



DONGFENG CUMMINS ENGINE  
PERFORMANCE CURVE

Engine Model  
**C300-20**

Curve No.  
**FR91263**

CPL Code  
**0883**

Date  
**15-June**

Displacement:8.3L

Bore: 114mm

Stroke: 135mm

Fuel System: BOSCH P7100PUMP

Cylinders:6 Cylinders, in Line

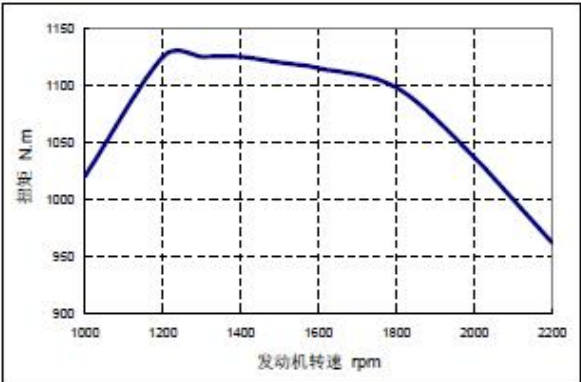
Advertised Power: 221kW@2200 rpm

300HP@2200 rpm

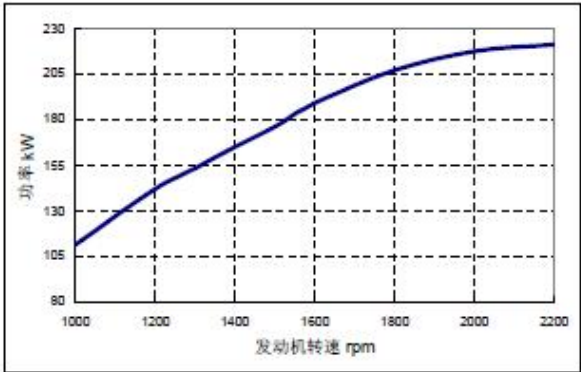
Peak Torque: 1125N.m@1200 rpm

Aspiration: Turbocharged & Air-Air Inter-cooled

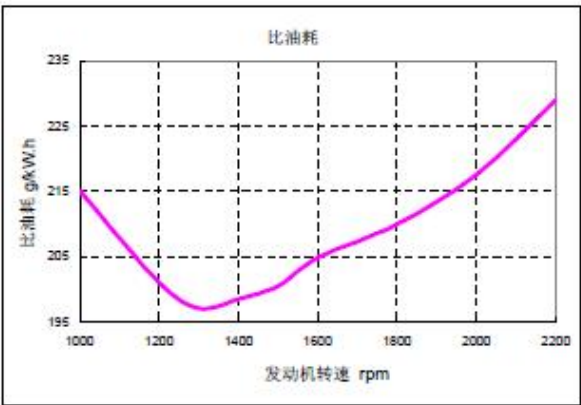
Rating Type: Continuous



扭矩	
rpm	N.m
1000	1020
1200	1125
1300	1125
1400	1125
1500	1120
1600	1115
1800	1098
2000	1037
2200	982



功率	
rpm	kW
1000	111
1200	142
1300	153
1400	165
1500	176
1600	189
1800	207
2000	217
2200	221



比油耗	
rpm	g/kW.h
1000	215
1200	201
1300	197
1400	199
1500	201
1600	205
1800	210
2000	218
2200	229

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 & air to air Inter-cooled
Emission Certification	GB17691/GB14761
Net Weight(Dry)-Engine Only-Average:	636kg
Net Weight(Dry)-Engine with Heat Exchanger-Average	665kg
Compression Ratio:	17.5:1
Distance from Center of Gravity to the Front Engine Block	427mm
Distance from Center of Gravity to the Crankshaft Centerline	163mm
Maximum Bending Moment at Rear Face of Block	1356 N.m
Limit load of Thrust Bearing:	
Instantaneous maximum:	4890 N
Continuous maximum	2670N

## Performance Characteristic

Idle Speed:	750 ± 100rpm
Maximum non-load speed:	2500rpm
Over speed performance(within 15 seconds):	3500rpm
Maximum Altitude at Continuous Operation:	2000m
The clutch torque @ 800rpm:	660N.m
When install exhaust braking:	
The limit exhaust pressure of Turbocharger export @3150 rpm	450 kPa
Maximum power of Exhaust brake	114kw

Engine Speed (RPM)	Oil Pressure (kPa)	Air Flow (m3/min)	Air Pressurized		Exhaust Flow (m3/min)	Exhaust Temperature (°C)	Fuel Consumption (l/hr)	Heat Energy Loss	
			Flow (kg/min)	Pressure kPa				Coolant (KW)	Air (KW)
2200	370	21.3	24.9	195	50.1	535	61.6	105.0	63.0
1400	250	11.6	13.6	130	31.7	550	40	66.0	26.0

Engine Model: C300 20

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All values within ±5%.

# Cummins Engine Co. Ltd

Diesel Engine for Vehicle Performance Data

## LUBRICATION SYSTEM

Oil Sump Capacity:

Upper Limit: 19.0L

Lower Limit: 15.2L

Capacity of the whole system: 23.6 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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## 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:	12.3 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)	280kPa
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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	56 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	6 L
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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 510	24V 250

#### **COLD STARTING SYSTEM**

The lowest cold starting temperature without auxiliary starting device	-12°C @120rpm
The lowest cold starting temperature with starting device	-35°C@ 180rpm

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*All data is subject to change without notice- contact Cummins for most recent data.*