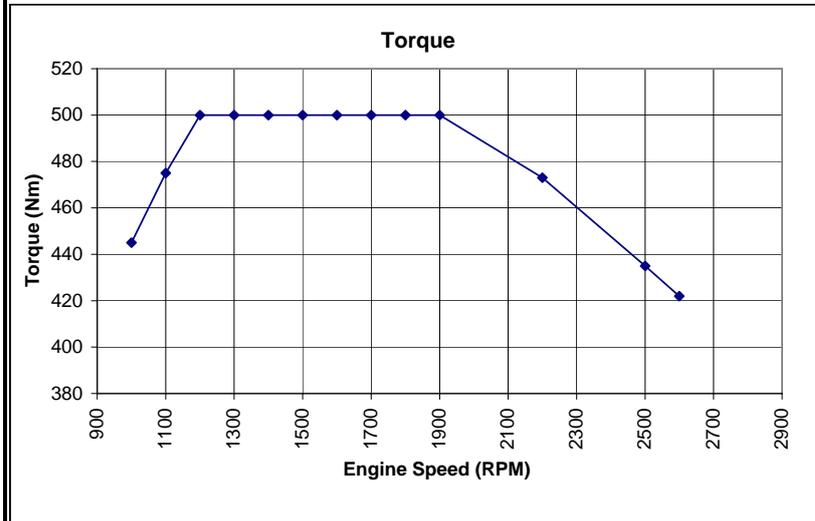
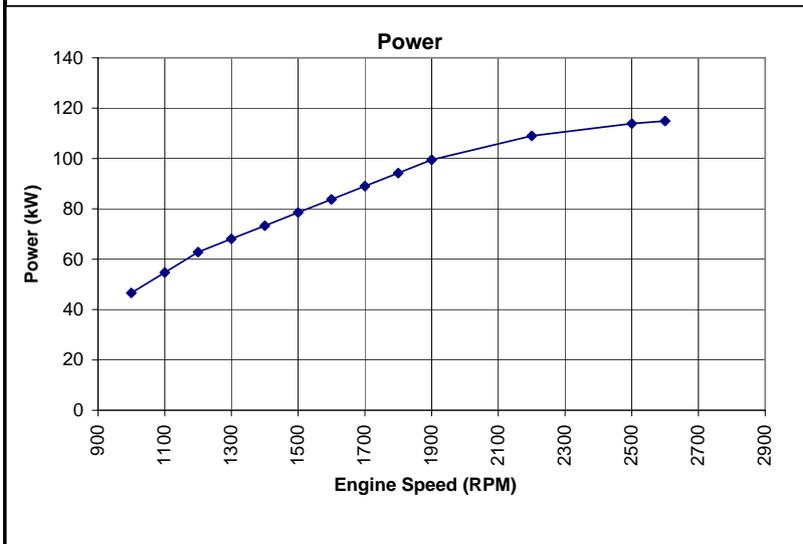


Engine Performance Curve Cummins Ltd Yarm Road, Darlington <a href="http://www.cummins.com">http://www.cummins.com</a>	<b>ISF3.8s3154</b> 	156PS@2600rpm 500Nm@1200-1900rpm	Automotive
		Curve Number <b>FR91911</b> CPL code <b>42083</b> Date <b>05-Mar-09</b>	Page <b>1</b>

Compression Ratio <b>17.2:1</b> Fuel System <b>Bosch Electronic</b> Cylinders <b>4</b> Bore <b>102 mm</b> Stroke <b>115 mm</b>	Engine Configuration <b>D0F3002BX03</b> Emission Certification <b>China Stage 3</b> Aspiration <b>Turbocharged and Charge Air Cooled</b> Displacement <b>3.76L</b> Status
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RPM	Nm
1000	445
1100	475
1200	500
1300	500
1400	500
1500	500
1600	500
1700	500
1800	500
1900	500
2200	473
2500	435
2600	422



RPM	kW
1000	47
1100	55
1200	63
1300	68
1400	73
1500	79
1600	84
1700	89
1800	94
1900	99
2200	109
2500	114
2600	115

Performance data shown is nominal and is to 80/1269/EEC (as amended) conditions of 990 mbar barometric pressure and 25 deg C air intake temperature. All data is based on the engine operating with fuel system, water pump, lubricating oil pump with inlet and exhaust restriction at or below Datasheet limits. Not included are air compressor, fan and alternator.

Customer Engineering  
Chris Nash

Certified within 5%

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Engine Performance Curve Cummins Ltd Yarm Road, Darlington http://www.cummins.com	<b>ISF3.8s3154</b> 	<b>156PS@2600rpm</b>	Automotive
		<b>500Nm@1200-1900rpm</b>	
		Curve Number <b>FR91911</b>	Page <b>2</b>
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Compression Ratio	<b>17.2:1</b>	Engine Configuration	<b>D0F3002BX03</b>
Fuel System	<b>Bosch Electronic</b>	Emission Certification	<b>China Stage 3</b>
Cylinders	<b>4</b>	Aspiration	<b>Turbocharged and Charge Air Cooled</b>
Bore	<b>102 mm</b>	Displacement	<b>3.76L</b>
Stroke	<b>115 mm</b>	Status	<b>0</b>

**General Performance Data**

Maximum low idle speed	<b>800 RPM</b>
Minimum low idle speed	<b>700 RPM</b>
Nominal no load governed speed	<b>2,950 RPM</b>
Maximum overspeed capability (15 sec)	<b>3,750 RPM</b>
Clutch engagement torque at 800rpm	<b>310 Nm</b>
Maximum altitude for continuous operation without derate	<b>2772 m</b>

**Air Induction System**

Maximum temperature rise between ambient air and engine air inlet	<b>15 delta deg C</b>
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**Exhaust System**

Maximum back pressure imposed by complete exhaust system	<b>10 kPa</b>
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**Cooling System**

Maximum coolant temperature (engine out) using a 100kPa Pressure cap	<b>110 deg C</b>
Maximum coolant pressure (exclusive of pressure cap; closed thermostat at maximum no load speed)	<b>310 kPa</b>
Maximum temperature rise between ambient air and intake manifold	<b>30 deg C</b>
Maximum allowable pressure drop across charge air cooler and OEM CAC piping (CACDP)	<b>13.5 kPa</b>
Maximum coolant temperature for engine protection controls	<b>113 deg C</b>
Maximum coolant flow to accessories	<b>20 L/minute</b>
Refer to AEB 21.52 for territory related cooling standard	

**Maximum Rating Performance Data**

Parameter	Govered Speed	Cooling Checkpoint	Peak Torque
Engine speed	<b>2,600 RPM</b>	<b>2,300 RPM</b>	<b>1,500 RPM</b>
Output power	<b>115 kW</b>	<b>110 kW</b>	<b>87 kW</b>
Torque	<b>422 Nm</b>	<b>458 Nm</b>	<b>500 Nm</b>
Inlet air flow	<b>157 L/s</b>	<b>148 L/s</b>	<b>97 L/s</b>
Charge air flow	<b>11.5 kg/minute</b>	<b>10.9 kg/minute</b>	<b>7.0 kg/minute</b>
Exhaust Gas Flow	<b>390 L/s</b>	<b>395 L/s</b>	<b>208 L/s</b>
Exhaust gas temperature	<b>472 deg C</b>	<b>525 deg C</b>	<b>468 deg C</b>
Heat Rejection to coolant	<b>59 kW</b>	<b>59 kW</b>	<b>42 kW</b>
Radiator coolant flow*	<b>190 L/min</b>	<b>168 L/min</b>	<b>110 L/min</b>
Heat Rejection to charge air cooler**	<b>21 kW</b>	<b>22 kW</b>	<b>15 kW</b>
Turbo Comp. Outlet Pressure	<b>158 kPa</b>	<b>169 kPa</b>	<b>149 kPa</b>
Turbo Comp. Outlet Temperature	<b>162 deg C</b>	<b>170 deg C</b>	<b>162 deg C</b>
Fuel Consumption	<b>24.8 kg/hr</b>	<b>25.0 kg/hr</b>	<b>16.6 kg/hr</b>
Brake Mean Effective Pressure	<b>1,390 kPa</b>	<b>1,520 kPa</b>	<b>1,652 kPa</b>

\*Radiator coolant flow is approximately 5% less with a continuously deairating system.

Coolant: 50/50 Ethylene Glycol/Water by volume.

Values are within +/-5%

\*\*Heat rejection to charge air cooler is at standard engine test conditions of 25degC turbo air inlet temperature

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