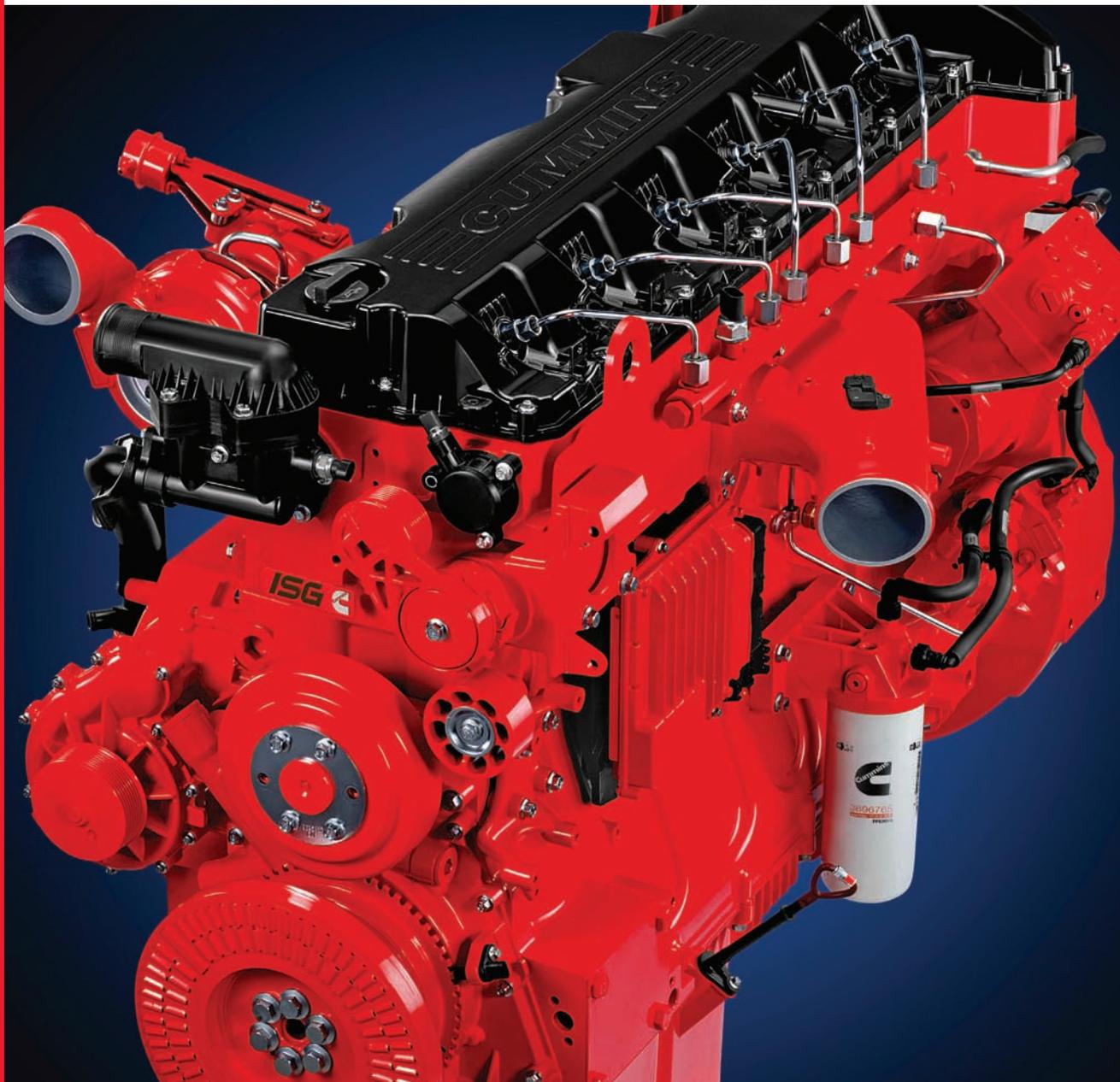




# Every™ Innovation. ISG12.

Global Heavy-Duty Engine  
350-500 HP (361-373 kW)





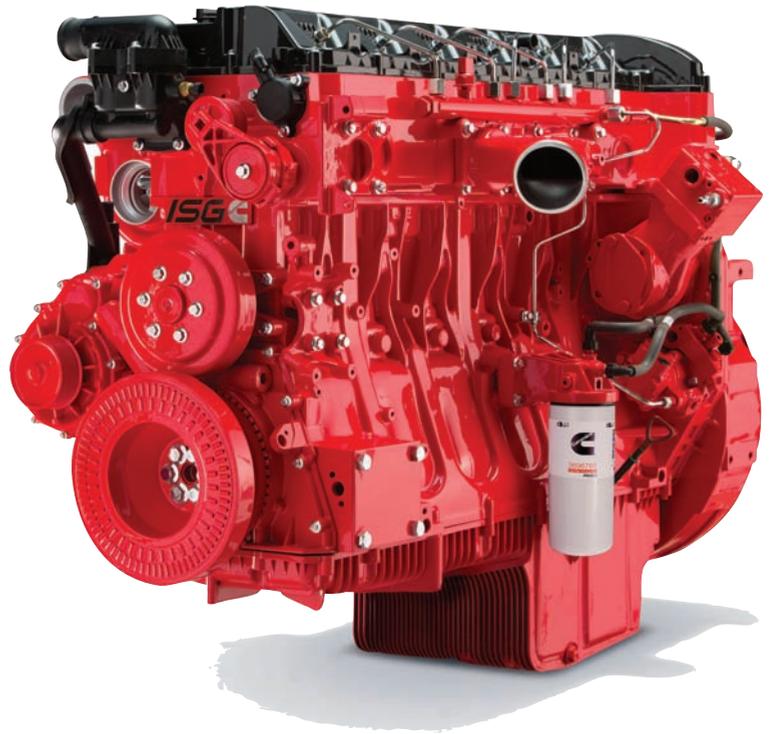
## Use Less, Deliver More.

The G Series is Cummins latest global Heavy-Duty engine platform, with the capability to meet worldwide emissions and customer requirements. The engine has an adaptive architecture, enabling it to meet regional market requirements with a common global platform. Ideal for use in heavy-duty commercial vehicles, the G Series sets benchmark standards in weight, performance, fuel efficiency and cost of ownership.

The ISG12 has 11.8 litres displacement with a power range from 350-500 hp (261-373 kW) and up to 2300 Nm (1696lb-ft) of torque. Its compact size, with low weight of 860 kg (1896 lb), delivers a high power-to-weight ratio which is 30 percent higher than the average for engines with a similar power range.

Cummins has developed a combination of patented technologies and advanced production techniques that enable higher payloads and better fuel efficiency. With composite materials and an innovative block design, the ISG12 is lighter while retaining structural strength, delivering a more compact, quiet and lighter engine.

The engine incorporates Cummins industry-leading Xtra-High Pressure (XPI) fuel system, improving combustion and fuel economy while also helping lower noise. The XPI fuel system



contributes to a 60 percent torque rise, enabling ISG engines to deliver exceptionally fast response at low rpm.

The ISG12 is designed to meet variations in worldwide emissions standards, ideal for global OEM platforms that require flexibility and longevity in meeting local requirements. Currently meeting China National Standard (NS) 4, the platform will also include a diesel and natural gas version for China NS 5. Global Euro 4 and 5 emissions will follow shortly with future development of Euro 6 and EPA versions expected.

## Features and Benefits

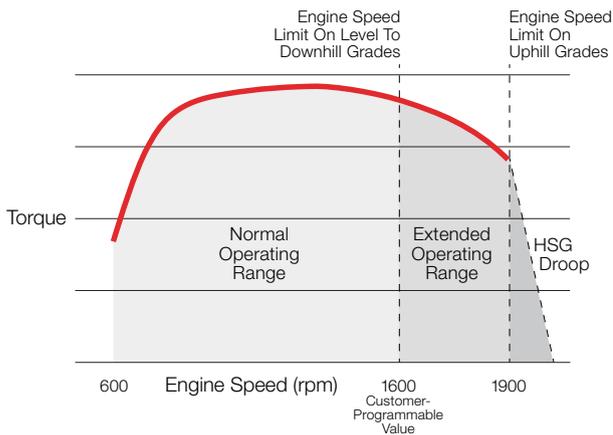
The patented designs enable Cummins ISG12 to deliver significant product advantages:

### Common Global Platform

- Enables Euro 4 and Euro 5 on a common vehicle platform
- Provides assurance in meeting local emissions requirements with optimised cost of ownership

### Stronger Power and Torque for Improved Productivity and Driveability

- Up to 500 hp (373 kW) with a peak torque of 2300 Nm (1696lb-ft) available as low as 1100 rpm
- Optimised power curve improves driver satisfaction requiring less gear changes, enabling low engine speed operation for improved fuel efficiency
- Excellent low speed lugging power enables fast acceleration and exceptional gradient climbing



## Higher Efficiency to Reduce Operational Costs

- Single Cam In Head design with roller valve train and high-efficiency intake ports minimises complexity and maximises efficiency
- Programmable features like Load Based Speed Control and Gear Down Protection serve to maximise fuel efficiency
- Patented cooling system, lube system and power cylinder are designed for improved efficiency
- Optimised combustion system and electronic calibrations enable heavy-duty performance without excessive injection pressure.



## Low Mass Design Delivers Industry Leading Power-to-Weight Ratio

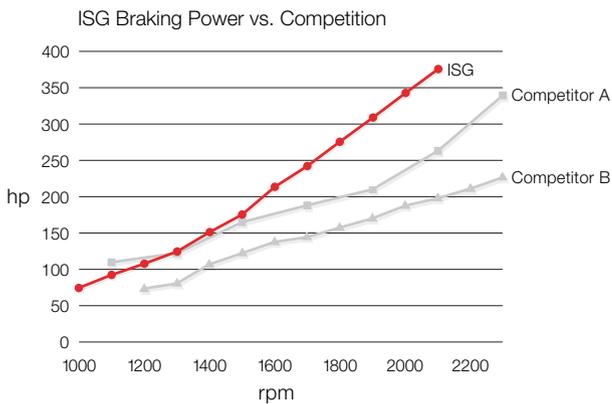
- Sculptured block retains high rigidity while removing unnecessary mass.
- The use of composite material for the oil pan and valve cover saves weight
- Enables more payload to be delivered while requiring less energy to manufacture
- Less weight on front axles enable lower cost vehicle designs





### Integrated Engine Compression Brake Increases Safety While Reducing Maintenance Cost

- 27 hp (20 kW) per litre absorption performance with no impact on engine height
- Better downhill control capability



### Advanced Architecture Ensures Proven Reliability

- Modular component architecture significantly reduces the number of parts
- Cummins XPI fuel system along with an optimised combustion system provide excellent cold start performance in extreme temperatures and high altitude: -35°C unaided cold start, 7 second smooth start
- Stiffer design through advanced component design and production techniques



### Extended Maintenance Intervals and Easy Serviceability Lowers Cost of Ownership

- Patented Fleetguard Stratapore® oil filters that reach over 60,000 miles (100,000 km) on Euro 4 and Euro 5 applications
- NanoNet™ fuel filtration provided unmatched protection for the engine's fuel system, removing particles as small as 4 microns



- Integrated design uses replaceable wet liners, enabling multiple overhauls
- Cylinder head that can be installed fully assembled, improving repair times

### Global Service Network

Backed by the widest network in the industry, with over 6,500 service locations in approximately 190 countries and territories. Contact your local customer assistance centre on [www.cummins.com](http://www.cummins.com) and [www.cumminsengines.com](http://www.cumminsengines.com)



## ISG12 Ratings

Engine Model	Advertised Power HP (kW) @ rpm	Peak Torque Nm (lb-ft) @ rpm	Emission
ISG12 350	350 (261) @ 1900	1800 (1328) @ 1000	Euro 4 & 5
ISG12 375	375 (280) @ 1900	2000 (1475) @ 1000	Euro 4 & 5
ISG12 410	410 (306) @ 1900	2100 (1549) @ 1000	Euro 4 & 5
ISG12 440	440 (328) @ 1900	2100 (1549) @ 1000	Euro 4 & 5
ISG12 460	460 (343) @ 1900	2100 (1549) @ 1100	Euro 4 & 5
ISG12 480	480 (358) @ 1900	2300 (1696) @ 1100	Euro 4 & 5
ISG12 500	500 (373) @ 1900	2300 (1696) @ 1100	Euro 4 & 5

## ISG12 Specifications

Displacement	11.8L
Power	350-500 hp (261-373 kW)
Peak Torque	1800-2300 Nm (1328-1696 lb-ft)
Length	1295 mm
Width	938 mm
Height	1050 mm
Weight (dry)	860 kg (1896 lb)

## SCR Aftertreatment

Length	600 mm
Width	450 mm
Height	593 mm





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