



## Specification Sheet

# Natural Gas Generator Set QSK60 Series Engine

995 kW - 1540 kW



### Description

This Cummins® gas generator set is a fully integrated power generation system utilizing state of the art technology that results in optimum performance and efficient use of fuel for continuous duty, CHP and peaking applications.

### Features

**Exhaust Emissions** – Lean burn technology provides exhaust emissions levels as low as 250 mg/Nm<sup>3</sup> (0.5 g/hp-hr) NO<sub>x</sub>.

**Cummins® High Efficiency Gas Engine** – State of the art lean burn engine utilizes Miller cycle combustion and full authority electronic engine management system that provides low emissions and high efficiency.

**Permanent Magnet Generator (PMG)** – Excitation system offers enhanced motor starting and fault clearing short circuit capability.

**Alternator** – Several alternator sizes offer selectable voltage and temperature rise with low reactance 2/3 pitch windings; low waveform distortion with non-linear loads, fault clearing short circuit capability, bearing and stator RTDs, anti-condensation heater, class F or H insulation (see alternator datasheet for details). Mechanically strengthened for use on utility paralleling with unreliable grid.

**Control System** – The PowerCommand 3.3 generator set control is standard equipment and provides total generator set system integration including full paralleling capability in grid or load share mode, precise frequency and voltage regulation, alarm and status message display, AmpSentry™ protection, output metering, auto-shutdown at fault detection and a user interface panel installed onto the generator set. Optional grid code compliant controls systems and operator panels are also available.

**Cooling System** – The generator set is equipped with the capability to interface with a remote radiator or heat exchanger.

**Warranty and Service** – Backed by a comprehensive warranty and worldwide distributor network that can provide all levels of service from replacement parts to performance guarantee programs.

50 Hz			60 Hz		
Model	kW	Configuration	Model	kW	Configuration
C995 N5C	995	4 pole direct drive			
C1200 N5C	1200	4 pole direct drive			
C1400 N5C	1400	4 pole direct drive	C1000 N6C	1000	6 pole direct drive
C1540 N5CC	1540	4 pole direct drive	C1100 N6C	1100	6 pole direct drive

\* Genset is capable of operating between 0.8 lagging and 1.0 power factor unless specified otherwise. All fuel consumption and heat balance data is at 1.0 power factor.

\* Listed ratings are for continuous grid parallel applications. Contact Application Engineering for Standby and Island Mode applications.

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## Generator Set Specifications

Performance Class	ISO 8528-5
Voltage regulation, no load to full load	± 0.5%
Random voltage variation	± 0.5%
Frequency regulation	Isochronous
Random frequency variation	± 0.25%
Electromagnetic Compatibility Performance	Emissions to EN 61000-6-2:2005 Immunity to EN 61000-6-4:2007+A1:2011
Single step load pickup	Generator set configuration dependent – consult factory for details

## Engine Specifications

Design	4 cycle, V-block, turbocharged low temperature aftercooled
Bore	159 mm (6.25 in)
Stroke	190 mm (7.48 in)
Displacement	60.3 liters (3685 in <sup>3</sup> )
Cylinder block	Cast iron, V16
Battery charging alternator	None
Starting voltage	24 volt negative ground
Fuel system	Lean burn
Ignition system	Individual coil on plug
Air cleaner type	Dry replaceable element
Lube oil filter type(s)	Full flow and bypass filters
Breather	Breather filter

## Alternator Specifications

Design	Brushless, 4 pole, revolving field
Stator	2/3 pitch
Rotor	Two bearing
Insulation system	Class F or H see ADS (Alternator Data Sheet) for details
Standard temperature rise	105 °C (221 °F) Continuous @ 40 °C (104 °F) ambient
Exciter type	PMG (Permanent Magnet Generator)
Phase rotation	A (U), B (V), C (W)
Alternator cooling	Direct drive centrifugal blower fan
AC waveform total harmonic distortion	< 5% no load to full linear load, < 3% for any single harmonic

## Available Voltages

60 Hz Three phase line-neutral/line-line	50 Hz Three phase line-neutral/line-line
<ul style="list-style-type: none"> <li>• 220/380</li> <li>• 240/416</li> <li>• 255/440</li> <li>• 277/480</li> <li>• 347/600</li> <li>• 2400/4160</li> <li>• 7200/12470</li> <li>• 7620/13200</li> <li>• 7970/13800</li> </ul>	<ul style="list-style-type: none"> <li>• 220/380</li> <li>• 230/400</li> <li>• 240/415</li> <li>• 254/440</li> <li>• 1905/3300</li> <li>• 3810/6600</li> <li>• 5774/10000</li> <li>• 6250/11000</li> <li>• 7620/1320</li> </ul>

Note: Consult factory for other voltages.

## Generator Set Options and Accessories

### Engine

- NO<sub>x</sub> 250 mg/Nm<sup>3</sup>
- NO<sub>x</sub> 350 mg/Nm<sup>3</sup>
- NO<sub>x</sub> 500 mg/Nm<sup>3</sup>
- NO<sub>x</sub> 1.0 g/hp-hr
- NO<sub>x</sub> 0.5 g/hp-hr

### Alternator

- 80 °C (176 °F) rise alternator
- 105 °C (221 °F) rise alternator

### Generator set

- CE and UKCA marked
- Grid Code Compliant (50 Hz model)

### Control Panel

- Remote operator panel with HMI 320
- Remote operator panel with HMI 407\*

### Accessories

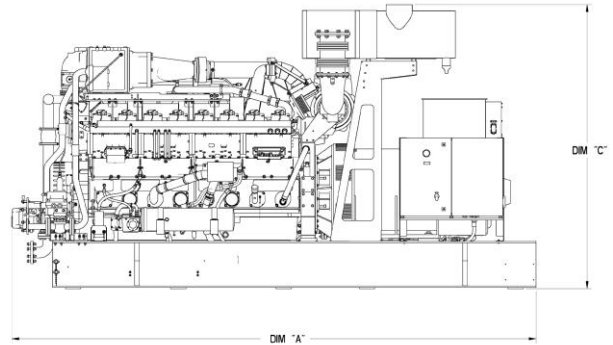
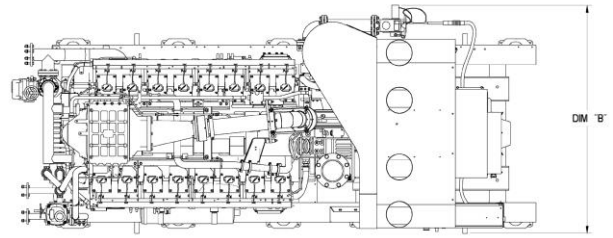
- Batteries
- Battery charger
- Exhaust silencers
- Gas train
- Radiators
- Bladder expansion tank
- Heat exchanger
- Exhaust heat recovery

Note: Some options may not be available on all models - consult factory for availability.

\*(Available for 50Hz models that are Grid Code Compliant)

## Base Load (continuous) Definitions

Applicable for supplying power continuously to a constant load up to the full output rating for unlimited hours. No sustained overload capability is available for this rating. Consult authorized distributor for rating. (Equivalent to Continuous Power in accordance with ISO 8528 and ISO 3046-1, obtained and corrected in accordance with ISO 15550). This rating is not applicable to all generator set models.



This outline drawing is to provide representative configuration details for Model series only.

See respective model data sheet for specific model outline drawing number.



**Do not use for installation design**

## Dimensions and Weights

Model	Dim "A" mm (in.)	Dim "B" mm (in.)	Dim "C" mm (in.)	Set Weight* wet kg (lbs)
C1000 N6C	5211 (205)	2189 (86)	2776 (109)	16272 (35798)
C1100 N6C	5211 (205)	2189 (86)	2776 (109)	16272 (35798)
C995 N5C	5211 (205)	2189 (86)	2776 (109)	16272 (35798)
C1200 N5C	5211 (205)	2189 (86)	2776 (109)	16272 (35798)
C1400 N5C	5211 (205)	2189 (86)	2776 (109)	16506 (36313)
C1540 N5CC	5116 (201)	2226 (88)	2837 (112)	16976 (37956)

\* Weights represent a set with standard features. See outline drawings for weights of other configurations.

## Codes and Standards

<p>ISO 9001</p>	<p>This product was manufactured in a plant whose quality management system is registered as being in conformity with ISO 9001.</p>		<p>The Prototype Test Support (PTS) program verifies the performance integrity of the generator set design.</p>
<p>CE</p>	<p>The CE marking is only valid when equipment is used in a fixed installation application. Material compliance declaration is available upon request.</p>		<p>50 Hz Generator set configurations compliant with European Grid Codes were validated by DNV. Certified product available where required.</p>
<p>UKCA</p>	<p>The UKCA marking is only valid when equipment is used in a fixed installation application. Material compliance declaration is available upon request.</p>		

**Warning:** Back feed to a utility system can cause electrocution and/or property damage. Do not connect to any building's electrical system except through an approved device or after building main switch is open.

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