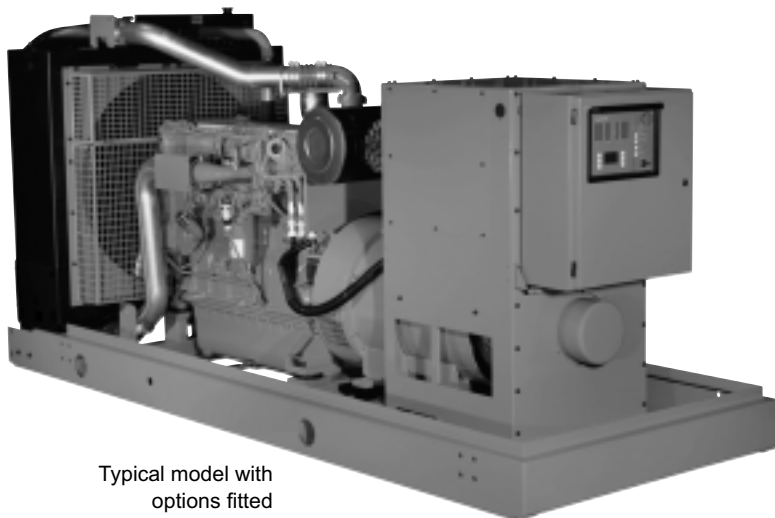


Diesel Powered Generating Sets 360 kW - 440 kW 50 Hz QSX15 Series Engine



Typical model with options fitted

Standard Genset Features

Single Source Responsibility

- Design, manufacturer and test of all components and accessories are made by Cummins Power Generation and Cummins companies

International Integrity

- Assurance and strength of a worldwide, world class corporation

Global Backing

- 24 hour spares and service support – in 72 countries

Single Source Warranty

- Complete genset covered by Cummins Power Generation comprehensive warranty

Packaged Self-Contained Units

- Units with built in antivibration systems with provision for base fuel tank and other accessories

Cummins Engine

- Heavy duty 4 cycle water cooled engine
- Electronic governor control

Cooling System

- 40°C cooling package (50°C option)

Ready Filled

- Every set comes filled with lube oil and anti-freeze

Alternator

- Brushless Group made machine
- Close voltage regulation
- Rotor and exciter impregnated with oil and acid resisting resin
- 12 lead reconnectable
- Exceptional short circuit capability
- Low waveform distortion with non linear loads

Ratings

All kW Power ratings based on a 40°C ambient temperature reference

Chassis



Built-in anti-vibration system
Bonded rubber units fitted as standard eliminates need for rubber mats or spring mountings

Low Emissions


- Integral cooling systems which deliver low NOx, CO, HC, PM and SO₂ exhaust emissions for installations where TA-Luft compliance is a requirement

PowerCommand® Control System PCC

- Microprocessor control
- Integrates governor and voltage regulation systems
- Superior alternator and genset protection system
- Accurate battery monitoring system
- Totally reliable and proven system
- CE Compliant

Quality Assurance
Registered Firm Certificate Number FM509 in accordance with:
BS EN ISO 9001
Quality Assurance Schedule 3420/1



Cummins Power Generation, Cummins Engines and Newage Alternators are all part of the same group

50 Hz Ratings				
Model Prime	Prime kW (kVA)	Model Standby	Standby kW (kVA)	Engine Model
360 DFEJ	360 (450)	400 DFEJ	400 (500)	QSX15G8
400 DFEK	400 (500)	440 DFEK	440 (550)	QSX15G8

A Single Source for *all* Power System Solutions

Specifications

Generator Set Performance

Voltage Regulation

Maintains voltage output to within $\pm 1.0\%$.
At any power factor between 0.8 lagging and unity.
At any variations from No load to Full load.
At any variations from Cold to Hot.
At speed droop variations up to 4.5%.

Frequency Regulation

Isochronous under varying loads from no load to 100% full load.

Random Frequency Variation

Will not exceed $\pm 0.25\%$ of its mean value for constant loads – no load to full load.

Engine

Cummins QSX15G8 direct injection engines. Six-cylinder, in-line. 14.9 litres.

Type

Water cooled, four cycle, turbo charged and aftercooled.

Construction

Four valves per cylinder, forged steel crankshaft and connecting rods, cast iron block, replaceable wet liners.

Starting

24 volt negative earth. Battery charging 35 amp alternator. Cranking current 900 amps at 0°C.

Alternator

Type

Brushless, single bearing, revolving field, 4-pole, drip proof, screen protected. Class H insulation. Enclosed to IP22 (NEMA 1) standard. IC 01 cooling system. Fully interconnected damper winding. AC exciter and rotating rectifier unit. Epoxy coated stator winding. Rotor and exciter impregnated with tropical grade insulating oil and acid resisting polyester resin. Dynamically balanced rotor to BS5625 grade 2.5. Sealed for life bearings. Layer wound mechanically wedged rotor.

Compliance Standards

To BS4999/5000 pt 99, VDE 0530, UTE5100, NEMA MG1-22, CEMA, IEC 34, CSAA22.2, AS1359, BSS5514, ISO 3046, ISO 8528

Waveform

Total harmonic distortion open circuit voltage waveform in the order of 1.5%. Three-phase balanced load in the order of 5.0%.

Telephone Influence Factor (TIF)

TIF better than 50.
THF to BS4999 Part 40 better than 2%.

Alternator Temperature Rise

Class H insulation. Temperature rise up to 125°C permitted.

Radio Interference

In compliance with BS800 and VDE levels G and N.

Fuel System

24 volt fail safe fuel actuator. Spin-on element fuel filters. Cummins HPI - TP fuel injection system with integral electronic governor. Dual flexible fuel lines and connectors. Fuel/water separator.

Filters

Dry element air filters with restriction indicator and spin-on combination element oil filter with full flow and bypass filtration. Spin on corrosion resistor filter.

Cooling

40°C radiator as standard with 50°C ambient as option.

Exciter

Triple dipped in moisture, oil and acid resisting polyester varnish and coated with anti-tracking varnish. Sealed solid state automatic voltage regulator – self-exciting, self-regulating. Output windings with 2/3 pitch for improved harmonics and paralleling ability. Close coupled engine/alternator for perfect alignment.

Chassis

Fabricated and welded steel chassis
Built-in anti-vibration mountings
Optional sub-base fuel tank with eight hour capacity, dual flexible fuel lines, dial type fuel gauge and drain bung

Finish

Etch undercoated and finished in high gloss durable green

General

Complete set of operating and instruction manuals

Generator Set Options

Engine

- Heavy duty air cleaner
- Coolant heater and thermostat
- Tool kit
- Lead acid batteries, cable and fitted tray
- NiCad batteries
- Sump drain pump
- Oil and water drain taps
- CE Compliance (guarding)
- Exhaust temperature monitoring

Cooling

- Oil temperature indication

Alternator

- Anti-Condensation heater
- Thermistors
- PMG Exciter and MX321 AVR

Exhaust System

- Industrial type silencer
- Residential type silencer
- Length of flexible exhaust and bellows

Fuel System

- Sub-base tanks
- Hand fuel transfer pump
- Automatic fuel transfer pump
- Free-standing 450, 900 and 1350 litre fuel tanks with stand
- Fuel tank level switch
- High fuel level warning
- Low fuel level warning
- Low fuel level shutdown

Generator Set

- Silenced enclosures
- Super silenced enclosures

Control Panel

- See separate list on Control Panel pages
- 3 or 4 pole circuit breaker
- Battery charger 5 amp or 10 amp
- Cable entrance box

Technical Data

QSX15G8 Generating Sets – 50 Hz

	Prime				Standby				Prime				Standby			
Model	360 DFEJ				400 DFEJ				400 DFEK				440 DFEK			
Ratings	360 kW				400 kW				400 kW				440 kW			
	455 kVA				500 kVA				500 kVA				550 kVA			
Engine Model	QSX15G8				QSX15G8				QSX15G8				QSX15G8			
Aspiration: Turbo-charged with air-to-air aftercooling	Yes				Yes				Yes				Yes			
Gross Engine Power	451 kWm				500 kWm				451 kWm				500 kWm			
Break Mean Effective Pressure	2137 kPa				2344 kPa				2344 kPa				2571 kPa			
Bore	137 mm				137 mm				137 mm				137 mm			
Stroke	169 mm				169 mm				169 mm				169 mm			
Piston Speed	8.4 m/s				8.4 m/s				8.4 m/s				8.4 m/s			
Compression Ratio	17:1				17:1				17:1				17:1			
Lubricating Oil Capacity	83 Litres				83 Litres				83 Litres				83 Litres			
Overspeed Limit	2150 rpm ±50				2150 rpm ±50				2150 rpm ±50				2150 rpm ±50			
Dry Weight	4082 kg				4082 kg				4309 kg				4309 kg			
Wet Weight	4218 kg				4218 kg				4445 kg				4445 kg			
Fuel Consumption Load	1/4	1/2	3/4	Full	1/4	1/2	3/4	Full	1/4	1/2	3/4	Full	1/4	1/2	3/4	Full
Fuel Consumption L/hr	32	51	71	91	34	55	77	99	34	55	77	99	36	60	84	108
Maximum Fuel Flow	435 L/hr				435 L/hr				435 L/hr				435 L/hr			
Maximum Fuel Inlet Restriction	127 mm Hg				127 mm Hg				127 mm Hg				127 mm Hg			
Maximum Fuel Return Restriction	77 mm Hg				77 mm Hg				77 mm Hg				77 mm Hg			
Fan Load	23 kW				23 kW				23 kW				23 kW			
Coolant Capacity	58 Litres				58 Litres				58 Litres				58 Litres			
Coolant Flow	394 L/Min				394 L/Min				394 L/Min				394 L/Min			
Heat Rejection to Eng Jacket Coolant	129 kW				141 kW				141 kW				156 kW			
Heat Rejected to Ambient	51 kW				56 kW				56 kW				64 kW			
Combustion Air	30 m ³ /min				32 m ³ /min				32 m ³ /min				34 m ³ /min			
Maximum Air Cleaner Restriction	6.2 kPa				6.2 kPa				6.2 kPa				6.2 kPa			
Alternator Cooling Air	52 m ³ /min				52 m ³ /min				52 m ³ /min				52 m ³ /min			
Radiator Cooling Air	679 m ³ /min				679 m ³ /min				679 m ³ /min				679 m ³ /min			
Minimum Air Opening to Room	2.3 m ²				2.3 m ²				2.3 m ²				2.3 m ²			
Minimum Discharge Opening	1.6 m ²				1.6 m ²				1.6 m ²				1.6 m ²			
Maximum Static Restriction	13 mm Wg				13 mm Wg				13 mm Wg				13 mm Wg			
Exhaust Gas Flow (Full Load)	73 m ³ /min				79 m ³ /min				79 m ³ /min				87 m ³ /min			
Exhaust Gas Temperature	474 °C				487 °C				487 °C				507 °C			
Maximum Exhaust Back Pressure	6.7 kPa				6.7 kPa				6.7 kPa				6.7 kPa			
Derate	RTF				RTF				RTF				RTF			

Typical figures only, based on an engine at full working temperature.

Load acceptance performance varies with site conditions.

RTF = Refer to factory.

Ratings

Standby

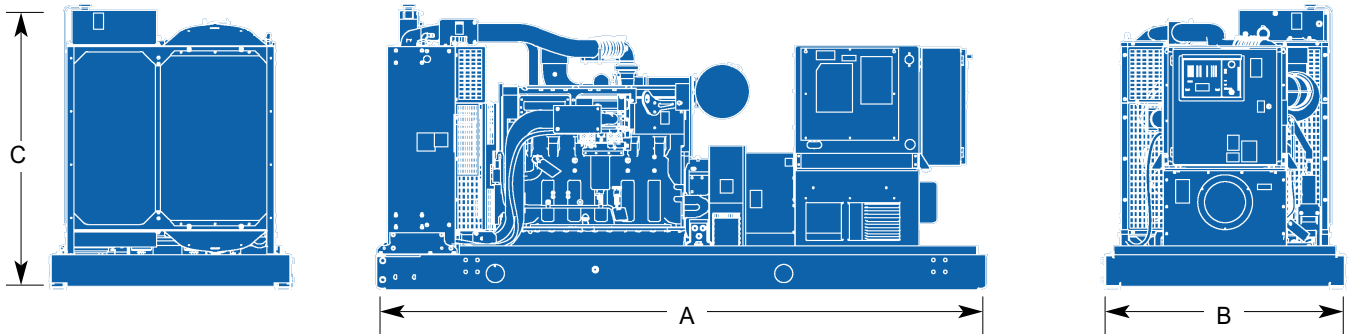
Applicable for supplying emergency power for the duration of normal power interruption. No sustained overload capability is available for this rating.

Nominally Rated (equivalent to fuel stop power in accordance with ISO 3046).

Prime

Applicable for supplying power in lieu of commercially purchased power. Prime power is the maximum power available at a variable load for an unlimited number of hours. A 10% overload capability is available for limited time. Nominally rated.

Dimensions and Weights – 50 Hz



Model	Engine	Dimensions and Weights (mm/kg)			Set Weight kg Dry	Set Weight kg Wet	Tank Weight kg (dry)	Tank Weight kg (wet)
		A	B	C				
DFEJ	QSX15G8	3868	1524	1534	4309	4445	RTF	RTF
DFEK	QSX15G8	3868	1524	1534	4309	4445	RTF	RTF

RTF = Refer to Factory.

Set weights are **without** sub-base tank.

Dimensions and weights are for **guidance** only. Do not use for installation design. Ask for certified drawings on your specific application. Specifications may change without notice.



**Power
Generation**

See your distributor for more information.

Cummins Power Generation Limited
 Manston Park, Columbus Avenue
 Manston, Ramsgate
 Kent CT12 5BF, UK
 Telephone: +44 (0)1843 255000
 Fax: +44 (0)1843 255902
 Email: cpg.uk@cummins.com
www.cumminspower.com
www.cummins.com

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