



DONGFENG CUMMINS ENGINE
PERFORMANCE CURVE

Engine Model
6BTA5.9-C180

Curve No.
FR91536

CPL Code
8541

Date
2006-7

Displacement: 5.9L

Bore: 102mm

Stroke: 120mm

Fuel System: Weifu PW/RSV

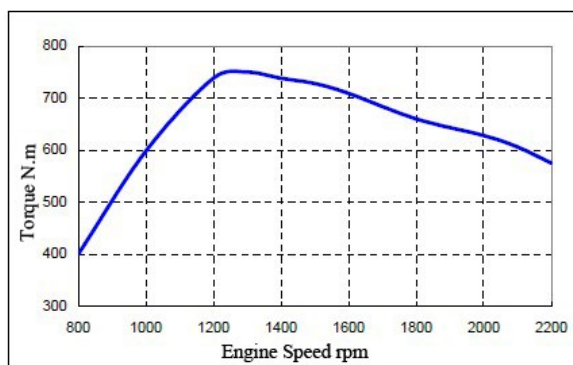
Cylinders: 6 Cylinders, in Line

Advertised Power: 132kW@2200 rpm

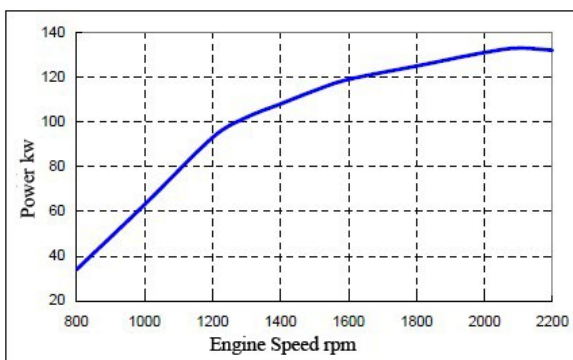
180HP@2200 rpm

Aspiration: Turbocharged & Inter-cooled

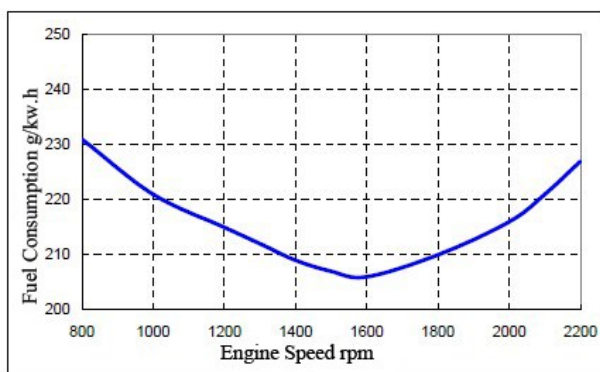
Rating Type: Continuous



rpm	Torque	N.m
800	400	
1000	598	
1200	738	
1300	750	
1400	738	
1500	728	
1600	709	
1800	660	
2000	628	
2100	606	
2200	575	



rpm	Power	kW
800	34	
1000	63	
1200	93	
1300	102	
1400	108	
1500	114	
1600	119	
1800	125	
2000	131	
2100	133	
2200	132	



rpm	Fuel Consumption	g/kw.h
800	231	
1000	221	
1200	215	
1300	212	
1400	209	
1500	207	
1600	206	
1800	210	
2000	216	
2100	221	
2200	227	

All performance data based on the standard status and GB/T18297 conditions.



Cummins Engine Co. Ltd

Diesel Engine for Engineering Performance Data

General Engine Data

Engine Wet Weight (Pricing Configuration).....	453 kg
Moment of Inertia of Rotating Components (No Flywheel).....	0.25 kg·m ²
Center of Gravity from Front Face of Block.....	391 mm
Center of Gravity above Crankshaft Centerline.....	140 mm
Crankshaft Thrust Bearing Load Limit	
—Maximum Intermittent.....	3425 N
—Maximum Continuous.....	1112 N

Engine Mounting

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

Exhaust System

Maximum Back Pressure.....	76 mmHg
Exhaust Pipe Size Normally Acceptable.....	75 mm
Maximum Static Supported Weight at the Turbocharger Outlet Flange.....	13.5 N·m
Exhaust Manifold Insulation Acceptable.....	N/A
Turbocharger Insulation Acceptable.....	N/A

Air Intake System

Maximum Intake Air Restriction with Heavy Duty Air Cleaner	
— Clean Element.....	381 mmH ₂ O
— Dirty Element.....	635 mmH ₂ O
Minimum Dirt Holding Capacity with Heavy Duty Air Cleaner.....	53 g/litre/sec.
Maximum Temperature Rise from Ambient to the Inlet of the Turbocharger.....	17 °C
Maximum Pressure Drop from the Turbocharger Outlet to the Intake Manifold.....	TBD kPa

Lubrication System

Normal Operating Oil Pressure Range.....	69 – 345 kPa
Maximum Lube Oil Flow for Engine Accessories.....	4.0 litre/min.
Maximum Sump Oil Temperature.....	127 °C
Minimum Engine Oil Pressure for Engine Protection Devices:	
— At Rated Speed and Load.....	276 kPa
— At Torque Peak Speed and Load.....	207 kPa
— At Low Idle.....	69 kPa

Minimum Required Lube System Capacity - Sump plus Filters.....	16.3 litre
By-pass Filtration Required.....	N/A
Angularity of Standard Oil Pan: (Values stated are for intermittent operation only):	
— Front Down.....	45 °
— Front Up.....	45°
— Side to Side.....	45°
Cooling System	
Coolant Capacity - Engine Only.....	10.4 L
Maximum Engine Cooling Circuit External Resistance.....	TBD
Minimum Pump Inlet Pressure with Open Thermostat and no Pressure Cap.....	TBD
Maximum Static Head of Coolant Above Engine Crankshaft Centerline.....	TBD
Standard (modulating) Thermostat Range.....	82-93 °C
Maximum Block Coolant Pressure with Closed Thermostat and no Pressure Cap.....	276 kPa
Minimum Pressure Cap.....	50 kPa
Maximum Engine Coolant Temperature at Engine Outlet.....	100°C
Maximum Engine Coolant Temperature for Engine Protection Devices.....	101.6°C
Minimum Engine Coolant Temperature.....	71°C
Minimum Fill Rate.....	19 litre/min
Maximum Initial Fill Time.....	5 min
Minimum Coolant Expansion Space.....	6% of System Capacity
Maximum Deaeration Time.....	25 min.
Minimum Drawdown.....	11% of Total System Capacity
(Drawdown Must Exceed the Volume Not Filled at Initial Fill & Must Not Include Expansion Space)	
Fan-on Engine Coolant Outlet Temperature.....	93°C
Shutter Opening Coolant Outlet Temperature.....	85°C
Shutter Opening Intake Manifold Air Temperature.....	65.6
Cranking System	
Maximum Fuel Flow on the Supply Side of the Fuel Pump.....	193 kg/hr
— with clean fuel filter.....	102 mmHg
— with dirty fuel filter.....	203 mmHg
Maximum Fuel Drain Restriction	
— with check valves.....	TBD
— less check valves.....	510mmHg
Maximum Fuel Inlet Temperature.....	71°C
Minimum Fuel Tank Air Venting Capability Required at 6 in. H2O Back Pressure.....	340 litre/hr
Low Idle Set Speed.....	800 rpm
Maximum Governed Speed (10% of Rated Torque)	2450 rpm
Maximum Over speed Capability.....	3750 rpm
Emission	
Estimated Free Field Sound Pressure Level At 15 m (50 ft.) and Full-Load Governed Speed (Excludes Noise from Intake, Exhaust, Cooling System and Driven Components)	
—Right Side.....	N/A

—Left Side..... N/A
 —Front..... N/A
 —Rear..... N/A

Fuel Rating Option used for these Data: FR91536

Engine Speed..... -rpm
 Gross Power Output..... -kW
 Torque..... -N.m
 Intake Manifold Pressure..... -kPa
 Motoring Friction Horsepower..... -kW
 Turbocharger Compressor Outlet Pressure..... -kPa
 Intake Air Flow..... -litre/sec
 Exhaust Gas Flow..... -litre/sec
 Exhaust Gas Temperature - Dry Stack..... -°C
 Heat Rejection to Ambient (Dry Manifold)..... -kW
 Heat Rejection to Coolant (Dry Manifold)..... -kW
 Heat Rejection to Fuel..... -kW
 Engine Coolant Flow..... -litre/sec
 External Cooling Circuit Resistanc..... - Kpa△P
 Altitude Limitations:
 —Intermittent..... -m
 —Continuous..... -m
 Steady State Smoke..... -Bosch

Rated Power	Max. Power Point	Peak Torque
2200		1300
132		102
575		750
115		105
15		9
125		110
210		133
440		285
500		530
TBD		TBD
72		55
0.5		0.3
2.6		2.0
20.7		20.7
N/A		N/A
3500		3500
3000		3000
1		1.5

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.