



DONGFENG CUMMINS ENGINE
PERFORMANCE CURVE

Engine Model
6BTA5.9-C175

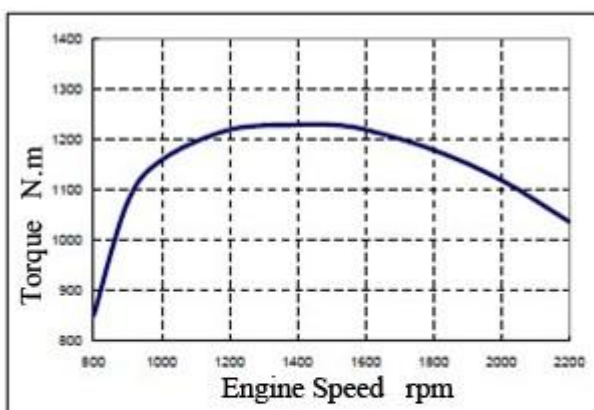
Curve No.
FR91535

CPL Code
8541

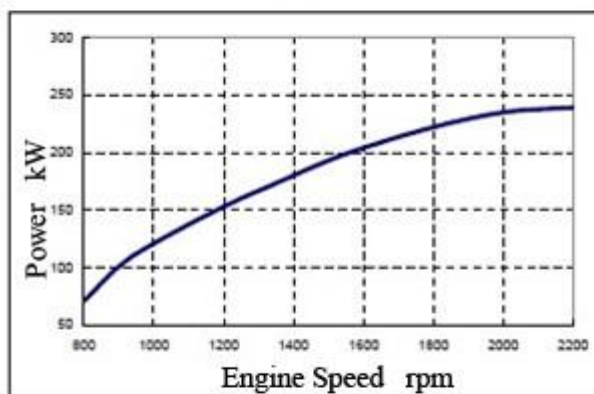
Date
2006-7

Displacement: 5.9L
Bore: 102mm
Stroke: 120mm
Fuel System: Weifu PW/RSV
Cylinders: 6 Cylinders, in Line

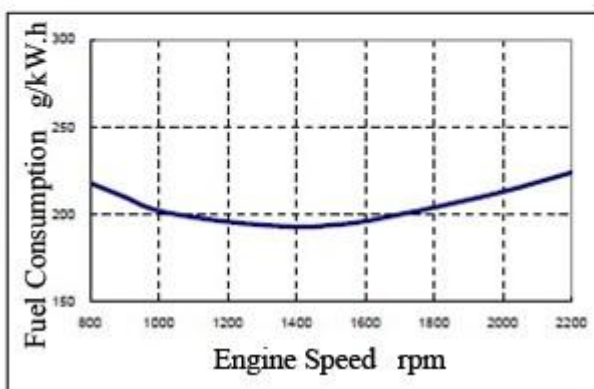
Advertised Power: 128kW@2100 rpm
175HP@2100 rpm
Peak Torque: 585N.m@2100 rpm
Aspiration: Turbocharged & Inter-cooled
Rating Type: Continuous



rpm	Torque N.m
800	850
900	1075
1000	1160
1200	1220
1400	1230
1500	1230
1600	1220
1800	1180
2000	1120
2200	1037



rpm	Power kW
800	71
900	101
1000	121
1200	153
1400	180
1500	193
1600	204
1800	222
2000	235
2200	239



rpm	Fuel Consumption g/kW.h
800	218
900	210
1000	202
1200	196
1400	193
1500	194
1600	196
1800	204
2000	213
2200	224

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 Dry 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.....	435N.m
Maximum (Static) Bending Moment at Side Pad Mounting Surface.....	TBD N.m
Maximum (Static) Bending Moment at Rear Face of Block.....	1356N.m
Moment of Inertia of Complete Engine	
— Roll Axis.....	16.5kg·m ²
— Pitch Axis.....	41.1 kg·m ²
— Yaw Axis.....	35.4 kg·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.....	13.5N·m
Exhaust Manifold Insulation Acceptable.....	No
Turbocharger Insulation Acceptable.....	No

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 – 345kPa
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.....	276kPa
— At Torque Peak Speed and Load.....	207kPa

— At Low Idle.....	69kPa
Minimum Required Lube System Capacity - Sump plus Filters.....	16.3litre
By-pass Filtration Required.....	No
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.....	276kPa
Minimum Pressure Cap.....	50kPa
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 of System Capacity.....	6%
Maximum Deaeration Time.....	25 min.
Minimum Drawdown of Total System Capacity.....	11%
(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°C
Fuel System	
Maximum Fuel Flow on the Supply Side of the Fuel Pump.....	193 kg/hr
Maximum Fuel Intake Restriction	
— with clean fuel filter.....	102 mmHg
— with dirty fuel filter.....	203 mmHg
Maximum Fuel Drain Restriction	
— with check valves.....	N/A
— less check valves.....	510mmHg
Maximum Fuel Inlet Temperature.....	71°C
Minimum Fuel Tank Air Venting Capability Required at 6 in. H2O Back Pressure.....	340 liter/hr
Low Idle Set Speed.....	800 rpm
Maximum Governed Speed (10% of Rated Torque)	2310 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: FR91535

	Rated Power	Max. Power Point	Peak Torque
Engine Speed..... -rpm	2100		1500
Gross Power Output..... -kW	128		107
Torque..... -N.m	585		680
Intake Manifold Pressure..... -kPa	120		110
Motoring Friction Horsepower..... -kW	16		9
Turbocharger Compressor Outlet Pressure..... -kPa	125		115
Intake Air Flow..... -litre/sec	225		120
Exhaust Gas Flow..... -litre/sec	510		245
Exhaust Gas Temperature - Dry Stack..... - °C	140		NO
Heat Rejection to Ambient (Dry Manifold)..... -kW	TBD		TBD
Heat Rejection to Coolant (Dry Manifold)..... -kW	78		50
Heat Rejection to Fuel..... -kW	0.5		0.3
Engine Coolant Flow..... -litre/sec	2.9		2.0
External Cooling Circuit Resistance..... - Kpa△P	20.7		20.7
Altitude Limitations:			
—Intermittent..... -m	3050		3050
—Continuous..... -m	TBD		TBD
Steady State Smoke..... -Bosch	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.