



DONGFENG CUMMINS ENGINE  
PERFORMANCE CURVE

Engine Model  
**EQB160-20**

Curve No.  
**FR91935**

CPL Code  
**40193**

Date  
**01-August**

Displacement: 5.9L

Bore: 102mm

Stroke: 120mm

Fuel System: Beijing Tianwei P7100 Pump

Cylinders: 6 Cylinders, in Line

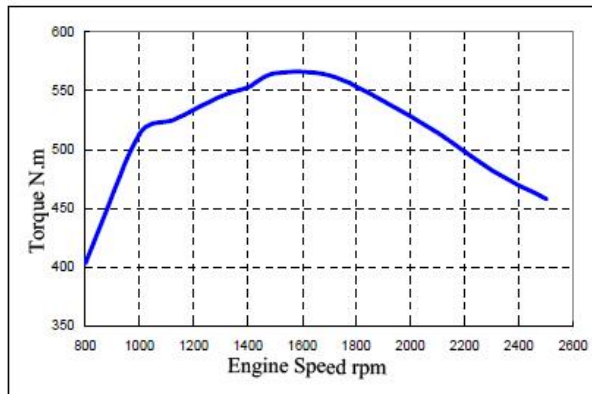
Advertised Power: 118kW@2500 rpm

160HP@2500 rpm

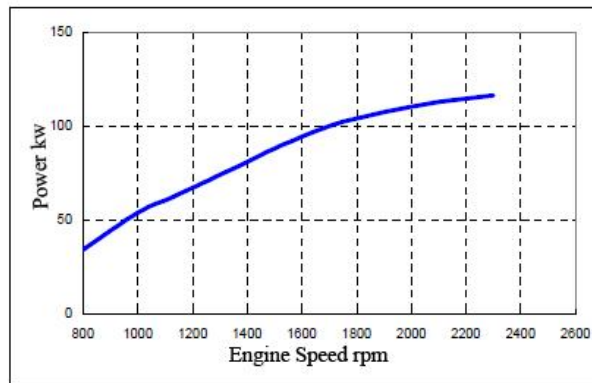
Peak Torque: 565N.m@1400-1600rpm

Aspiration: Turbocharged & Inter-cooled

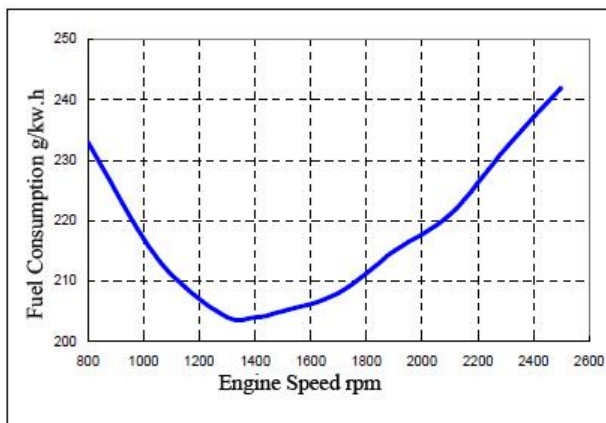
Rating Type: Continuous



Torque	
rpm	N.m
800	403
1000	513
1125	525
1300	545
1400	553
1500	565
1700	563
1900	541
2100	514
2300	482
2500	458



Power	
rpm	kW
800	34
1000	54
1125	62
1300	74
1400	81
1500	88
1700	100
1900	108
2100	113
2300	116
2500	122



Fuel Consumption	
rpm	g/kW.h
800	233
1000	217
1125	210
1300	204
1400	204
1500	205
1700	208
1900	215
2100	221
2300	232
2500	242

Performance data obtain under normal conditions, according to GB/T18297-2001 test conditions

# Cummins Engine Co. Ltd

Diesel Engine for Vehicle Performance Data

## Technical Request

Aspiration:	Turbocharged & Inter-cooled
Emission Certification	GB17691/GB14761
Net Weight(Dry)-Engine Only-Average:	413kg
Net Weight(Dry)-Engine with Heat Exchanger-Average	437kg
Compression Ratio:	17.3:1
Distance from Center of Gravity to the Front Engine Block	328mm
Distance from Center of Gravity to the Crankshaft Centerline	155mm
Maximum Bending Moment at Rear Face of Block	1356 N.m
Limit load of Thrust Bearing:	
Instantaneous maximum:	3781 N
Continuous maximum	1780 N
<b>Performance Characteristic</b>	
Idle Speed:	750±100rpm
Maximum non-load speed:	2750±50rpm
Over speed performance(within 15 seconds):	3750rpm
Maximum Altitude at Continuous Operation:	3000m
The clutch torque @ 800rpm:	380N.m
When install exhaust braking:	
The limit exhaust pressure of Turbocharger export @3100 rpm	614 kPa

Engine Speed (RPM)	Oil Pressure (kPa)	Air Flow (kg/min)	Air Pressurized		Exhaust Flow (kg/hr)	Exhaust Temperature (°C)	Fuel Consumption (kg/hr)	Heat Energy Loss	
			Flow (kg/min)	Pressure kPa				Coolant (KW)	Air (KW)
2500	400	14	15.0	110	869.5	526	29.2	50.2	30
1500	350	8.0	10.3	81	498	490	18.0	35	10

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All values within ±5%.

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Diesel Engine for Vehicle Performance Data

## LUBRICATION SYSTEM

Oil Sump Capacity:

Upper Limit: 14.3L

Lower Limit: 12.3L

Capacity of the whole system: 16.4 L

## AIR SYSTEM

Air intake maximum temperature rise from Outside to the Turbocharger 15°C

The allowable maximum restriction when use Dry Air Filter

Medium: kPa (mmH<sub>2</sub>O) 2.9(300)

Heavy: kPa (mmH<sub>2</sub>O) 3.7(380)

The allowable maximum restriction when use dirty Filter Element: kPa (mmH<sub>2</sub>O) 6.2(635)

## TURBOCHARGED & INTERCOOLED

Environment design parameters	Stage II	Stage III
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The highest temperature of intake manifold:	55°C	50°C
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Temperature after the cooling of the intercooler	25°C	20°C
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The maximum allowable cold pressure difference before and after the intercooler:	16.7(125) kPa(mmHg)	
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The allowable minimum diameter of the intake manifold:	65mm	
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## EXHAUST SYSTEM

The maximum exhaust resistance with exhaust manifold and muffler: kPa(mmHg)	10.0(75)
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The allowable minimum diameter of the exhaust manifold:	75mm
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The allowable maximum static bending moment of the Turbocharger exhaust flange	27N.m
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## FUEL SYSTEM

The maximum resistance of Fuel Pump when use clean filter	150mmHg
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Maximum fuel return oil resistance:	520mmHg
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## COOLING SYSTEM

Engine Coolant Capacity:	9.0 L
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The range of temperature adjustment for the Thermostat:	83-95 °C
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The maximum pressure of Coolant(without pressure cap and thermostat closed)	276kPa
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The highest coolant temperature (at engine exports):	100°C
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Maximum degassing time	25mins
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Maximum coolant flow to accessories	37 L/min
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The lowest coolant temperature	70°C
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Minimum speed of water-filling	19 l/min
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Minimum coolant expansion volume relative to the system capacity	6 %
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Water tank capacity without water expansion	5 L	
Minimum allows pressure of pressure cap:	50 kPa	
The alarm temperature of the coolant	100°C	
The open temperature of louver	N/A	
Cooling ability of cooling system:	Stage II	Stage III
The limit environmental temperature at rated speed	45 °C	42 °C
The limit environmental temperature at peak torque	40°C	37°C
<b>24V ELECTRICAL SYSTEM</b>		
Maximum resistance of starting circuit	0.002Ω	
The cold start current when engine and the clutch separate: CCA	12V 500	24V 250
<b>COLD STARTING SYSTEM</b>		
The lowest cold starting temperature without auxiliary starting device	-12°C @120rpm	
The lowest cold starting temperature with starting device	-35°C @ 110rpm	
<i>Cummins Engine Co. Ltd</i>		
<i>All data is subject to change without notice- contact Cummins for most recent data.</i>		