

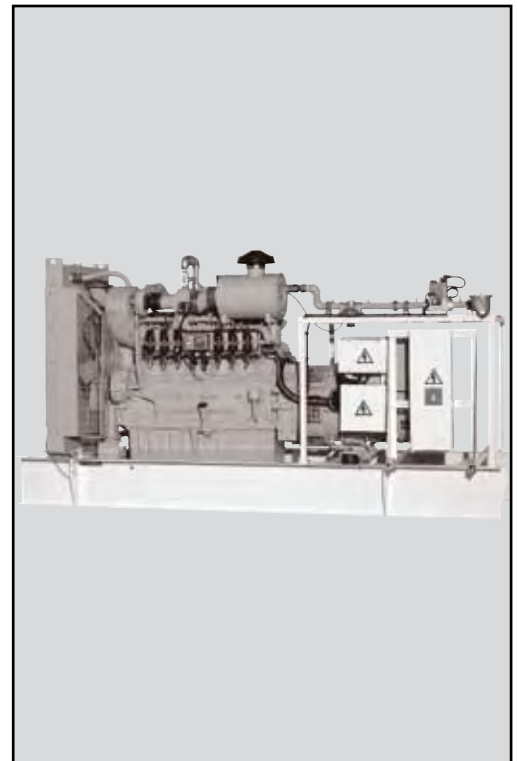
# SG240



Output Ratings	
Generating Set Model	SG240 Continuous*
380-415V, 50 Hz	240 kVA 192 kW

\* Refer to ratings definitions on page 4.  
Ratings at 0.8 pf

Technical Data	
Engine Make & Model	Scania SGI-12
Alternator Model	LL5014J
Base Frame Type	Heavy Duty Fabricated Steel
Circuit Breaker Type/Rating	3 Pole MCCB
Frequency	50 Hz
Engine Speed	1500
Fuel Consumption m <sup>3</sup> /min (cfm)	0.99 (34.9)



## Weights & Dimensions

Weight: kg (lb)		Dimensions: mm (in)	
Wet (+ lube oil & coolant)	2600 (5733)	Length	3519 (139)
		Width	1575 (62.0)
		Height	1994 (78.5)



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## Engine Technical Data

Physical Data		Air System		50 Hz	
Manufacturer:	Scania	Air Filter Type:	Replaceable Element		
Model:	SG1-12	Combustion Air Flow:	m <sup>3</sup> /min (cfm) 18.4 (650)		
No. of Cylinders/Alignment:	6 in-line	Max. Combustion Air Intake	Restriction: kPa (in H <sub>2</sub> O) 2.97 (12)		
Cycle:	4 Stroke	Radiator Cooling Airflow:	m <sup>3</sup> /min (cfm) 241 (8510)		
Induction:	TurboCharged	External Restriction to	Cooling Airflow: Pa (in Wg) 190 (0.75)		
Cooling Method:	Water	<b>Cooling System</b>			
Governing Type:	Electronic	<b>50 Hz</b>			
Class:	ISO8528 G2	Cooling System	Capacity: l (US gal) 33.0 (8.71)		
Compression Ratio:	11.0:1	Water Pump Type:	Centrifugal		
Displacement: l (cu.in):	11.7 (714)	Heat Rejected to Water & Lube Oil:	kW (Btu/min) 102 (5801)		
Bore/Stroke: mm (in)	115 (4.5) / 144 (5.7)	Heat Radiation to Room:	kW (Btu/min) 24.0 (1366)		
Moment of Inertia: kg m <sup>2</sup> (lb/in <sup>2</sup> )	1.21 (4135)	Radiator Fan Load:	kW (hp) 7.5 (10.0)		
Engine Electrical System:		<b>Lubrication System</b>			
-Voltage/Ground	24/Negative	Oil Filter Type:	Spin-On, Full Flow		
-Battery Charger Amps	65	Total Oil Capacity l (US gal):	33.0 (8.71)		
Weight: kg (lb) -Dry	na	Oil Pan l (US gal):	7.0 (1.85)		
-Wet	2600 (5733)	Oil Type:	SAE 15W-40		
<b>Performance</b>		Cooling Method:	Water		
<b>50 Hz</b>		<b>Exhaust System</b>			
Engine Speed: rpm	1500	<b>50 Hz</b>			
Gross Engine Power: kW (hp)	210 (282)	Silencer Type:	Level 1		
BMEP: kPa (psi)	1430 (207)	Silencer Model & Qty:	SD100		
<b>Fuel System</b>		Silencer Noise Reduction	Level: dBA 12		
Fuel Filter Type:	Replaceable Element	Max. Allowable Back	Pressure: kPa (in Hg) 4.97 (20)		
Recommended Fuel:	Natural gas with lower calorific value of 34.71MJ/m <sup>3</sup> and minimum methane number of 70	Exhaust Gas Flow:	m <sup>3</sup> /min (cfm) 22.0 (777)		
Fuel Consumption m <sup>3</sup> /min (cfm)		Exhaust Gas Temperature:	°C (°F) 510 (950)		
50 Hz	<b>100% Load</b>	Heat Rejected to Exhaust	System kW (Btu/min) 183 (10416)		
	0.99 (35.0)				
	<b>75% Load</b>				
	0.77 (27.2)				
	<b>50% Load</b>				
	0.53 (18.7)				
	<b>25% Load</b>				
	0.28 (9.89)				

## Alternator Performance Data

Data Item	50 Hz		
	415/240	400/230	380/220
<b>Motor Starting Capability* kVA</b>	625	585	536
<b>Short Circuit Capacity**%</b>	300	300	300
<b>Reactances: Per Unit</b>			
<b>X<sub>d</sub></b>	2.45	2.63	2.92
<b>X'<sub>d</sub></b>	0.11	0.11	0.13
<b>X''<sub>d</sub></b>	0.064	0.072	0.076

Reactances shown are applicable to baseload ratings.

\* Based on 30% voltage dip. Improved motor starting capability is available with optional Permanent Magnet generator or AREP excitation.

\*\* With optional Permanent Magnet generator or AREP excitation.

## Alternator Technical Data

Physical Data		Operating Data	
<b>Manufacturer:</b>	FG Wilson	<b>Overspeed: RPM</b>	2250
<b>Model:</b>	LL5014J	<b>Voltage Regulation (steady state):</b>	±0.5%
<b>No. of Bearings:</b>	Single	<b>Wave Form NEMA = TIF:</b>	<50
<b>Insulation Class:</b>	H	<b>Wave Form IEC = THF:</b>	<2%
<b>Winding Pitch (Code):</b>	2/3 (No.6)	<b>Total Harmonic Content LL/LN:</b>	<4%
<b>Wires:</b>	12	<b>Radio</b>	Suppression is in line with British Standard BSEN50081 & BSEN50082
<b>Ingress Protection Rating:</b>	IP23	<b>Radiant Heat: kW (Btu/min)</b>	
<b>Excitation System:</b>	Shunt	-50 Hz:	17.4 (990)
<b>AVR Model:</b>	R448		

## Technical Data

### 3 Phase Ratings and Performance at 50 Hz, 1500 RPM

Voltage	Model: SG240 Continuous	
	kVA	kW
415/240	240	192
400/230	240	192
380/220	240	192

## Definitions

### Rating

These ratings are applicable for supplying continuous electrical power (at variable load) in the event of a utility power failure. No overload is permitted on these ratings. The alternator on this model is peak continuous rated (as defined in ISO 8528-3).

### Standard Reference Conditions

Note: Standard reference conditions 27°C (80°F) Air Inlet Temp, 152.4m (500ft) A.S.L. 60% relative humidity. All engine performance data based on the above mentioned maximum continuous ratings. Fuel consumption data at full load using gas fuel with a lower calorific value of 34.71MJ/m<sup>3</sup>.

## General Data

### Documents

A full set of operation and maintenance manuals, circuit wiring diagrams, and commissioning/fault finding instruction leaflets.

### Generating Set Standards

The equipment meets the following standards: BS5000, ISO 8528, ISO 3046, IEC 60034, VDE 0530, NEMA MG-1.22.

FG Wilson is a fully accredited ISO 9001 company.

### Warranty

All equipment carries full manufacturer's warranty. Extended warranty terms available. For details on warranty cover please contact your local dealer, or visit our website, [www.FGWilson.com](http://www.FGWilson.com)

