

# Technical specifications

## Diesel Prime Gensets

### QES 105 ST3

Voltage: 400/230 V

Frequency: 50HZ



Genset Image for illustration purposes only

## TECHNICAL INFORMATION

<b>Standby Power (ESP)</b>	kVA	114
	kW	91
<b>Prime Power (PRP)</b>	kVA	104
	kW	83
<b>Mechanical structure</b>	Soundproofed	
<b>Engine</b>	JOHN DEERE 4045HFG82_B	
<b>Alternator</b>	MECC ALTE ECP34-2S/4A	
<b>Measures (L x W x H)</b>	mm	2.900 x 1.150 x 1.716
<b>Empty weight</b>	kg	1.855
<b>Fuel tank</b>	L	230
<b>Acoustic pressure, LpA</b>	dB(A) a 7	66
<b>Acoustic power LwA</b>	dB(A)	92

Voltages	Prime Power (PRP)		Standby Power (ESP)	
	(kVA)	(kW)	(kVA)	(kW)
380/220	104	83	114	91
400/230	104	83	114	91
415/240	104	83	114	91

#### Notes:

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: 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.

The standard reference conditions are: 25 °C, 100 kPa and 30% relative humidity. Gasoil density: 0.85 g/cm3. Gasoline density: 0.68 g/cm3.

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Grupos Electrógenos Europa, S.A. is a certified company with ISO 9001, ISO 14001, OHSAS 18001 and PECAL

We reserves the right to modify any characteristic of their equipment without prior warning.

Photographs representing the product range, while able to include options.

Weight and dimensions of a standard generator set.

Non-contractual document

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## GENERAL DESCRIPTION

Specifically developed for the construction and general rental industries, this mobile soundproof generator set is easy to use and straightforward to maintain. The available features & options are designed to fully meet the requirements of generalist construction & rental applications. The controller provides advanced engine monitoring and protection features. Performance and maintenance requirements can also be observed. It's the practical Predictable Power choice.

## ENGINE

<b>Engine brand</b>	JOHN DEERE	<b>Bore (mm)</b>	106
<b>Model</b>	4045HFG82_B	<b>Stroke (mm)</b>	127
<b>R.P.M.</b>	1.500	<b>Compression ratio</b>	19:1
<b>Net power (kWm)</b>	90	<b>Europe exhaust emission</b>	Stage III A
<b>Fuel</b>	Diesel	<b>EPA exhaust emission</b>	EPA3
<b>No. of cylinders</b>	4 L	<b>TA-Luft exhaust emission</b>	----
<b>Engine Capacity (c.c.)</b>	4.500		

### Cooling System

<b>Cooling type</b>	Water	<b>Limit ambient temperature (°C)</b>	47
<b>Coolant capacity (l)</b>	8,5		

### Lubrication System

<b>Maximum oil consumption (% fuel consumption)</b>	1		
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### Air intake system

<b>Intake air flow (m³/min)</b>	7,6		
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### Exhaust System

The exhaust system consists of aluminized pipes, stainless steel flexible pipes, interior and exterior aluminized steel exhaust silencer that is highly resistant to corrosion and rain cap. Hot part protections are also included.

<b>T<sup>a</sup> gas emission (°C)</b>	502	<b>Number of exhaust</b>	1
<b>Gas flow (m3/min)</b>	19,1		

### Start system

<b>Starter voltage system (V)</b>	12	<b>Battery type</b>	1 x 12V 110Ah 450A
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### Fuel supply system

The fuel system consists of a fuel tank, feed pump, water separator fuel filter including 30 microns filtering element, injection pump and injection nozzles.

The fuel tank is made from plastic to prevent rust and includes a filling connection to the canopy outdoor filling connection, a cleaning hatch and draining plug for easier maintenance. The fuel level is controlled thanks to a fuel level sensor with an analogue gauge mounted in the control cubicle.

<b>Fuel tank capacity (L)</b>	230		
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**Fuel consumption panel (range according to the standard configuration)**

Load	Prime Power (PRP)		Standby Power (ESP)	
	(l/h)	Range (h)	(l/h)	Range (h)
25%	7,8	30	8,5	27
50%	14,4	16	15,8	14,6
75%	20	11,4	22	10,6
100%	25	9,2	28	8,4

## ■ ALTERNATOR

Mecc Alte alternator with 4 poles, with a lifetime lasting greased bearing, H class insulation, without brushes, 2/3 coil and AVR (Automatic Voltage Regulator)

Protection of all the windings by means of 2-part high quality polyester resin impregnation. The stator windings receive a double impregnation. Final finish with a coat of EG43 varnish.

Excitation system with MAUX auxiliary winding with overload capacity 3 times the nominal current for 20 s.

Joining of engine and alternator through flexible disc coupling.

Regulations:

- CEI 2-3
- IEC 34-1
- EN 60034-1
- VDE 0530
- BS 4999-5000
- CAN/CSA-C22.2 No14-68-No100-95
- ISO 8528:3

Low wave distribution:

- THC < 4%
- THD < 4%
- THF (IEC) < 2%
- TIF (NEMA) < 40

Incorporates electromagnetic emissions suppressor in accordance with standard VDE 0875, class K.

<b>Brand</b>	MECC ALTE	<b>Voltage Stability</b>	±1%
<b>Model</b>	ECP34-2S/4A	<b>Performance at 75% p.f. 0.8 (%)</b>	93
<b>Alternator Power (kVA)</b>	105 / Continuous (H)	<b>Performance at 100% p.f. 0.8 (%)</b>	92
<b>Number of wires</b>	12	<b>Direct subtransient reactance X"d (%)</b>	5,7
<b>IP Alternator</b>	IP 23	<b>Subtransient time constant, T"d (ms)</b>	5,5
<b>Excitation system</b>	MAUX	<b>Zero sequence reactance, Xo (%)</b>	3,5
<b>AVR model</b>	DSR	<b>Short-circuit ratio, Kcc</b>	0,5

## ▪ ELECTRIC PANEL

Easily accessed control cubicle integrated in the generator set with backlit fuel gauge, voltmeter, ammeter and Qc1011 controller providing advanced engine monitoring and protection features. Performance and maintenance requirements can also be observed. Mains elements are protected thanks to modular circuit breakers.

Has a SCHNEIDER brand circuit breaker, manually actuated, with thermal-magnetic protection against overloads and short-circuits.

<b>Circuit Breaker rated current (A)</b>	4P 160A R
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A sockets panel integrated in the generator set is available as an option. The low power sockets have an independent thermal-magnetic protection.

1 x 16A SCHUKO IP44	1 x 32A CEE 3P+N+G IP67
1 x 16A CEE 3P+N+G IP44	1 x 16A CEE 3P+N+G IP67
1 x 63A CEE 3P+N+G IP67	

## ■ DIMENSIONS AND WEIGHT

<b>Lenght, L (mm)</b>	2.900
<b>Width, A (mm)</b>	1.150
<b>Height, H (mm)</b>	1.716
<b>Weight (kg)</b>	1.855

## ■ PERFORMANCE CLASS

<b>Performance class</b>	G3
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## ■ REGULATION

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

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

Applicable international regulations:

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