



DONGFENG CUMMINS ENGINE
PERFORMANCE CURVE

Engine Model
EQB190-20

Curve No.
FR91420

CPL Code
8555

Date
June

Displacement: 5.9L

Bore: 102mm

Stroke: 120mm

Fuel System: Boxu VE Pump

Cylinders: 6 Cylinders, in Line

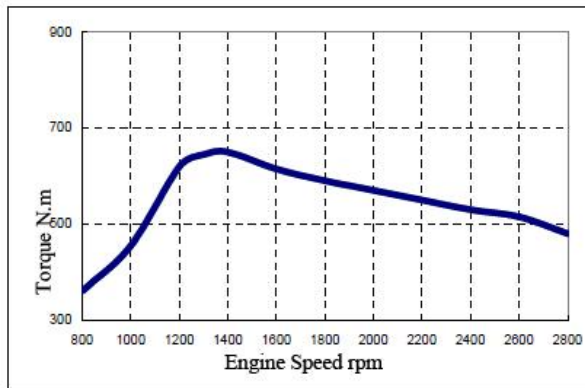
Advertised Power: 140kW@2800 rpm

190HP@2800 rpm

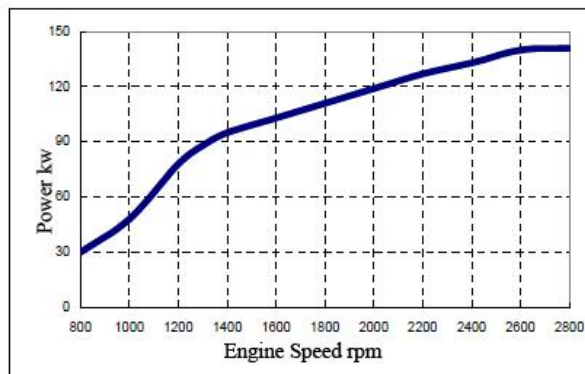
Peak Torque: 650N.m@1400 rpm

Aspiration: Turbocharged & Inter-cooled

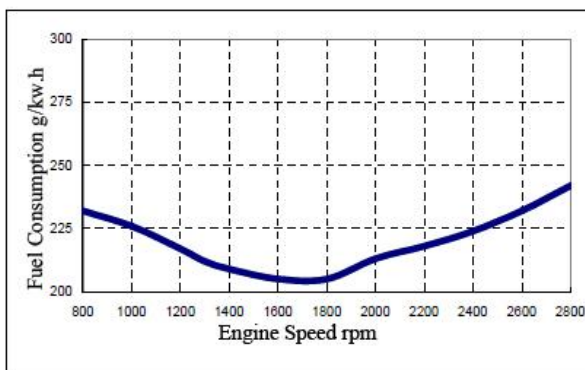
Rating Type: Continuous



rpm	Torque	N.m
800		360
1000		455
1200		620
1300		645
1400		650
1600		615
1800		590
2000		570
2200		550
2400		530
2600		515
2800		480



rpm	Power	kW
800		30
1000		48
1200		78
1300		88
1400		95
1600		103
1800		111
2000		119
2200		127
2400		133
2600		140
2800		141



rpm	Fuel Consumption	g/kW.h
800		232
1000		226
1200		217
1300		212
1400		209
1600		205
1800		205
2000		213
2200		218
2400		224
2600		232
2800		242

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

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Diesel Engine for Vehicle Performance Data

Technical Request

Aspiration:	Turbocharged & Inter-cooled
Emission Certification	GB17691/GB14761
Net Weight(Dry)-Engine Only-Average:	407kg
Net Weight(Dry)-Engine with Heat Exchanger-Average	431kg
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
Instantaneous inertia at Rotating: (without Flywheel)	0.25kg.m ²

Performance Characteristic

Idle Speed:	750rpm
Maximum non-load speed:	3100rpm
Over speed performance(within 15 seconds):	4200rpm
Maximum Altitude at Continuous Operation:	3000m
The clutch torque @ 800rpm:	360N.m
When install exhaust braking:	
The limit exhaust pressure of Turbocharger export @3150 rpm	414 kPa
Maximum power of Exhaust brake	112kw

Engine Speed (RPM)	Oil Pressure (kPa)	Air Flow (m ³ /min)	Air Pressurized		Exhaust Flow (m ³ /min)	Exhaust Temperature (°C)	Fuel Consumption (l/hr)	Heat Energy Loss	
			Flow (kg/min)	Pressure kPa				Coolant (KW)	Air (KW)
2800	400	17.5	20	150	49	520	41	79	35
1400	350	9.5	11	110	27	480	23.9	49	17

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All values within $\pm 5\%$.

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Diesel Engine for Vehicle Performance Data

LUBRICATION SYSTEM

Oil Sump Capacity:

Upper Limit: 14.2L

Lower Limit: 12.4L

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 (mmH₂O) 2.9(300)

Heavy: kPa (mmH₂O) 3.7(380)

The allowable maximum restriction when use dirty Filter Element: kPa (mmH₂O) 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:	75mm	
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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	41 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
24V ELECTRICAL SYSTEM		
Maximum resistance of starting circuit	0.002Ω	
The cold start current when engine and the clutch separate: CCA	12V 500	24V 250
COLD STARTING SYSTEM		
The lowest cold starting temperature without auxiliary starting device	-10°C @120rpm	
The lowest cold starting temperature with starting device	-25°C @110rpm	
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<i>All data is subject to change without notice- contact Cummins for most recent data.</i>		