGR	SGR
Prime/Standby Power rating (k A) for alternative voltage configuration		415/240 V	66/72		480/277 V	77/84	77/84	77/84	
		400/230 V	67/73		440/254 V	77/84	77/84	77/84	
		380/220 V	66/72		400/230 V	77/84	77/84	77/84	
					380/220 V	65/71			
					208/120 V	77/84	77/84	77/84	
					220/127 V	77/84	77/84	77/84	
		230 V			240/120 V				
									

Regulations:

The generator set has a CE Marking that includes the following directives:

- 2006/42/CE Machine Safety.
- 2006/95/CEE Low Voltage.
- 2004/108/CE Electromagnetic compatibility.
- 97/68/CE Gases and contaminating particles emissions.
- 2005/88/CE Noise emissions of machines outdoors in soundproof generator sets.

Applicable international regulations:

- ISO 8528
- ISO 3046
- BS 5000
- IEC 60034

Options

Mechanical

- o Galvanised Retention Bund (or soundproofed Units)
- o Integrated Retention Bund in bas frame
- o Fuel tank 24H
- o Fuel tank 48H
- o Auxiliary Double Walled Fuel Tanks
- o Connection o external fuel tank
- o Automatic Fuel ystems
- o Standard or different color (for gensets soundproofed)
- o Mounts-Shock Absorbers
- o Earth Leakage Protection

Control panel

- o DK309- Remote display
- o DK309 - Volt free signal
- o DK309 - Inputs module
- o DK309 - LED module
- o GSM modem (RS232 port required)
- o DK309 TCP/IP module
- o DK309 Webnet Gateway (Ethernet, GPRS and GPS)
- o DK309 Ethernet Gateway
- o DK309 SNMP Gateway
- o DK309 Batery charger 12V, 5A
- o Earth Leakage Protection
- o Analogue meters
- o Insulation pottection

ATS panel

ATS panel with integrated mechanical and electrical interlocking device.
High number of operations

	400/230	480/277	208/120	220/127	240/120
	50Hz	60Hz	60Hz	60Hz	60 Hz
ATS panel	3P 125A	3P 250A	3P 250A	3P 250A	3P 250A

ATS options

- o DK309 installed in ATS panel
- o DK309 installed in ATS panel

Engine

- o Electronic Governor
- o High Performance Fuel filter water Separator
- o Residential Exhaust -35 dB(A) (Open-Skid Gensets)
- o Oil Sump Pump

Alternator

- o Alternator excitation type: ARE, PMI or PMG
- o Anti ondensaation h ters
- o Protection ystem 2 or 4
- o Special AVR

AMF Synchronizing control panel

- o IG-NT (SPtM)
- o IG-NT (MINT)
- o DK309
- o DK309

Island Synchronizing control panel

- o DK309
- o IG-NT (MINT)

Maintenance kits (*)

- o Pak 500h
- o Pak 1000h
- o Pak 2000h
- o Start-up kit

* Please consult our Afer-sales department for descrption

DISTRIBUTED BY:



Adres: Esg Enerji ve Güç Sistemleri San. Tic. Ltd.Şti. İstanbul Endüstri
Ticaret Serbest Bölgesi Aydınlı Serbest Bölge Mah. 4.Sk.No:2
Tuzla / İSTANBUL

Telefon: 0 216 514 69 21 - 0 216 514 69 23

E-mail: info@soygenerator.com