

QSL9G

Gas Compression Applications



Wellhead compression applications require reliability and durability not found in every natural gas engine. For dependable low emission operations and world class support, you need Cummins QSL9G – an emissions compliant, 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 QSL9G to stay emissions compliant, 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	5.69 in (144.5 mm)
Displacement	8.9 L (543 cubic in)
Engine Power*	175 hp (131 kWm)
Compression Ratio	9.7:1
Aspiration	Turbocharged and aftercooled
Exhaust Type	Wet manifold
Weight**	1650 lb (748 kg) - TBD
Coolant Capacity	2.9 gal (11 L)
Lube Oil Capacity	8.0 gal (30.3 L)
Rotation	CCW From Rear

* Rating dependent

** Weight is approximate and varies with options.

COMPLIANT CAPABLE – This engine is capable of meeting the SI NSPS regulations from the factory. However, the owner/operator is required to conduct site compliance testing and submit documentation per the EPA SI NSPS requirements. Engines with the “E” designation include a factory-supplied air/fuel ratio controller and a Cummins Emission Solutions Three-Way Catalyst.

Features

Designed for the oil and gas market, the QSL9G delivers exceptional dependability and low cost of operation.

Base Engine – Most major components, including block, crank and liners are common with the proven L series diesel. Upgraded power cylinder for natural gas operation.

Emissions – Rich burn combustion matched with a Cummins 3-way catalyst delivers NSPS compliant emissions down to 0.5 gr/hp hr NOx.

Air/Fuel Ratio Control – Oxygen sensor-based air/fuel ratio controls emissions rate. Digital display shows O₂, fuel control valve position, fault codes, other engine parameters and provides for user input.

Air Handling – Turbocharged and aftercooled design delivers reliable performance up to 5,000 feet without derate.

Fuel System – AFR control system provides stable operation through all load ranges.

Speed Control – ECM based speed control with integrated throttle body provides precise and stable speed control under all load conditions.

Ignition System – Cummins Ignition Module provides precision timing control and delivers proven reliable performance through all load conditions.

Lubrication System – High-capacity oil pan and a larger, more efficient cooler 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
QSL9G	FR-93065	175 hp @ 1800 rpm	0.5 / 2.0 / 0.7	Rich Burn	EPA Compliant Capable*

(1) Catalyst out emissions.

* Requires EPA site validation testing.

Standard Equipment.

Air Inlet System

- Factory installed heavy duty air cleaner

Cooling System

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

Exhaust System

- Wet manifold for improved turbo life

Fuel System

- Impco® mixer
- 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
- High oil temperature
- High block water temperature
- High catalyst 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 FW / FH option available

Electrical System

- 24-volt alternator

Starting System

- 24-volt starter

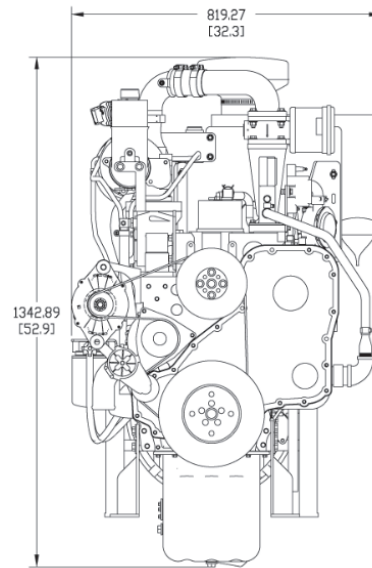
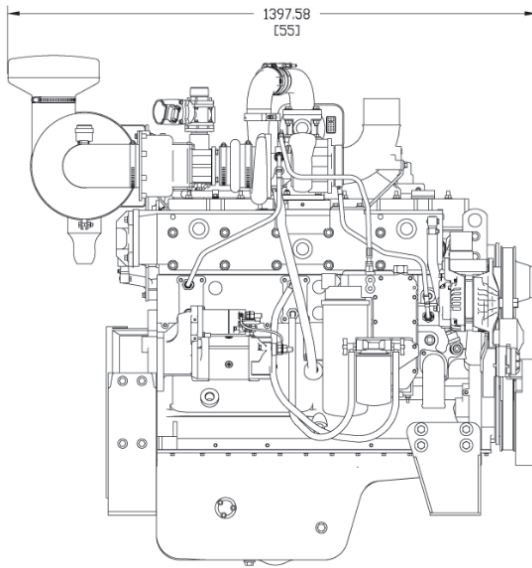
Power Take-Off

- Front stub shaft optional

Engine Technical Data.

Model	QSL9G	
Curve Number	FR-93065 (2)	
Exhaust Type	Wet Manifold	
Output Power		
100%	HP (kWm)	175 (130)
75%	HP (kWm)	131 (98)
Engine Speed		
100%	RPM	1800
Max Turn Down	RPM	1500
Aftercooler Water Inlet Temperature		
	°F (°C)	130 (54.4)
Compression Ratio		
		9.7:1
Emissions Data – Catalyst Out Emissions (Catalyst Dependent)		
NOx	g/hp-hr	0.5
CO	g/hp-hr	2.0
VOC	g/hp-hr	0.7
Fuel Consumption		
100%	BTU/hp-hr (MJ/kW-hr)	8140 (11.52)
75%	BTU/hp-hr (MJ/kW-hr)	8585 (12.15)
Heat Rejection		
Jacket Water	BTU/min (kW)	8500 (149.5)
Aftercooler	BTU/min (kW)	930 (16.4)
Exhaust	BTU/min (kW)	5425 (95.4)
Exhaust System		
Flow Rate	ft ³ /min (L/s)	864 (408)
Stack Temp	°F (°C)	1048 (564)
Max Back Pres.	in-Hg	2
Intake System		
Flow Rate	ft ³ /min (L/s)	300 (142)
Max Restriction	in-H ₂ O	15
Gas Pressure		
Min - Max	psi	7-25

General Dimensions.



Dimensions*		
Length	Inches (mm)	55 (1397)
Width	Inches (mm)	32.3 (819)
Height	Inches (mm)	52.9 (1343)

* 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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