

Specification sheet

Natural gas generator set QSV91 series engine

1250 kW - 2000 kW



Description

Cummins Power Generation lean burn gas generator sets are fully integrated power generation systems utilizing state of the art technology that results in optimum performance and efficient use of fuel for standby and continuous duty, CHP and peaking applications.

Features

Cummins® heavy-duty engine – Rugged 4-cycle lean burn gas combustion engine utilizing full authority electronic engine management and monitoring.

Exhaust emissions – Lean burn technology provides exhaust emissions levels as low as 250 mg/Nm³ (0.5 g/hp-hr) NO_x.

Fuel Flexibility - Ability to run on natural gas as well as alternative gaseous fuels with lower BTU properties and varying Methane Numbers (MN).

Permanent magnet generator (PMG) – 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, class F or H insulation (see Alternator Data Sheet for details), bearing and stator RTDs and anti-condensation heater. 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 genset 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 genset. Optional grid code compliant controls systems and operator panels are also available.

Cooling system – The generator set is equipped with the capability of interfacing 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 replacements parts to performance guarantee programs.

50 Hz				60 Hz			
New Model	Old Model	kW	Configuration	New Model	Old Model	kW	Configuration
C1540 N5C	GQNA	1540	4 pole direct drive	C1250 N6C	GQNA	1250	6 pole direct drive
C1540 N5CB	None	1540	4 pole direct drive	C1700 N6	None	1700	4 pole alternator through gearbox
C1750 N5C	GQNB	1750	4 pole direct drive	C1750 N6C	GQPB	1750	4 pole alternator through gearbox
C1750 N5CB	None	1750	4 pole direct drive	C2000 N6C	GQPC	2000	4 pole alternator through gearbox
C2000 N5C	GQNC	2000	4 pole direct drive				
C2000 N5CB	None	2000	4 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.

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Generator set specifications

Governor regulation class	ISO 8528 Part 1, Class G1 with exceptions – consult factory for details
Voltage regulation, no load to full load	± 0.5%
Random voltage variation	± 0.5%
Frequency regulation	Isochronous
Random frequency variation	± 0.25%
Radio frequency emissions compliance	IEC 801.2 through IEC 801.5; MIL STD 461C, Part 9
Single step load pickup	Generator set configuration dependent – consult factory for details

Engine specifications

Design	4 cycle, V-block, turbocharged low temperature aftercooled
Bore	180 mm (7.09 in)
Stroke	200 mm (7.87 in)
Displacement	91.6 liters (5590 in ³)
Cylinder block	Cast iron, V18
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
Telephone influence factor (TIF)	< 50 per NEMA MG1-22.43
Telephone harmonic factor (THF)	< 3

Available voltages

60 Hz Three phase line-neutral/line-line				50 Hz Three phase line-neutral/line-line			
• 220/380	• 254/440	• 277/480	• 347/600	• 220/380	• 230/400	• 240/415	• 254/440
• 240/416	• 7200/12470	• 7620/13200	• 7970/13800	• 1905/3300	• 3640/6300	• 3810/6600	• 5775/10000
• 2400/4160				• 6060/10500	• 6350/11000	• 7620/13200	

Note: Some voltages may not be available on all models. Consult factory for availability.

Generator set options and accessories

Engine

- NO_x 250 mg/Nm³ (0.5 g/hp-hr)
- NO_x 350 mg/Nm³ (0.9 g/hp-hr)
- NO_x 500 mg/Nm³ (1.2 g/hp-hr)
- Natural gas fuel methane index as low as 52 for some models
- High temperature cooling circuit outlet up to 110 °C (230 °F)
- Air starter
- Low BTU Gas

Alternator

- 80 °C (176 °F) rise alternator
- 105 °C (221 °F) rise alternator
- 125 °C (257 °F) rise alternator

Generator set

- CE Certification
- Grid code compliant

Control Panel

- Remote operator panel with HMI320
- Remote operator panel with AGI 110-2

Accessories

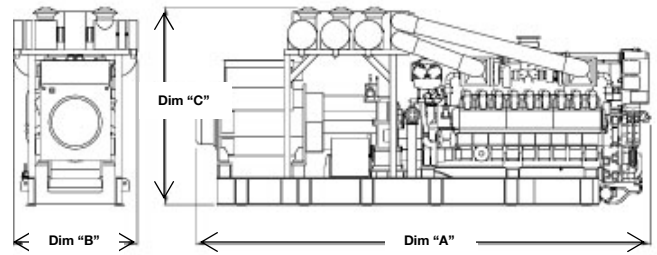
- Exhaust silencers
- Gas train
- Radiators
- Bladder expansion tank
- Heat exchanger
- Exhaust heat recovery

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

Ratings definitions

Emergency standby power (ESP): Applicable for supplying power to varying electrical load for the duration of power interruption of a reliable utility source. Emergency Standby Power (ESP) is in accordance with ISO 8528.

Base load (continuous) power (COP): 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, ISO 3046, AS2789, DIN 6271, and BS 5514).



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.)	Weight* wet kg (lbs)
C1540 N5C	5603 (220.6)	1720 (67.7)	3136 (123.5)	17057 (38515)
C1540 N5CB	6223 (244.98)	2012 (79.21)	3044 (119.85)	16923 (37308)
C1750 N5C	5921 (233.1)	1720 (67.7)	3136 (123.5)	19633 (43192)
C1750 N5CB	6223 (244.98)	2012 (79.21)	3044 (119.85)	18565 (40928)
C2000 N5C	6065 (238.8)	2158 (85.0)	2772 (109.1)	20457 (45100)
C2000 N5CB	6223 (244.98)	2012 (79.21)	3044 (119.85)	18976 (41834)
C1250 N6C	5971 (235.1)	1720 (67.7)	3136 (123.5)	17595 (38709)
C1700 N6	7302 (287.5)	1720 (67.7)	3136 (123.5)	21069 (46449)
C1750 N6C	7302 (287.5)	1720 (67.7)	3136 (123.5)	21069 (46449)
C2000 N6C	7138 (281.2)	2158 (85.0)	2772 (109.1)	20900 (46077)

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

Codes and standards

	<p>This generator set is designed in facilities certified to ISO 9001 and manufactured in facilities certified to ISO 9001 or ISO 9002.</p>		<p>The Prototype Test Support (PTS) program verifies the performance integrity of the generator set design.</p>
	<p>This generator set complies with all relevant essential requirements; health and safety or environmental, laid down in the applicable directive(s)</p>		<p>Generator set configurations compliant with European Grid Codes were validated in coordination with GL. Certified product available where required.</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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