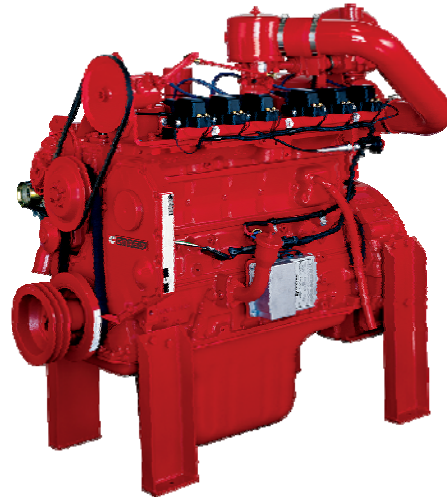


G5.9 & GTA5.9

Gas Compression Applications



Wellhead compression and artificial lift applications require reliability and durability not found in every small natural gas engine. For dependable operations and world class support, you need the Cummins G5.9 and GTA5.9 – high-performance natural gas engines that share the proven heritage of the Cummins B Series diesel engines and many of the same heavy-duty components. You can depend on the G5.9 and GTA5.9 to keep maintenance costs down and the gas flowing. Every day.

General Specifications

Inline 6-cylinder, 4-Cycle, Natural Gas

Bore	4.02 in (102 mm)
Stroke	4.72 in (120 mm)
Displacement	5.9 L (359 cubic in)
Engine Power*	49-116 hp (37-87 kW)
Compression Ratio	NA: 10.5:1 TA: 8.5:1
Aspiration	Naturally aspirated or turbocharged
Exhaust Type	Dry or watercooled manifold
Weight**	1070 lb (485kg)
Coolant Capacity	2.6 gal (9.8 L)
Lube Oil Capacity	6.6 gal (25.0 L)
Rotation	Counterclockwise

* Rating dependent

** Weight is approximate and varies with options.

Features

Designed for the oil and gas market, the G5.9 and GTA5.9 deliver exceptional dependability and low cost of operation.

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

Emissions – The G5.9 can be operated as a rich burn engine and can be customer equipped with an AFR and catalyst to meet NSPS emissions requirements. The GTA5.9 does not have a catalyst rating and is available for export only.

Air Handling – The naturally aspirated G5.9 design and turbocharged and aftercooled GTA5.9 deliver reliable performance and life.

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

Speed Control – Adjustable governor provides precise and stable rpm control under all load conditions.

Ignition System – Altronic CD1 integral electronic ignition system. Easily accessible spark plug location and single coil per cylinder for lower maintenance costs.

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

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

Rating Details.

Model	Curve Number	Rating	Emissions	Combustion	Exhaust Type Wet / Dry
G5.9	FR-9961	84 hp @ 1800 rpm	(1)	Rich	Wet
G5.9	FR-9936	84 hp @ 1800 rpm	(1)	Rich	Dry
G5.9	FR-9962	49 hp @ 1800 rpm	(1)	Rich	Wet
G5.9	FR-9937	49 hp @ 1800 rpm	(1)	Rich	Dry
GTA5.9	FR-9943	116 hp @ 1800 rpm	Export Only	Rich	Wet

(1) NSPS compliant with customer installed Air-fuel ratio (AFR) controller and catalyst.

* Requires EPA site validation testing.

Standard Equipment.

Air Inlet System

- Factory installed heavy duty air cleaner

Cooling System

- Gear driven jacket water pump
- Thermostat controlled jacket water circuit

Exhaust System

- Tuned dry manifold for optimal exhaust flow – G5.9
- Water-cooled manifolds reduces surface and exhaust gas temperatures and extends turbocharger life – GTA5.9
- Water-cooled manifold optional for G5.9

Fuel System

- Impco carburetor
- Maxitrol secondary regulator

Speed Control System

- Belt-driven mechanical governor
- Electronic governor optional

Ignition System

- Altronic CD1 integral electronic ignition system
- Altronic III Shielded ignition optional

Lube Oil System

- Crankcase breather
- High capacity oil pan for extended oil drain intervals
- Full flow oil filter

Safety Shutoff Protection

- Electric fuel valve

Mounting Arrangement

- Four point mounting
- Lift provisions on engine

Flywheels and Flywheel Housings

- Flywheel SAE #3 machined for 10.0" and 11.5" over-center clutch
- 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

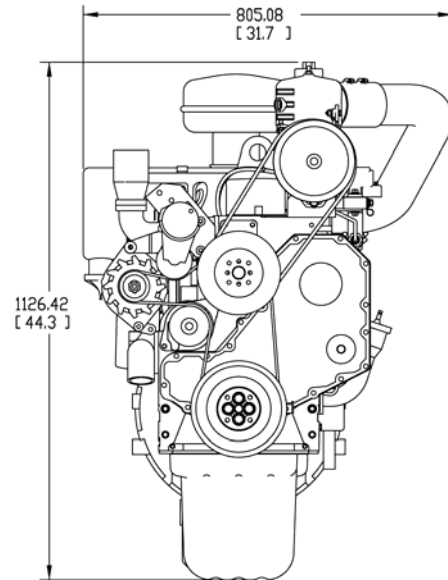
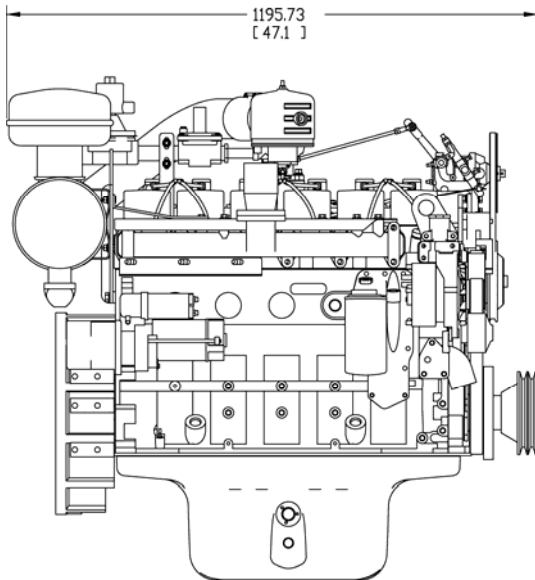
Power Take-off

- Front crank pulley

Engine Technical Data.

Model		G5.9	G5.9	GTA5.9
Curve Number		FR-9936 (2)	FR-9961 (2)	FR-9943 (3)
Exhaust Type		Dry Manifold	Wet Manifold	Wet Manifold
Output Power (1)				
100%	HP (kW)	84 (63)	84 (63)	116 (87)
75%	HP (kW)	63 (47)	63 (47)	87 (65)
Engine Speed				
100%	RPM	1800	1800	1800
Max Turn Down	RPM	1350	1350	1350
After-Cooler Water Inlet Temperature				
	°F (°C)	N/A	N/A	130 (54.4)
Compression Ratio		10.5:1	10.5:1	8.5:1
Emissions Data – Engine-Out Emissions (1)				
NOx	g/hp-hr (g-kW-hr)	13.04 (17.49)	11.41 (15.30)	11.75 (15.76)
CO	g/hp-hr (g-kW-hr)	14.38 (19.28)	14.64 (19.63)	0.57 (0.76)
NMHC	g/hp-hr	0.22	0.22	0.13
THC	g/hp-hr	1.48	1.48	0.76
O ₂	%	0.43	0.45	5.80
Fuel Consumption (1)				
100%	BTU/hp-hr (MJ/kW-hr)	7914 (11)	7914 (11)	7468 (10.57)
75%	BTU/hp-hr (MJ/kW-hr)	8214 (12)	8214 (12)	7913 (11.20)
Heat Rejection (1)				
Jacket Water	BTU/min (kW)	2653 (47)	3824 (67)	5073 (89.2)
After-cooler	BTU/min (kW)	N/A	N/A	579 (10.18)
Exhaust	BTU/min (kW)	3238 (57)	2523 (44)	3257 (57.27)
Exhaust System (1)				
Flow Rate	ft ³ /min (L/s)	365 (172)	430 (203)	546 (258)
Stack temp	°F (°C)	1350 (732)	1078 (581)	1139 (615)
Max Back Pres.	in-Hg	2	2	2
Intake System (1)				
Flow Rate	ft ³ /min (L/s)	125 (59)	121 (57)	211 (100)
Max Restriction	in-H ₂ O	15	15	15
Gas Pressure				
Min - Max	in-H ₂ O	10-20	10-20	10-20

General Dimensions.



Naturally Aspirated model pictured above. May be shown with options.

Dimensions*		NA	TA
Length	Inches (mm)	47.1 (1196)	53.6 (1362)
Width	Inches (mm)	31.7 (805)	30 (762)
Height	Inches (mm)	44.3 (1126)	49 (1247)

* Dimensions are approximate and vary with options.

Disclaimers.

(2) All data is based on the engine operating with fuel system, water pump, and 7 in H₂O (1.74 kPa) inlet air restriction with 3.5 in (89 mm) inner diameter, and with 1 in Hg (3 kPa) exhaust restriction with 3 in (76 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.

(3) All data is based on the engine operating with fuel system, water pump, and 6 in H₂O (1 mm H₂O) inlet air restriction with 3 in (76 mm) inner diameter, and with 1 in Hg (3 mm Hg) exhaust restriction with 3 in (76 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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