

Generator Set Natural Gas QSV91 Series Engine

1250kW - 2000kW 60Hz
1540kW - 2000kW 50Hz



Optional Features Shown

Description

This Cummins Power Generation gas generator set is a fully integrated power generation system, providing optimum performance and efficiency for continuous duty, CHP, and low BTU gas applications.



This generator set is designed in facilities certified to ISO9001.

This generator set is manufactured in facilities certified to ISO9001 or ISO9002.

Features

- **Exhaust Emissions** – Lean burn technology provides exhaust emissions levels as low as 350 mg/Nm³ (0.7 g/hp-hr) NO_x.
- **Cummins® Heavy-Duty Engine** - Rugged 4-cycle lean burn gas combustion engine utilizing full authority electronic engine management and monitoring.
- **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, bearing and stator RTDs, and anti-condensation heater.
- **Control System** - The Generator Control Panel (GCP) with PowerCommand® genset control 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, an integrated PLC, and a touchscreen user interface in a remotely installable cabinet.
- **Cooling System** – The generator set is equipped with the capability of interfacing with a remote radiator or heat exchanger.
- **Structural Steel Skid Base** - Robust skid base supports the engine, alternator, and radiator.
- **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			
Model	kW (kVA)	Engine rpm	Configuration	Model	kW (kVA)	Engine rpm	Configuration
GQNA	1540 (1925)	1500	4 pole direct drive	GQNA	1250 (1563)	1200	6 pole direct drive
GQNB	1750 (2188)	1500	4 pole direct drive	GQPB	1750 (2188)	1514	4 pole alternator through gearbox
GQNC	2000 (2500)	1500	4 pole direct drive	GQPC	2000 (2500)	1514	4 pole alternator through gearbox

*Genset is capable of operating between 0.8 lagging and 1.0 power factor. All fuel consumption, efficiency, and heat balance data is at 1.0 power factor.

Generator Set Specifications

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
Governor Regulation Class	ISO8528 Part 1, Class G1
Single Step Load Pickup	Minimum 50% within ISO8528 G1 Transient Requirements

Engine Specifications

Design	4 cycle, V-block, turbocharged and low temperature after-cooled
Bore	180 mm (7.09 in.)
Stroke	200 mm (7.87 in.)
Displacement	91.6 litres (5590 in ³)
Cylinder Block	Cast iron, V18
Starting System	24 volt electric starter
Fuel System	Lean Burn
Ignition System	Individual coil on plug
Lube Oil Filters	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 H on low voltage, Class F on medium and high voltage
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 Line – Neutral / Line - Line		50 Hz Line – Neutral / Line – Line	
<input type="checkbox"/> 240/416	<input type="checkbox"/> 7200/12470	<input type="checkbox"/> 220/380	<input type="checkbox"/> 3810/6600
<input type="checkbox"/> 254/440	<input type="checkbox"/> 7620/13200	<input type="checkbox"/> 230/400	<input type="checkbox"/> 5775/10000
<input type="checkbox"/> 277/480	<input type="checkbox"/> 7970/13800	<input type="checkbox"/> 240/415	<input type="checkbox"/> 6060/10500
<input type="checkbox"/> 347/600		<input type="checkbox"/> 254/440	<input type="checkbox"/> 6350/11000
<input type="checkbox"/> 2400/4160		<input type="checkbox"/> 1905/3300	
		<input type="checkbox"/> 3640/6300	


Note: Consult factory for other voltages.

Generator Set Options

Engine <input type="checkbox"/> NO _x 350mg/Nm ³ (0.9g/hp-hr) <input type="checkbox"/> NO _x 500mg/Nm ³ (1.2g/hp-hr) <input type="checkbox"/> Natural gas fuel methane index as low as 52 for some models <input type="checkbox"/> High temperature cooling circuit outlet up to 110°C (230°F) <input type="checkbox"/> Air starter <input type="checkbox"/> Low BTU Gas Control Panel <input type="checkbox"/> Modbus Plus Network Interface <input type="checkbox"/> Paralleling Bus PTs (69V, 120V, 240V, 346V)	Alternator <input type="checkbox"/> 80°C rise alternator <input type="checkbox"/> 105°C rise alternator <input type="checkbox"/> Differential current transformers <input type="checkbox"/> Mechanically strengthened alternator for use on utility paralleling with unreliable grid	Generator Set <input type="checkbox"/> CE Certification Accessories <input type="checkbox"/> Exhaust silencers <input type="checkbox"/> Gas Train <input type="checkbox"/> Radiators <input type="checkbox"/> Bladder Expansion Tank <input type="checkbox"/> Heat Exchanger <input type="checkbox"/> Exhaust Heat Recovery
---	---	---

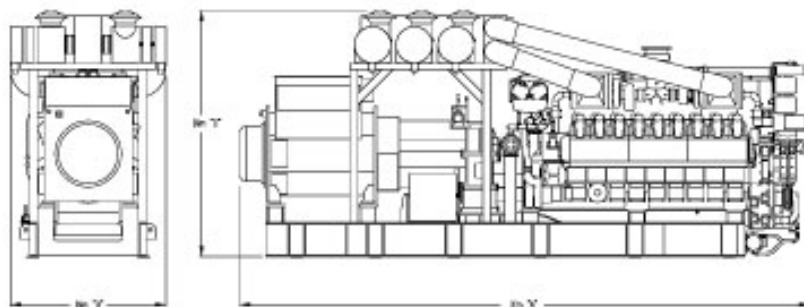
Note: Some options may not be available on all models, consult factory for availability.

<h2>Generator Control Panel (GCP)</h2>	
<p>Stand alone remote mounted cabinet</p> <ul style="list-style-type: none"> • PC base HMI (touchscreen) • PowerCommand Supervisor • PLC based auxiliary control <p>HMI</p> <ul style="list-style-type: none"> • Micro-processor based graphic interface (touchscreen) • Layered menus for ease of operation <p>PLC</p> <ul style="list-style-type: none"> • Communication handling procedures • Protocol interlaces • Control of plant auxiliaries 	
<h3>Operating Modes</h3>	
<p>Stand-alone or Parallel Operation</p> <ul style="list-style-type: none"> • Single or multi-set isolated bus operation • Single set base load utility paralleling • Isolated bus paralleling control • Base load utility paralleling control 	

 <p>Optional Features Shown</p>	<h3>PowerCommand[®] Supervisor with AmpSentry[™] Protection</h3>	
	<ul style="list-style-type: none"> • Integrated automatic voltage regulator • Speed/load bias to engine governor control • AmpSentry Protection guards the electrical integrity of the alternator and power system from the effects of overcurrent, over/under voltage, under frequency and overload conditions • Control components are designed to withstand the vibration levels typical in generator sets 	
<h4>Standard Control Description</h4>		
<ul style="list-style-type: none"> • Analog % of current meter (amps) • Analog % of load meter (kW) • Analog AC frequency meter • Analog AC voltage meter • Cycle cranking control • Digital display panel • Emergency stop switch • Idle mode control • Menu switch 		<ul style="list-style-type: none"> • Panel backlighting • Remote starting, 12 V, 2 wire • Reset switch • Run-Off-Auto switch • Sealed front panel, gasketed door • Self diagnostics • Separate customer interconnection box • Voltmeter/Ammeter phase selector switch
<h4>Standard Protection Functions</h4>		<h4>Standard Performance Data</h4>
<p>Warnings</p> <ul style="list-style-type: none"> • High coolant temperature • High DC voltage • Low coolant temperature • Low DC voltage • Low fuel-day tank • Low oil pressure • Oil pressure sender fault • Overcurrent • Overload load shed contacts • Temperature sender fault • Up to four customer fault inputs • Weak battery 	<p>Shutdowns</p> <ul style="list-style-type: none"> • Emergency stop • Fail to crank • High AC voltage • High coolant temperature • Low AC voltage • Low coolant level (option for alarm only) • Low oil pressure • Magnetic pickup failure • Overcrank • Overcurrent • Overspeed • Short circuit • Underfrequency 	<p>AC Alternator</p> <ul style="list-style-type: none"> • Current by phase • Kilowatts • Kilowatt hours • Power factor • Voltage line to line • Voltage line to neutral <p>Engine Data</p> <ul style="list-style-type: none"> • Battery voltage • Coolant temperature • Engine running hours • Engine starts counter • Oil pressure • Oil temperature • RPM

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 ISO8528, ISO3046, AS2789, DIN6271, and BS5514). 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

Model	Dim "A" mm (in.)	Dim "B" mm (in.)	Dim "C" mm (in.)	Set Weight* Wet kg (lbs)
1250 GQNA	5971 (223.3)	1720 (67.7)	3136 (123.5)	17595 (38709)
1750 GQPB	7302 (287.5)	1720 (67.7)	3136 (123.5)	22100 (48620)
1540 GQNA	5603 (220.6)	1720 (67.7)	3136 (123.5)	17057 (38515)
1750 GQNB	5921 (233.1)	1720 (67.7)	3136 (123.5)	19633 (43192)
2000 GQNC	6065 (238.8)	2095 (82.5)	2772 (109.1)	20,400 (44,880)
2000 GQPC	7127 (280.6)	2011 (79.2)	2772 (109.1)	23,000 (50,600)

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

See your distributor for more information.



Cummins Power Generation Americas
1400 73rd Avenue N.E.
Minneapolis, MN 55432 USA
Telephone: +1 (763) 574-5000
Fax: +1 (763) 574-5298
Email: pgamail@cummins.com
Web: www.cumminspowergeneration.com

Cummins Power Generation Europe,
Middle East, and Africa
Manston Park, Columbus Avenue
Manston, Ramsgate
Kent CT12 5BF, UK
Telephone: +44 (0) 1843 255000
Fax: +44 (0) 1843 255902
E-Mail: cpg.uk@cummins.com
Web: www.cumminspower.com

Cummins Power Generation Asia
Pacific
8 Tanjong Penjuru
Singapore 6099019
Telephone: +65 265-0155
Fax: +65 264-0664 or 265-6909
Email: mktg@sing.cummins.com

Cummins and PowerCommand are registered trademarks of Cummins Inc. AmpSentry is a trademark of Cummins Inc.

Important: 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.