



Cummins Techical Operations

Engine Model: 4BTA3.9-C125
Curve and Datasheet: FR91926



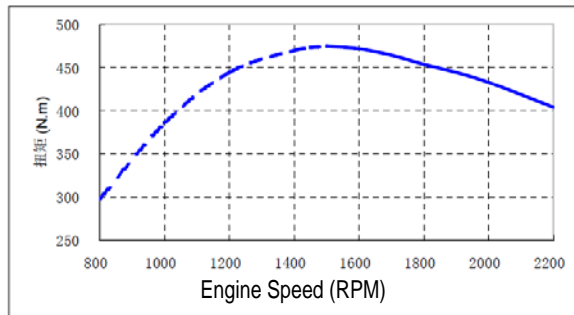
Engine Performance Curve

Engine Model: 4BTA3.9-C125 CPL: 0760 Curve Number: FR91926
 Engine Family: D38 Date: 2005-11

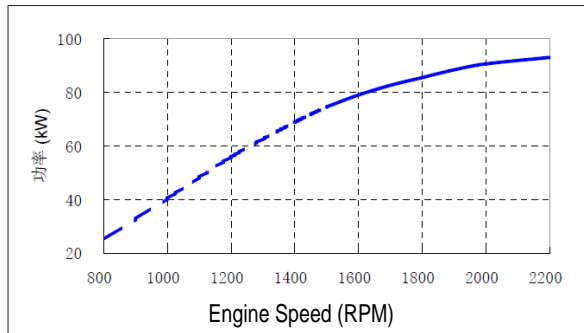
Displacement: 3.9 L Aspiration: Turbocharged & Air cold water
 Bore: 102 mm kW (BHP) @ RPM
 Stroke: 120 mm No. of Cylinders:4 93(125) 2200
 Fuel system: WEIFU PW2000 Pump/RQV-K Governor

All data are based on the engine operating with fuel system, water pump, lubricating oil pump, and 250 mm H₂O (10 in. H₂O) inlet air restriction and with 50 mm Hg (2.0 in. Hg) exhaust restriction; not included are alternator, fan, optional equipment and driven components.

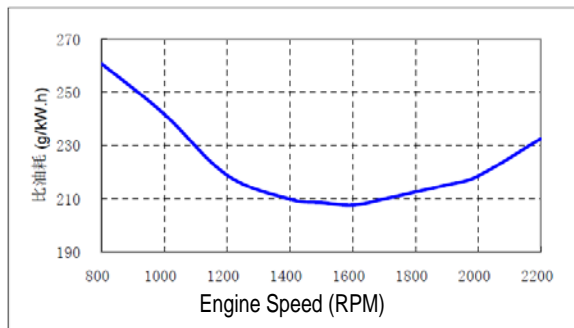
Performance curve



TORQUE	
RPM	N.m
800	298
1000	386
1200	445
1400	470
1500	475
1600	472
1700	465
1800	454
1900	445
2000	433
2200	404



POWER OUTPUT	
RPM	kW
800	25
1000	40
1200	56
1400	69
1500	75
1600	79
1700	83
1800	86
1900	88
2000	91
2200	93



FUEL CONSUMPTION	
RPM	g/kWh
800	261
1000	242
1200	219
1400	210
1500	208
1600	208
1700	210
1800	212
1900	215
2000	218
2200	233

All performance data based on the standard status and GB/T18297 conditions.



Base Engine Data Sheet

COOLING SYSTEM

Coolant Capacity - Engine Only.....	-litre	8.3
Maximum Engine Cooling Circuit External Resistance.....	-kPa	TBD
Minimum Pump Inlet Pressure with Open Thermostat and no Pressure Cap.....	-mmHg	TBD
Maximum Static Head of Coolant Above Engine Crankshaft Centerline.....	-m	TBD
Standard (modulating) Thermostat Range.....	-°C	82-93
Maximum Block Coolant Pressure with Closed Thermostat and no Pressure Cap.....	-kPa	TBD
Minimum Pressure Cap.....	-kPa	50
Maximum Engine Coolant Temperature at Engine Outlet.....	-°C	100
Maximum Engine Coolant Temperature for Engine Protection Devices.....	-°C	101.6
Minimum Engine Coolant Temperature.....	-°C	71
Minimum Fill Rate.....	-litre/min.	19
Maximum Initial Fill Time.....	-min.	5
Minimum Coolant Expansion Space.....	- %of System Capacity	6
Maximum Deaeration Time.....	-min	25
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.....	-°C	93
Shutter Opening Coolant Outlet Temperature.....	-°C	85
Shutter Opening Intake Manifold Air Temperature.....	-°C	N/A

CRANKING SYSTEM

12V 24V

Minimum Battery Capacity - Cold Soak at 0°F (-18°C) or Above		
— Engine Only - Cold Cranking Amperes.....	-CCA	800 400
— Engine Only - Reserve Capacity.....	-min	160 80
Maximum Starting Circuit Voltage Drop @ ----Amperes.....	-Volts	TBD
Minimum Ambient Temperature for Unaided Cold Start.....	-°C(-°F)	0 (32)
Minimum Cranking Speed Required for Unaided Cold Start.....	-rpm	125
Breakaway Torque at Minimum Unaided Start Temperature.....	-N.m(lb.-ft.)	TBD
Cranking Torque at Minimum Unaided Start Temperature.....	-N.m(lb.-ft.)	TBD
Cranking Torque at -10°F.....	-N.m(lb.-ft.)	TBD

FUEL SYSTEM

Maximum Fuel Flow on the Supply Side of the Fuel Pump.....	-litre/hr	193
Maximum Fuel Inlet Restriction— with clean fuel filter.....	-mmHg	102
Maximum Fuel Inlet Restriction — with dirty fuel filter.....	-mmHg	203
Maximum Fuel Drain Restriction— with check valves.....	-mmHg	N/A
Maximum Fuel Drain Restriction— less check valves.....	-mmHg	510
Maximum Fuel Inlet Temperature.....	-°C	71
Minimum Fuel Tank Air Venting Capability Required at 6 in. H ₂ O Back Pressure.....	litre/hr	340



Base Engine Data Sheet

Low Idle Set Speed.....	-rpm	950
Maximum Governed Speed (10% of Rated Torque)	-rpm	2457
Maximum Overspeed Capability.....	-rpm	3750
Maximum altitude limit restriction—Continuous.....	-m	2255
Closed Throttle Torque @ 700 rpm (for 900 rpm Low Idle Speed).....	-N.m	217
Throttle Angle		
—High Idle.....	-°C	TBD
—Low Idle.....	-°C	TBD

EMISSIONS:

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.....	-dBa	TBD
—Left Side.....	-dBa	TBD
—Front.....	-dBa	TBD
—Rear.....	-dBa	TBD
Gaseous Emissions per ISO 8178:—Weight-Specific NOx.....	g/kW.h	TBD
Gaseous Emissions per ISO 8178: —Weight-Specific HC.....	g/kW.h	TBD
Gaseous Emissions per ISO 8178: —Weight-Specific HC.....	g/kW.h	TBD
Gaseous Emissions per ISO 8178: —Weight-Specific Particulates.....	g/kW.h	TBD

Fuel Rating Option used for these Data: FR91926

Engine Speed.....	-rpm
Gross Power Output.....	-kW
Torque.....	-N. m
Intake Manifold Pressure.....	-kPa
Motoring Friction Horsepower.....	-kW
Turbocharger Compressor Outlet Pressure.....	-kPa
Intake Air Flow.....	-litre/sec.
Exhaust Gas Flow.....	-litre/sec
Exhaust Gas Temperature - Dry Stack.....	-°C
Heat Rejection to Ambient (Dry Manifold).....	-kW
Heat Rejection to Fuel.....	-kW
Engine Coolant Flow.....	-litre/sec.
External Cooling Circuit Resistance.....	KpaΔP
Altitude Limitations:	
—Intermittent.....	-m
—Continuous.....	-m
Steady State Smoke.....	-Bosch

RATED POWER		PEAK TORQUE
2200		1500
93		75
404		475
133		112
137		115
104		71
315		210
560		520
10.3		10.5
59.2		43.5
0.5		0.2
3.1		1.8
20.7		20.7
3048		3048
2255		2255
1.0		0.8