



# QSZ13-G5

**Emissions Compliance:**  
**EU Stage II @ 50 Hz**  
**U.S. EPA Tier 2 @ 60 Hz**



## Description

The QSZ13 engine is designed to meet the European Union (EU) Stage II and EPA Tier 2 generator set emission standards. Evolved from the proven and successful base engine platform of an automotive engine, the QSZ13 engine utilizes the Cummins High Pressure Injection (XPI) fuel system and is widely accepted for its high levels of in-service reliability and performance.

The QSZ13 engine was developed using Cummins unique in-house capabilities, including adapting core technologies in electronics, fuel systems, turbo charging, filtration, and emissions. The QSZ13 engine has high derating thresholds for temperature and altitude, which are coupled with 50° C ambient capable cooling system to make these engines top performers in the harshest conditions.

Robust, clean, resilient and capable of matching the duty cycle and operating conditions of many applications, the QSZ13 engine is suitable for both open and enclosed installations as well as stationary or mobile applications.



This engine has been built to comply with CE certification.



This engine has been designed in facilities certified to ISO9001 and manufactured in facilities certified to ISO9001 or ISO9002.

## Features

**Coolpac Integrated Design** - Products are supplied with cooling package and air cleaner kit for a complete power package. A heavy duty air cleaner is offered as an option.

**Full Authority Electronic Dual Speed Engine** - Advanced engine monitoring, diagnostics, protection and control, coupled with the XPI fuel system, capable of delivering extreme fuel injection pressures with multiple injection events, results in reduced emissions, improved fuel efficiency, lower noise and enhanced engine performance.

**Fuel Filtration System** - Three-stage fuel filtration system provides high levels of protection against fuel becoming contaminated with dust, dirt, or water.

**Controls** - Fitted with a Power Generation Interface (PGI) to improve emissions, the widely accepted SAE J1939 industry standard CAN-based communication network provides advanced engine protection, ensuring faster connectivity along with a superior fault finding capability.

**Crankcase Breather** - Cummins patented variable impactor breather design and coalescing filter removes emissions as required by regulations, with the added benefit of eliminating oil drips and mist while keeping the surroundings clean.

**Reduced Operating Costs** - Extended service intervals for the oil and filter changes.

**Service and Support** - G-Drive products are backed by an uncompromising level of technical support and after sales support, delivered through a world class service network.

## 1500 rpm (50 Hz ratings)

Gross engine output			Net engine output			Typical generator set output					
Standby	Prime	Base	Standby	Prime	Base	Standby (ESP)		Prime (PRP)		Base (COP)	
kWm/BHP			kWm/BHP			kWe	kVA	kWe	kVA	kWe	kVA
469/629	410/550	369/495	454/609	395/529	354/474	400	500	364	455	330	413

## 1800 rpm (60 Hz ratings)

Gross engine output			Net engine output			Typical generator set output					
Standby	Prime	Base	Standby	Prime	Base	Standby (ESP)		Prime (PRP)		Base (COP)	
kWm/BHP			kWm/BHP			kWe	kVA	kWe	kVA	kWe	kVA
500/670	450/604	412/553	475/636	425/569	387/518	440	550	400	500	348	435

## General engine data

Type	4 cycle, in-line, turbocharged, air-cooled
Bore mm	130 mm (5.12 in.)
Stroke mm	163 mm (6.42 in.)
Displacement litre	13 litre (793 in. <sup>3</sup> )
Cylinder block	Cast iron, 6 cylinder
Battery charging alternator	80 amps
Starting voltage	24 volt, negative ground
Fuel system	XPI
Fuel filter	Spin-on fuel filters with water separator
Lube oil filter type(s)	Spin-on full flow filter
Lube oil capacity (l)	78
Flywheel dimensions	SAE1

## Coolpac performance data

Cooling system design	Air-air charge cooled
Coolant ratio	50% ethylene glycol; 50% water
Coolant capacity (l)	62
Limiting ambient temp. ** (°C)	50 (50 Hz); 55 (60 Hz)
Fan power (kWm)	18.5 (50Hz); 31.5 (60Hz)
Cooling system air flow (m <sup>3</sup> /s)**	8.1 (50Hz); 10.3 (60Hz)
Air cleaner type	Normal duty dry replaceable element with restriction indicator

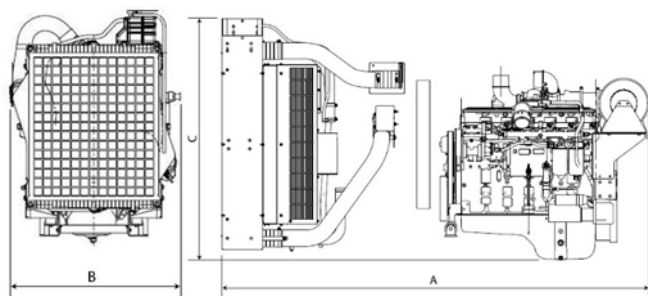
\*\* @ 13 mm H<sub>2</sub>O

## Fuel consumption 1500 (50 Hz)

%	kWm	BHP	L/ph	g/kWh
<b>Standby Power</b>				
100	469	629	107	196
<b>Prime Power</b>				
100	410	550	93	195
75	308	413	70	195
50	205	275	49	205
25	103	138	30	244
<b>Continuous Power</b>				
100	369	495	84	195

## Fuel consumption 1800 (60 Hz)

%	kWm	BHP	L/ph	g/kWh
<b>Standby Power</b>				
100	500	670	117	201
<b>Prime Power</b>				
100	450	604	107	201
75	338	453	81	201
50	225	302	54	204
25	113	152	35	270
<b>Continuous Power</b>				
100	412	553	96	201



## Weights and dimensions

Length mm	Width mm	Height mm	Weight (dry) kg
1389	1276	1050	1250

## Ratings definitions

Emergency Standby Power (ESP):	Limited-Time Running Power (LTP):	Prime Power (PRP):	Base Load (Continuous) Power (COP):
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. Fuel Stop power in accordance with ISO 3046, AS 2789, DIN 6271 and BS 5514.	Applicable for supplying power to a constant electrical load for limited hours. Limited-Time Running Power (LTP) is in accordance with ISO 8528.	Applicable for supplying power to varying electrical load for unlimited hours. Prime Power (PRP) is in accordance with ISO 8528. Ten percent overload capability is available in accordance with ISO 3046, AS 2789, DIN 6271 and BS 5514.	Applicable for supplying power continuously to a constant electrical load for unlimited hours. Continuous Power (COP) in accordance with ISO 8528, ISO 3046, AS 2789, DIN6271 and BS 5514.

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