



# Dongfeng Cummins Technical Operations

Engine Model: QSZ13-G2

Curve and Datasheet: FR20287

Rev01

Date of Issue: 2010/03



# Dongfeng Cummins Engine Co.,Ltd

## Generator Engine Performance Data

Engine Model

QSZ13-G2

FR20287

@

1500RPM & 1800RPM

**Engine Model:** QSZ13-G2

**CPL:** 3354

**Compression Ratio:** 17:1

**Engine Configuration:** D0C3004GX03

**Bore:** 130 mm

**Displacement:** 13.0 L

**Stroke:** 163 mm

**Cylinders:** 6

**Governor Regulation:** ≤3%

**Aspiration:** Turbocharged & Charge Air Cooled

**Emission Certification:** MEP STAGE II

**Fuel System:** XPI

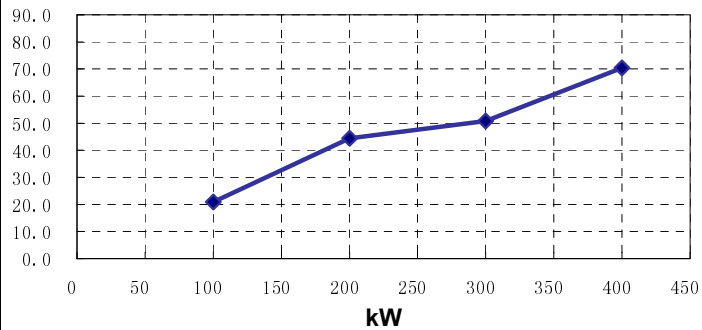
Engine Speed		Standby Power		Prime Power		Continuous Power	
RPM		kW		HP		kW	
1500		—		—		400	536
1800		—		—		408	547

### Engine Performance Data @ 1500 RPM

OUTPUT POWER			FUEL CONSUMPTION	
%	Kw	HP	g/kW.h	L/h
STANDBY POWER				
100	—	—	—	—
PRIME POWER				
100	400	536	212	70.4
75	300	402	204	50.8
50	200	268	268	44.5
25	100	134	252	20.9
Continuous Power				
100	340	456	207	58.5

Litre/hour

1500RPM

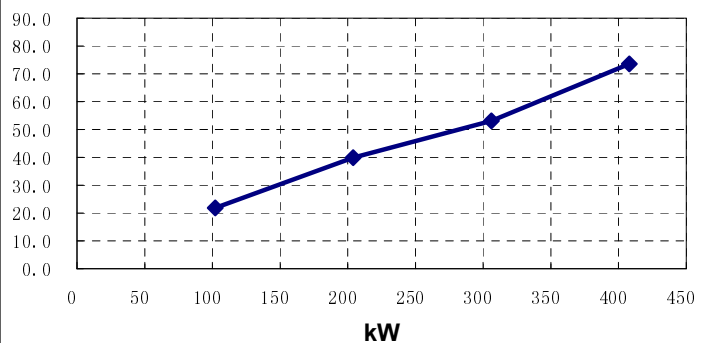


### Engine Performance Data @ 1800 RPM

OUTPUT POWER			FUEL CONSUMPTION	
%	Kw	HP	g/kW.h	L/h
STANDBY POWER				
100	—	—	—	—
PRIME POWER				
100	408	547	217	73.6
75	306	410	209	53.1
50	204	273	235	39.9
25	102	137	258	21.8
Continuous Power				
100	347	465	213	61.3

Litre/hour

1800RPM



Curves shown above represent gross engine performance capabilities obtained and corrected in accordance with GB/T18297 conditions of 100kPa (29.61 in. Hg) barometric pressure [80 m (263 ft.) altitude], 25°C (77°F) inlet air temperature, and 1 kPa (0.30 in. Hg) water vapor pressure with No.0 diesel fuel. The engine may be operated without changing the fuel setting up to 2500 m (8200ft.) altitude.



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### GENERAL ENGINE DATA

Approximate Engine Weight - Dry: .....	- kg	1195
Approximate Engine Weight - Wet: .....	- kg	1260
Engine Idle Speed: .....	- RPM	700
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 - 345

### AIR INTAKE SYSTEM

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	21
Maximum allowable static bending moment at exhaust outlet flange: .....	- N-m	27
Exhaust pipe size normally acceptable:.....	- mm	125

### FUEL SYSTEM

Maximum fuel supply restriction as OEM connection point at 1,800 RPM and No load with clean fuel filter element(s) at maximum fuel flow: .....	- kPa	13.5
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  
 Full-ON Fan engine coolant outlet temperature: ..... - °C 95  
 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 6  
 - Weight-Specific HC: ..... - g/kW.h 1  
 - Weight-Specific CO: ..... - g/kW.h 3.5  
 - Weight-Specific Particulates: ..... - g/kW.h 0.2

Gaseous Emissions per GB 20891-2007, at 1800rpm:

- Weight-Specific Nox: ..... - g/kW.h 6  
 - Weight-Specific HC: ..... - g/kW.h 1  
 - Weight-Specific CO: ..... - g/kW.h 3.5  
 - Weight-Specific Particulates: ..... - g/kW.h 0.2



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FR20287 @ 1500RPM & 1800RPM

Fuel Rating Option used for these Data: FR20287

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

Standby Power		Prime Power	
1500	1800	1500	1800
—	—	<b>400</b>	<b>408</b>
—	—	2547	2165
—	—	700	700
—	—	33	40
—	—	8.15	9.78
—	—	12	13
—	—	480	550
—	—	1085	1156
—	—	535	535
—	—	25	30
—	—	144	147
—	—	1.4	1.5
—	—	268	248
—	—	208	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.