

# Dongfeng Cummins Technical Operations



ENGINE MODEL: 6BT5.9-G2  
CURVE & DATASHEET: FR92632  
FR93146  
FR92650

REV 00 15MAR2009



**Generator Engine Performance Data**

DONGFENG CUMMINS ENGINE Co.,LTD

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Basic Engine Model:

**6BT5.9-G2**

**FR92632**  
**FR93146**  
**FR92650**

**FR92632 @ 1500RPM**  
**FR93146 @ 1500RPM**  
**FR92650 @ 1500RPM**

**Configuration**  
**D402078GX02**

**CPL Code**  
**CPL: 3076**

**Revision**  
**2009-3-15**

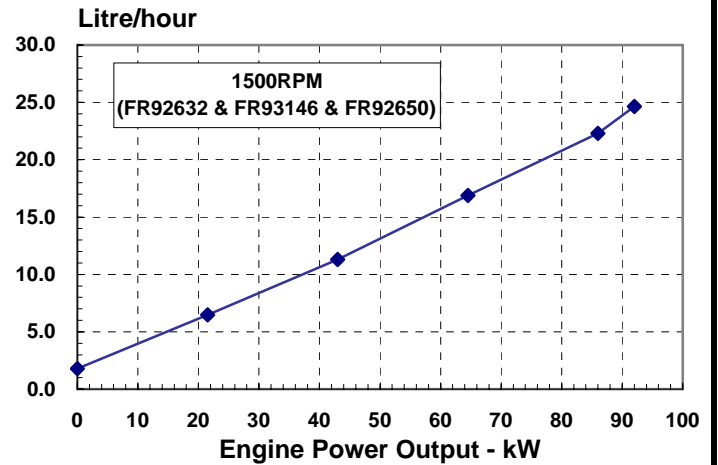
Compression Ratio:	<b>17.3:1</b>	Aspiration:	<b>Turbocharged</b>
Bore:	<b>102 mm</b>	Displacement:	<b>5.9 L</b>
Stroke:	<b>120 mm</b>	No. of Cylinders:	<b>6</b>
Governor Regulation:	<b>≤3%</b>	Fuel System:	<b>FR92632: BYC A/GAC 24V</b> <b>FR93146: BYC A/GAC 12V</b> <b>FR92650: BYC A/SEGMA</b>

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	Standby Power		Prime Power		Continuous Power		
	RPM	kW	HP	kW	HP	kW	HP
1500	92	123	86	115	TBD	TBD	

**Engine Performance Data @ 1500 RPM**

OUTPUT POWER			FUEL CONSUMPTION	
%	kW	HP	g/kW.h	L/h
<b>STANDBY POWER</b>				
100	92	123	221	25
<b>PRIME POWER</b>				
100	86	115	214	22
75	65	86	216	17
50	43	58	217	11
25	22	29	248	6
<b>CONTINUOUS POWER</b>				
TBD	TBD	TBD	TBD	TBD



**Engine Performance Data @ 1800 RPM**

**Not Available at 1800 RPM**

**Not Available at 1800 RPM**

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	411
Mass Moment of Inertia of Rotating Components (No Flywheel).....	-kg·m <sup>2</sup>	0.25
Center of Gravity from Rear Face of Block.....	-mm	544
Center of Gravity above Crankshaft Centerline.....	-mm	155
Crankshaft Thrust Bearing Load Limit		
—Maximum Intermittent.....	-N	3425
—Maximum Continuous.....	-N	1112

**ENGINE MOUNTING**

Maximum (Static) Bending Moment at Front Support Mounting Surface.....	-N.m	435
Maximum (Static) Bending Moment at Side Pad Mounting Surface.....	-N.m	TBD
Maximum (Static) Bending Moment at Rear Face of Block.....	-N.m	1356
Moment of Inertia of Complete Engine		
— Roll Axis.....	-kg·m <sup>2</sup>	16.5
— Pitch Axis.....	-kg·m <sup>2</sup>	41.1
— Yaw Axis.....	-kg·m <sup>2</sup>	35.4

**EXHAUST SYSTEM**

Maximum Back Pressure.....	-kPa	10
Exhaust Pipe Size Normally Acceptable.....	-mm	75
Maximum Static Supported Weight at the Turbocharger Outlet Flange.....	-N.m	13.5
Exhaust Manifold Insulation Acceptable.....	-Yes/No	No
Turbocharger Insulation Acceptable.....	-Yes/No	No

**AIR INTAKE SYSTEM**

Maximum Intake Air Restriction with Heavy Duty Air Cleaner		
— Dirty Element.....	-kPa	6
— Clean Element.....	-kPa	4
Minimum Dirt Holding Capacity with Heavy Duty Air Cleaner.....	-g/cfm	53
Maximum Temperature Rise from Ambient to the Inlet of the Turbocharger.....	-°C	17
Recommended intake piping size (inner diameter).....	-mm	76

**LUBRICATION SYSTEM**

Minimum Engine Oil Pressure for Engine Protection Devices:		
—Idle Speed.....	-kPa	207
—Governed Speed.....	-kPa	345
Maximum Oil Temperature.....	-°C	121
Oil Capacity with OP 9006 Oil Pan : High - Low.....	-litre	14.2 - 12.3
Minimum Required Lube System Capacity - Sump plus Filters.....	-litre	16.4
Angularity of Standard Oil Pan: (Values stated are for intermittent operation only):		
— Front Down.....	- °	40
— Front Up.....	- °	40
— Side to Side.....	- °	40

**FUEL SYSTEM**

Type Injection System.....		BYC A Direct Injection
Maximum Restriction at Lift Pump.....	-mmHg	102
Maximum Allowable Head on Injector Return Line (Consisting of Friction Head and Static Head)		
.....	-mmHg	508
Total Drain Flow (constant for all loads).....	-litre/hr	30

**COOLING SYSTEM**

Coolant Capacity - Engine Only.....	-litre	7.9
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	14
Standard Thermostat (Modulating) Range.....	-°C	82 - 95
Minimum Pressure Cap.....	-kPa	69
Maximum Top Tank Temperature for Standby / Prime Power.....	-°C	104 / 100

**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 @ 10 °F (-12 °C) and Above.....	-0°F CCA	800	400

Fuel Rating Option used for these Data: **FR92632, FR92650** and **FR93146**

Governed Engine Speed.....	-rpm
Engine Idle Speed.....	-rpm
Gross Engine Power Output.....	-kW
Piston Speed.....	-m/s
Friction Horsepower.....	-kW
Engine Water Flow to Engine:.....	-litre/sec.
Intake Air Flow.....	-litre/sec.
Exhaust Gas Flow.....	-litre/sec.
Exhaust Gas Temperature.....	-°C
Radiated Heat to Ambient.....	-kW
Heat Rejection to Coolant.....	-kW
Heat Rejection to Exhaust.....	-kW

STANDBY POWER		PRIME POWER	
1800	1500	1800	1500
<b>N/A</b>	950 - 1050	<b>N/A</b>	950 - 1050
	92		86
	6		6
	12.7		12.7
	2.0		2.0
	108		100
	280		250
	565		526
	21		19
	61		54
92	82		

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.