

# **Dongfeng Cummins**

## **Technical**

### **Operations**



**ENGINE MODEL: 6CTAA8.3-G2**  
**CURVE & DATASHEET: FR92110**

REV 00 15APR2009



**Generator Engine Performance Data**

DONGFENG CUMMINS ENGINE Co.,LTD

Xiangfan, Hubei Province, China  
<http://www.dcec.com.cn>

Basic Engine Model:

**6CTAA8.3-G2**

**FR92110**

**FR92110 @ 1500 RPM &1800RPM**

**Configuration**  
**D413058GX03**

**CPL Code**  
**CPL: 1783**

**Revision**  
**2009-4-15**

Compression Ratio:	<b>18.0:1</b>	Aspiration:	<b>Turbocharged and Charge Air Cooled</b>
Bore:	<b>114 mm</b>	Displacement:	<b>8.3 L</b>
Stroke:	<b>135 mm</b>	No. of Cylinders:	<b>6</b>
Emission Certification:	<b>MEP STAGE I</b>	Fuel System:	<b>BYC P7100/GAC</b>
Governor Regulation:	<b>≤3%</b>		

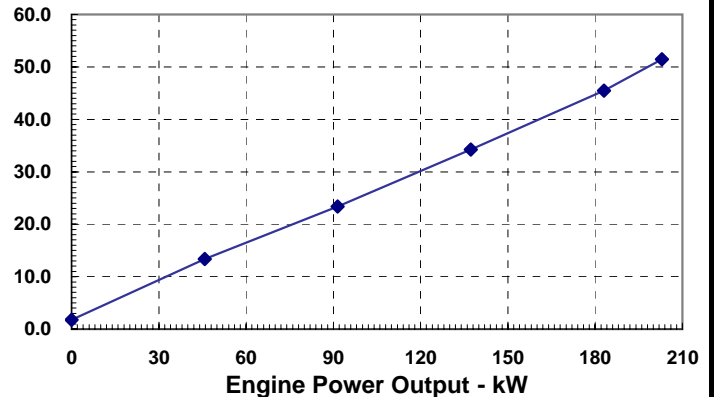
All data is based on the engine operating with fuel system, water pump, and 10 in H<sub>2</sub>O (2.488 kPa) inlet air restriction with 5.98 in (152mm) inner diameter, and with 2.01 in Hg (7 kPa) exhaust restriction with 4.02 in (102 mm) inner diameter; not included are alternator, fan, optional equipment and driven components. Coolant flows and heat rejection data based on coolants as 50% ethylene glycol/50% water. All data is subject to change without notice.

Engine Speed RPM	Standby Power		Prime Power		Continuous Power	
	kW	HP	kW	HP	kW	HP
1500	203	272	183	245	149	200
1800	210	281	190	255	TBD	TBD

**Engine Performance Data @ 1500 RPM**

OUTPUT POWER			FUEL CONSUMPTION	
%	kW	HP	g/kW.h	L/h
<b>STANDBY POWER</b>				
100	203	272	209	51
<b>PRIME POWER</b>				
100	183	245	205	45
75	137	184	206	34
50	92	123	211	23
25	46	61	241	13
<b>CONTINUOUS POWER</b>				
100	149	241	205	37

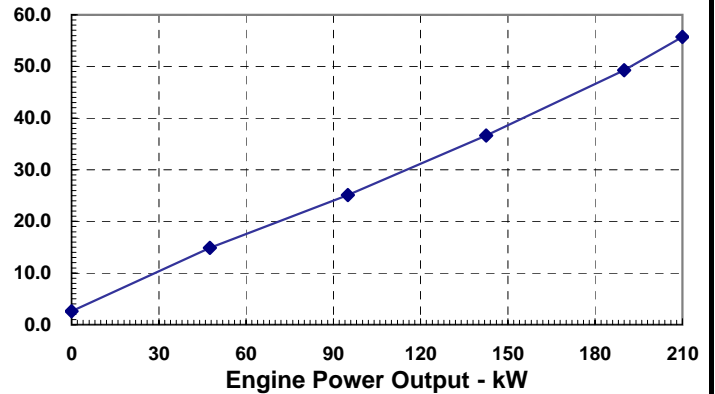
Litre/hour



**Engine Performance Data @ 1800 RPM**

OUTPUT POWER			FUEL CONSUMPTION	
%	kW	HP	g/kW.h	L/h
<b>STANDBY POWER</b>				
100	210	281	219	56
<b>PRIME POWER</b>				
100	190	255	214	49
75	143	191	212	37
50	95	127	218	25
25	48	64	258	15
<b>CONTINUOUS POWER</b>				
TBD	TBD	TBD	TBD	TBD

Litre/hour



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 2200 m ( 7218ft.) altitude.

**GENERAL ENGINE DATA**

Approximate Engine Weight (wet).....	-kg	684
Mass Moment of Inertia of Rotating Components (No Flywheel).....	-kg·m <sup>2</sup>	0.37
Center of Gravity from Rear Face of Block.....	-mm	541
Center of Gravity above Crankshaft Centerline.....	-mm	163
Engine Idle Speed.....	-RPM	700-900
Fire Order.....		1-5-3-6-2-4

**ENGINE MOUNTING**

Maximum (Static) Bending Moment at Rear Face of Block.....	-N.m	1356
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**EXHAUST SYSTEM**

Maximum Back Pressure.....	-kPa	10.1
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**AIR INTAKE SYSTEM**

Maximum Intake Air Restriction with Heavy Duty Air Cleaner		
— Dirty Element.....	-kPa	6.2
— Clean Element.....	-kPa	3.7

**CHARGE AIR COOLING SYSTEM**

Maximum Temp. Rise Between Engine Air Intake and Intake Manifold	-°C	25
Maximum Air Pressure Drop from Turbo Air outlet to Intake Manifold		
— 1500RPM.....	-kPa	8.5
— 1800RPM.....	-kPa	13.5
Maximum Intake Manifold Temperature Differential (Ambient to IMT) (IMTD).....	-°C	50
Maximum Intake Manifold Temperature for engine protection (Warning Threshold).....	-°C	93

**LUBRICATION SYSTEM**

Minimum Engine Oil Pressure for Engine Protection Devices:		
— Idle Speed.....	-kPa	103
— Governed Speed.....	-kPa	276-414
Maximum Oil Temperature.....	-°C	121
Minimum Required Lube System Capacity - Sump plus Filters.....	-litre	23.8

**FUEL SYSTEM**

Type Injection System.....		BYC P7100 Direct Injection
Maximum Restriction at Lift Pump.....	-kPa	20.3
Maximum Fuel Flow on the Supply Side of the Fuel Pump.....	-litre/hr	83
Maximum Fuel Inlet Temperature.....	-°C	70
Total Drain Flow (constant for all loads).....	-litre/hr	30

**COOLING SYSTEM**

Coolant Capacity - Engine Only.....	-litre	12.3
Maximum Coolant Friction Head External to Engine... -1800 rpm.....	-kPa	35
— -1500 rpm.....	-kPa	28
Maximum Static Head of Coolant Above Engine Crank Centerline.....	-m	18.3
Standard Thermostat (Modulating) Range.....	-°C	82 - 93
Minimum Pressure Cap.....	-kPa	103
Maximum Top Tank Temperature for Standby / Prime Power.....	-°C	110 / 104

**ELECTRICAL SYSTEM**

Cranking Motor (Heavy Duty, Positive Engagement).....	-volt	12V	24V
Battery Charging System, Negative Ground.....	-ampere	63	40
Maximum Allowable Resistance of Cranking Circuit.....	-ohm	0.00075	0.002
Minimum Recommended Battery Capacity			
—Cold Soak @ 0 to 32-F (-18 to 0-C).....	-0°F CCA	TBD	TBD

**EMISSIONS**

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

—Weight-Specific NOx.....	g/kW.h	9.2
—Weight-Specific HC.....	g/kW.h	1.3
—Weight-Specific CO.....	g/kW.h	5.0
—Weight-Specific Particulates.....	g/kW.h	0.5

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

—Weight-Specific NOx.....	g/kW.h	9.2
—Weight-Specific HC.....	g/kW.h	1.3
—Weight-Specific CO.....	g/kW.h	5.0
—Weight-Specific Particulates.....	g/kW.h	0.5

Fuel Rating Option used for these Data: **FR92110**

	STANDBY POWER		PRIME POWER		
	1800	1500	1800	1500	
Governed Engine Speed.....	-rpm	700 - 900	700 - 900	700 - 900	
Engine Idle Speed.....	-rpm	700 - 900	700 - 900	700 - 900	
Gross Engine Power Output.....	-kW	210	203	190	183
Piston Speed.....	-m/s	8.1	6.8	8.1	6.8
Friction Horsepower.....	-kW	22	17	22	17
Engine Water Flow to Engine:.....	-litre/sec.	4	3.3	4	3.3
Intake Air Flow.....	-litre/sec.	262	191	254	183
Exhaust Gas Flow.....	-litre/sec.	755	547	675	480
Exhaust Gas Temperature.....	-°C	585	580	520	510
Air to Fuel Ratio.....	-air:fuel	26.5 : 1	21.0 : 1	29.0 : 1	22.7 : 1
Radiated Heat to Ambient.....	-kW	33	26	29	24
Heat Rejection to Coolant.....	-kW	117	95	107	83
Heat Rejection to Fuel.....	-kW	180	139	157	123

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.