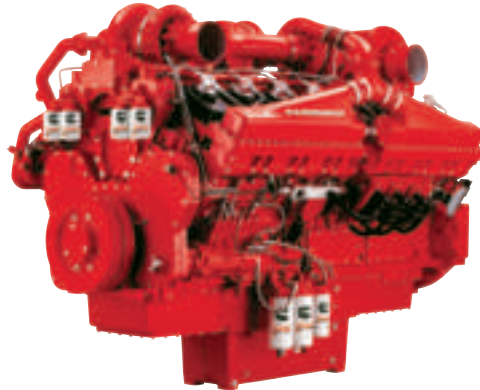


QSK50

Well Servicing Applications



In demanding oil and gas applications, dependability is everything. That's where the superior uptime and productivity of the QSK50 makes the difference. Dependability makes the new QSK50 the right engine choice. Every time.

Its V-16 configuration offers up to 2500 horsepower (1864 kilowatts), an excellent choice for tough fracturing jobs with full-authority electronic controls that provide complete engine monitoring, automatic adjustment for peak performance and fuel efficiency, plus full diagnostics and prognostics.

General Specifications V-16, 4-Cycle, Diesel Engine

Bore	6.25 in (159 mm)
Stroke	6.25 in (159 mm)
Displacement	52.25 L (3066.4 cubic in)
Engine Power*	1400-2500 hp (1044-1864 kW)
Aspiration	Water-cooled Turbochargers
Frac Rig Weight**	12337 lb (5596 kg)
Coolant Capacity	42.5 gal (161 L)
Lube Oil Capacity	53.9 gal (204 L)
Rotation	Clockwise (viewed from the front of the engine)

* Rating dependent

** Weight is approximate and varies with options.

Features

Designed for the well servicing market, the QSK50 delivers exceptional reliability and low cost of operation.

Base Engine – Proven single-piece ferrous cast ductile iron pistons and cooling nozzles with superior properties for maximum durability and reliability – combined with an advanced piston design that uses a nitride liner and cast-iron top rings – handle high injection pressures and provide a 10% longer life-to-overhaul. Seven-bolt cylinder head supports increased power output with improved breathing and higher fuel efficiency.

High-Capacity Gear Train – Extra-wide design with high-contact spur gears handles higher-capacity loads and provides greater durability.

Long-Life Camshaft – 38% larger than its predecessor, this camshaft is reusable at rebuild.

Emissions – The QSK50 also achieves a 30% reduction in NOx plus a 65% reduction in particulate matter to meet Tier 2 emissions standards* with in-cylinder technology.

Air Handling – Water-cooled Turbochargers – Provide added performance and impressive durability.

Fuel System – The Cummins modular common-rail fuel system maintains high injection pressures regardless of the speed – for exceptional performance at every rpm.

Warranty – The best warranty in the business, which includes full coverage for unlimited hours during the first year, extending through two years or 2,000 cumulative hours (whichever comes first). The base warranty also includes 3-year/10,000-hour standard protection on major components. Extended warranties are available as well.

*The QSK50 meets Tier 2 standards in the U.S. now, which go into effect in 2006 for engines over 750 hp (560 kW).

Rating Details.

Model	Advertised Power BHP (kW)	Peak Torque lb-ft (Nm)	Turbo Arrangement
QSK50-2500	2500 (1864) @ 1900	7081 (9601) @ 1500	2-STAGE
QSK50-2300	2300 (1725) @ 1900	6512 (8829) @ 1500	2-STAGE
QSK50-2250	2250 (1678) @ 1900	6512 (8829) @ 1500	2-STAGE
QSK50-2000	2000 (1491) @ 1900	5805 (7871) @ 1500	2-STAGE

Standard Equipment.

Long Life

- The QSK50 has a projected life-to-overhaul exceeding 875,000 gallons (3,312,235 liters) of fuel burned, which makes it a great choice for repowers as well as original equipment

Electronic Engine Management

- Programmable features optimize engine performance to specific duty cycles and job requirements
- Quantum system continuously monitors engine conditions and automatically adjusts for peak operation
- Superior performance is driven by three new high-speed ECMS
- Improved durable aluminum channel wiring harness allows easy servicing
- Ideal for many different tough applications that demand complete dependability and continuous uptime, such as drilling and pumping, well servicing and many others

Advanced Engine Monitoring

- Advanced Engine Monitoring (AEM) provides real-time monitoring of engine performance, cylinder by cylinder facilitating trend analysis and proactive maintenance during scheduled downtime

Fuel System

- Advanced Modular Common Rail (MCRS) fuel injection system generates clean, quiet and efficient power
- Multiple injection events during each power stroke yield smoother, more consistent power at every rpm
- MCR technology helps to reduce noise emissions (the QSK50 is 80% quieter at idle than the K50) and engine vibration, resulting in a safer and more comfortable work environment

Turbocharging

- Available two-stage or single-stage turbocharging delivers full power and exceptional performance at elevations up to 8,000 ft (2,438 meters) without power derate
- Turbochargers from Cummins Turbo Technologies feature titanium impellers and watercooled bearing housings for long-term reliability, while a high-capacity compressor provides higher airflows for maximum power and long life

Cummins Prelub System

- Eliminates wear from cold and hot starts – increases life-to-overhaul
- Integral or remote mounting options and rolling prelube option available

Oil Filtration

- Two-stage Cummins oil filters, also available as Fleetguard®, combine full-flow and bypass filtration to effectively remove harmful sludge and up to three times as many contaminants to reduce engine wear

Worldwide Service Network

- An established worldwide network with over 500 distributor facilities in nearly 190 countries, dedicated and empowered with the latest technical support tools and training to service your needs. Every hour, every day

Optional Equipment.

INSITE™

- Proprietary software with step-by-step engine diagnostics, drawings and diagrams to improve troubleshooting and repair accuracy

CENTINEL

- Advanced Engine Oil Management System that allows customers to extend oil change intervals up to 4000 hours
- Fully integrated design modulates burn rate based on load factor
- Available with reserve tanks for continuous replenishment

Fleetguard® ES Filtration

- Can keep your equipment on the job up to 1,000 hours between filter changes if equipped with CENTINEL™ (depending on load factors)
- Full-flow and bypass design simplifies service and reduces replacement costs

Cummins QuickCheck III

- QuickCheck III software, together with your handheld device, reads and captures engine data quickly and conveniently from any Cummins electronic diesel engine or other engines you run (via J2587 and J1939)
- Even logs fault codes, which can be used with Cummins INSITE to get detailed repair instructions for faster service

QuickServe® Online

- QuickServe Online (quickserve.cummins.com) gives you easy access to parts and service information for all Cummins engines
- You can find the information you need in seconds with our high-speed search function and your engine's serial number

Engine Technical Data.

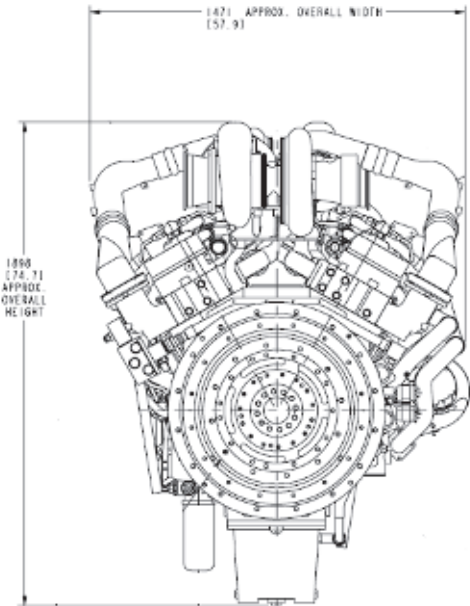
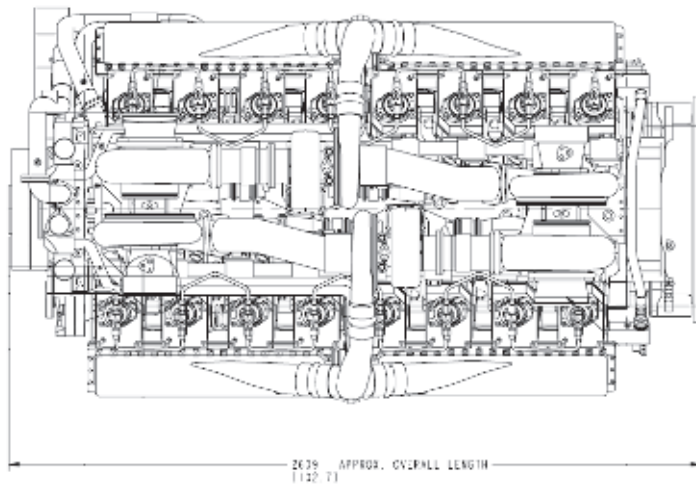
Model: QSK50 - 2500
Output Power: 2500 bhp

Engine Speed		Torque Output		Power Output		BSFC	
RPM	lb-ft	N-m	hp	kW	lb/hp-hr	g/kW-hr	
1500	7,081	9,601	2,022	1,508	0.347	211.072	
1600	7,079	9,598	2,157	1,608	0.344	209.247	
1700	7,038	9,542	2,278	1,699	0.342	208.031	
1800	6,999	9,489	2,399	1,789	0.342	208.031	
1900	6,911	9,370	2,500	1,864	0.347	211.072	

Model: QSK50 - 2250
Output Power: 2250 bhp

Engine Speed		Torque Output		Power Output		BSFC	
RPM	lb-ft	N-m	hp	kW	lb/hp-hr	g/kW-hr	
1500	6,300	8,542	1,799	1,342	0.35	212.897	
1600	6,298	8,539	1,919	1,431	0.347	211.072	
1700	6,262	8,490	2,027	1,512	0.345	209.856	
1800	6,227	8,443	2,134	1,591	0.346	210.464	
1900	6,219	8,432	2,250	1,678	0.352	214.114	

General Dimensions.



	English Units	SI
Length	102.7 in	2,609 mm
Width	57.9 in	1,471 mm
Height	74.7 in	1,898 mm
Weight	12,566 lb	5,700 kg

Definitions and Conditions.

Data shown above represent gross engine performance capabilities obtained and corrected in accordance with SAE J1995 conditions of 29.61 in Hg (100 kPa) barometric pressure [300ft (91m) altitude] 77 deg F (25 deg C) inlet air temperature, and 0.30 in Hg (1kPa) water vapor pressure with No. 2 diesel fuel. Not included are alternator, fan, optional equipment and driven components. Electronic derate based on altitude applies.

All data is subject to change without notice. Consult your authorized Cummins Distributor for details.

Load Rating

Maximum Rating. May be used for intermittent load applications (full throttle operation is cyclically interrupted) where the average load factor does not exceed the continuous rating, and where full throttle operation does not exceed 60 minutes without interruption.

International Rating Guidelines

These ratings represent gross engine performance capabilities obtained and corrected in accordance with SAE J1995 and the conditions as stated above. The ratings are in conformance with the requirements specified in ISO 3046, BS 5514 and DIN 6271. The Maximum Rating conforms to ISO 3046 overload power and fuel stop power. Reference standards: BS 5514 and DIN 6271 standards are based on ISO 3046.



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