



# Dongfeng Cummins Technical Operations

Engine Model: QSZ13-G3

Curve and Datasheet: FR20322

Rev02

Date of Issue: 2011/01



# Dongfeng Cummins Engine Co.,Ltd

## Generator Engine Performance Data

Engine Model

QSZ13-G3

FR20322

@

1500RPM

**Engine Model:** QSZ13-G3

**CPL:** 3690

**Compression Ratio:** 17:1

**Engine Configuration:** D0C3004GX03

**Bore:** 130 mm

**Displacement:** 13.0 L

**Stroke:** 163 mm

**Cylinders:** 6

**Governor Regulation:** ≤1%

**Aspiration:** Turbocharged & Charge Air Cooled

**Emission Certification:** MEP STAGE II

**Fuel System:** XPI

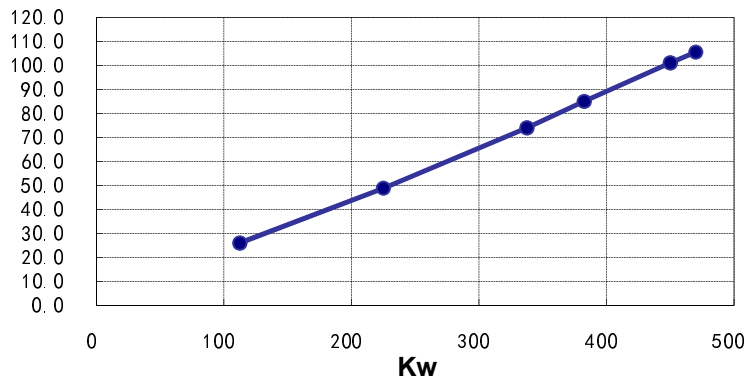
Engine Speed RPM	Standby Power		Prime Power		Continuous Power	
	kW	HP	Kw	HP	kW	HP
1500	<b>470</b>	630	<b>450</b>	603	<b>383</b>	513

### Engine Performance Data @ 1500 RPM

OUTPUT POWER			FUEL CONSUMPTION	
%	Kw	HP	g/kW.h	L/h
<b>STANDBY POWER</b>				
100	<b>470</b>	630	193	105.5
<b>PRIME POWER</b>				
100	<b>450</b>	603	193	101.0
75	<b>338</b>	452	189	74.0
50	<b>225</b>	302	187	48.8
25	<b>113</b>	151	199	26.0
<b>Continuous Power</b>				
100	<b>383</b>	513	191	85.0

Litre/hour

1500RPM



Curves shown above represent gross engine performance capabilities obtained and corrected in accordance with GB/T18297 conditions of 100kPa barometric pressure [80 m altitude], 25°C inlet air temperature, and 1 kPa water vapor pressure with No.0 diesel fuel.

The engine may be operated without changing the fuel setting up to 5200 m altitude.



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### GENERAL ENGINE DATA

Approximate Engine Weight - Dry: .....	- kg	1195
Approximate Engine Weight - Wet: .....	- kg	1260
Compression Ratio: .....		17:1
Fire Order: .....		1-5-3-6-2-4
Center of Gravity		
from front face of block: .....	- mm	519
above crankshaft centerline: .....	- mm	201

### ENGINE MOUNTING

Maximum static mounting surface bending moment		
Rear face of block: .....	- N.m	1356

### LUBRICATION SYSTEM

Oil pressure @ idle - minimum: .....	- kPa	89.6
Total system capacity (standard pan): .....	- L	45.42
Maximum lube oil flow to all accessories: .....	- L/min	7.57
Typical oil pressure range - warm engine: .....	- kPa	207 - 355

### AIR INTAKE SYSTEM

Charge air cooler pipe size normally acceptable: .....	- mm	110
Maximum temperature rise between ambient air and engine air inlet: .....	- °C	11.1
Maximum intake air restriction (heavy duty air cleaner):		
dirty filter: .....	- kPa	6.2
clean filter: .....	- kPa	2.5

### Exhaust System

Max. back pressure imposed by complete exhaust system: .....	- kPa	13
Maximum allowable static bending moment at exhaust outlet flange: .....	- N-m	27
Exhaust pipe size normally acceptable:.....	- mm	130

### FUEL SYSTEM

Maximum fuel drain restriction (total head) before (or without) check valve:		
.....	- kPa	27
Minimum fuel tank venting requirement: .....	- L/s	0.2
Maximum fuel inlet temperature: .....	- °C	71
Maximum heat rejection to return fuel.....	- kW	5.36
Maximum design fuel flow: .....	- kg/hr	204



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### Cold Start Performance

Minimum ambient temperature for unaided cold start: ..... - °C -15  
 Minimum ambient temperature for aided cold start: ..... - °C -30

### Cooling System

Coolant Capacity..... - L 23.1  
 Engine coolant circuit thermostat opening temperature: ..... - °C 82  
 Engine coolant circuit thermostat fully open temperature: ..... - °C 94  
 Maximum coolant pressure(exclusive of pressure cap; closed thermostat at maximum no load speed): ..... - kPa 407  
 Maximum coolant temperature - engine out: ..... - °C 102  
 Maximum deaeration time: ..... - mins 25  
 Minimum operating block coolant temperature: ..... - °C 71  
 Minimum fill rate (low level alarm required for most engines): ..... - litre/mi 19  
 Maximum coolant expansion space (% total system capacity): ..... - % 10  
 Minimum coolant expansion space (% total system capacity): ..... - % 6  
 Minimum pressure cap rating at sea level: ..... - kPa 103  
 Maximum coolant temperature for engine protection controls: ..... - °C 107  
 Maximum allowable pressure drop across charge air cooler and OEM CAC piping (CACDP): ..... - kPa 10.1

### Electrical System

System voltage: ..... - V 24  
 Minimum battery capacity-cold soak at -18 C (0 F) or above  
 Engine only (de-clutched load) cold cranking amperes: ..... - CCA 900

### EMISSIONS

Gaseous Emissions per GB 20891-2007, at 1500rpm:

- Weight-Specific Nox: ..... - g/kW.h 5.341
- Weight-Specific HC: ..... - g/kW.h 0.124
- Weight-Specific CO: ..... - g/kW.h 0.393
- Weight-Specific Particulates: ..... - g/kW.h 0.026



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Fuel Rating Option used for these Data: FR20322

Governed Engine Speed: ..... -RPM  
 Gross Engine Power Output: ..... -kW  
 Torque: ..... -N.m  
 Friction Horsepower: ..... -kW  
 Piston Speed: ..... -m/s  
 Engine Water Flow to Engine: ..... -litre/sec.  
 Intake Air Flow: ..... -kg/min  
 Exhaust Gas Temperature: ..... -kg/min  
 Exhaust Gas Flow: ..... -°C  
 Radiated Heat to Ambient:..... -kW  
 Heat Rejection to Coolant:..... -kW  
 Turbocharger Compressor Outlet Pressure: .. -kPa  
 Turbocharger Compressor Outlet Temperatur -°C

Standby Power	Prime Power
1500	1500
<b>470</b>	<b>450</b>
2992	2865
42	37
8.15	8.15
6.8	6.5
35.8	35
37.3	36.45
547	530
111	104
172	155
264	250
207	198

ALL DATA CERTIFIED WITHIN 5%

TBD = To Be Decided N/A = Not Applicable N.A. = Not Available

All data is subject to change without notice, sorry for inform.

Dongfeng Cummins Engine Co., Ltd.