

GTA8.3SLB

Gas Compression Applications



Wellhead compression applications require reliability and durability not found in every natural gas engine. For dependable operations and world class support, you need the Cummins GTA8.3SLB high-performance natural gas engine that shares the proven heritage of the Cummins C Series diesel engines and many of the same heavy-duty components. You can depend on the GTA8.3SLB to keep maintenance costs down and the gas flowing. Every day.

General Specifications

Inline 6-cylinder, 4-Cycle, Natural Gas

Bore	4.49 in (114 mm)
Stroke	5.32 in (135 mm)
Displacement	8.3 L (505 cubic in)
Engine Power*	175 hp (131 kW)
Compression Ratio	8.5:1
Aspiration	Turbocharged and aftercooled
Exhaust Type	Dry manifold
Weight**	1650 lb (748 kg)
Coolant Capacity	2.9 gal (10.9 L)
Lube Oil Capacity	6.5 gal (32.0 L)
Rotation	Counterclockwise

* Rating dependent

** Weight is approximate and varies with options.

This engine emits 2.0 gr/hp-hr NOx, 4.0 gr/hp-hr CO, 1.0 gr/hp-hr VOC. This engine does not meet the revised EPA SI NSPS requirements for non-emergency engines and is offered only for use outside the U.S.

Features

Designed for the oil and gas market, the GTA8.3SLB delivers exceptional dependability and low cost of operation.

Base Engine – Most major components, including block, crank, cam, gears and liners are common with the proven C series diesel.

Emissions – Lean burn combustion engine capable of 2 gr/hp-hr. Engine for export only.

Air/Fuel Ratio Control – Oxygen sensor-based air/fuel ratio control maintains emissions rate and fuel consumption. Display shows O₂, control valve position and fault codes and provides for user input.

Air Handling – Turbocharged and aftercooled design delivers reliable performance and life.

Fuel System – Impco® carburetor provides stable operation and fuel tracking through all load ranges.

Speed Control – ECM based speed control and an integral throttle body and actuator provides precise and stable rpm control under all load conditions.

Ignition System – Cummins Programmable Control Ignition Module provides precision control by cylinder and optimal spark-voltage output for superior combustion control.

Lubrication System – High-capacity oil pan and combination full-flow and bypass oil filter reduce maintenance costs and extend service intervals.

Commonality – All electronic Cummins gas compression engines utilize common AFR control components and strategy to minimize parts and maximize technician effectiveness.

Warranty – Cummins one year, unlimited hours. Backed by a worldwide distributor network.

Rating Details.

Model	Curve Number	Rating	NOx / CO / VOC (g/hp-hr) (1)	Combustion	Emissions
GTA8.3SLB	FR-92280	175 hp @ 1800 rpm	2.0 / 4.0 / 1.0	Lean Burn	Export Only

(1) Engine out emissions

Standard Equipment.

Air Inlet System

- Factory installed heavy duty air cleaner

Cooling System

- Two pump / two loop cooling system
- Gear driven jacket water pump
- Gear driven auxiliary coolant pump
- Coolant filter for added corrosion protection
- Thermostat controlled jacket water circuit

Exhaust System

- Tuned dry manifold for optimal exhaust flow

Fuel System

- Impco® carburetor
- Fuel Regulator
- Cummins proprietary air fuel ratio control with optimized control algorithm
- Full authority Air Fuel Ratio (AFR) fuel control valve

Speed Control System

- Electronic Governor

Digital Display

- AFR system status
- Engine fault codes with history
- Warning and shutdown information
- User interface eliminates need for a laptop for engine adjustment or commissioning

Lube Oil System

- Crankcase breather
- High capacity oil pan for extended oil drain intervals
- Combination full flow and bypass oil filter

Safety Shutoff Protection

- Intake manifold temperature
- Low oil pressure
- Overspeed

Mounting Arrangement

- Four point mounting
- Lift provisions on engine

Flywheels and Flywheel Housings

- Flywheel SAE #3
- Flywheel housing – SAE #3 Cast-iron, machined to accommodate starter mounting
- SAE #2 and SAE #1 FW/FH options available

Electrical System

- 24-volt alternator

Starting System

- 24-volt starter

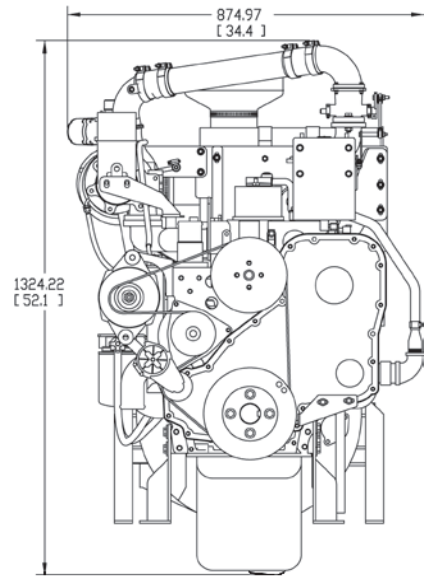
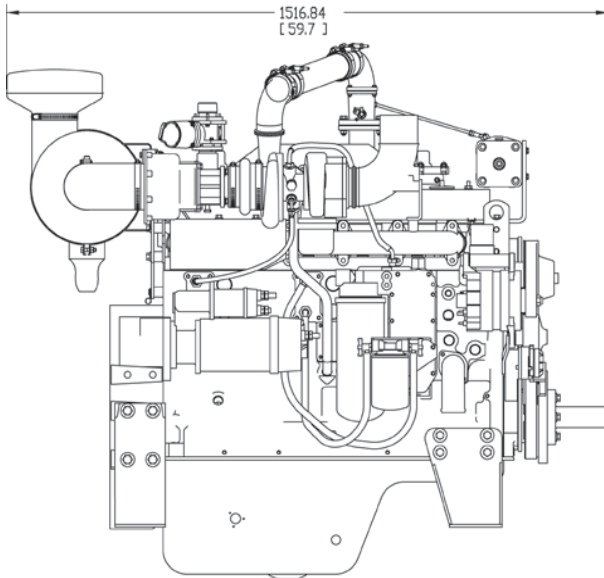
Power Take-Off

- Front crankshaft pulley
- Front stub shaft optional

Engine Technical Data.

Model		GTA8.3SLB
Curve Number		FR-92280 (2)
Exhaust Type		Dry Manifold
Output Power		
100%	HP (kW)	175 (130)
75%	HP (kW)	131 (98)
Engine Speed		
100%	RPM	1800
Max Turn Down	RPM	1350
Aftercooler Water Inlet Temperature		
	°F (°C)	130 (54.4)
Compression Ratio		8.5:1
Emissions Data – Engine-Out Emissions		
NOx	g/hp-hr (g/kW-hr)	2.0 (2.68)
CO	g/hp-hr (g/kW-hr)	4.0 (5.36)
NMHC	g/hp-hr	1.0
THC	g/hp-hr	2.51
Fuel Consumption		
100%	BTU/hp-hr (MJ/kW-hr)	8150 (12)
75%	BTU/hp-hr (MJ/kW-hr)	8600 (12)
Heat Rejection		
Jacket Water	BTU/min (kW)	4700 (83)
Aftercooler	BTU/min (kW)	1346 (24)
Exhaust	BTU/min (kW)	8118 (143)
Exhaust System		
Flow Rate	ft ³ /min (L/s)	947 (447)
Stack Temp	°F (°C)	1359 (737)
Max Back Pres.	in-Hg	2
Intake System		
Flow Rate	ft ³ /min (L/s)	443 (209)
Max Restriction	in-H ₂ O	15
Gas Pressure		
Min - Max	psi	7-25

General Dimensions.



Dimensions*		
Length	Inches (mm)	59.7 (1516)
Width	Inches (mm)	34.4 (875)
Height	Inches (mm)	52.1 (1324)

* Dimensions are approximate and vary with options.

Disclaimers.

(2) All data is based on the engine operating with fuel system, water pump, and 8 in H₂O (1.99 kPa) inlet air restriction with 4 in (102 mm) inner diameter, and with 1 in Hg (3 kPa) exhaust restriction with 4 in (102 mm) inner diameter; not included are alternator, fan, optional equipment and driven components. Coolant flows and heat rejection data based on coolants as 50% ethylene glycol/50% water. All data is subject to change without notice.



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