



EVERY TON.

QSK50



FOR MINING APPLICATIONS

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QSK50

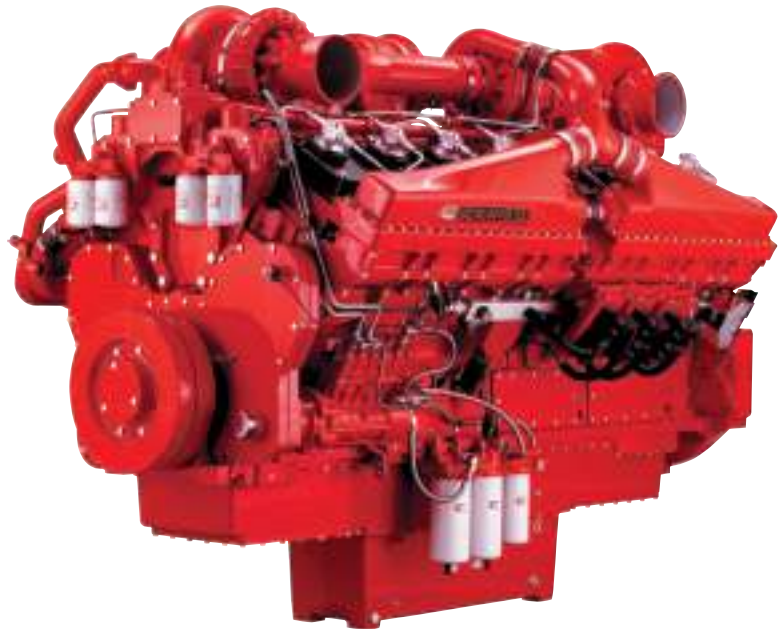
In mining applications, continuous uptime means superior productivity. And uptime is what makes the QSK50 the right engine choice. The QSK50 combines the durability of the legendary Cummins K50 with the strength of single-piece ferrous cast ductile iron pistons that provide a 10% longer life-to-overhaul compared to two-piece pistons. Its V16 configuration offers up to 2100 hp (1567 kW) with full-authority electronic controls that provide complete engine monitoring, automatic adjustment for peak performance and fuel efficiency, plus full diagnostics and prognostics.

The Cummins modular common-rail fuel system maintains high injection pressures regardless of engine speed – unlike conventional injection systems – for exceptional performance at every rpm. 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.

Programmable parameters let you customize engine performance for lower cost-per-ton performance. And Quantum System technology includes Advanced Engine Monitoring, a feature that lets you monitor equipment performance on the job in real time, cylinder by cylinder. View it anywhere there's an Internet connection, using MiningGateway.com (see Maintenance section for details).

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

Cummins is a pioneer in product improvement. Thus specifications may change without notice. Illustrations may include optional equipment.



Ratings

ENGINE MODEL	ADVERTISED HP (KW) @ RPM	ASPIRATION*
QSK50-2100	2100 (1567) @ 1900	2-STAGE
QSK50-2000	2000 (1492) @ 1900	2-STAGE
QSK50-1800	1800 (1343) @ 1900	2-STAGE
QSK50-1675	1675 (1250) @ 1800	2-STAGE
QSK50-1600	1600 (1194) @ 1900	SINGLE-STAGE
QSK50-1500	1500 (1119) @ 1900	SINGLE-STAGE
QSK50-1400**	1400 (1044) @ 1800	SINGLE-STAGE

* All ratings are turbocharged and aftercooled.

** Continuous rating.

All ratings are intermittent unless otherwise noted. Additional ratings may be available. Check with your Cummins distributor or dealer.

Specifications

ENGINE TYPE	VEE, 4-CYCLE, 16-CYLINDER	
DISPLACEMENT	3,066.4 CU IN	50.25 LITERS
ADVERTISED HORSEPOWER	1400-2100 HP	1044-1567 kW
PEAK TORQUE	6095 LB-FT @ 1500 RPM	8264 N•M
BORE AND STROKE	6.25 IN X 6.25 IN	158.75 MM X 158.75 MM
OIL SYSTEM CAPACITY	216 U.S. QT	204 LITERS
COOLANT CAPACITY	170 U.S. QT	161 LITERS
LENGTH	110 IN	2794 MM
WIDTH	56 IN	1422 MM
HEIGHT	74 IN	1880 MM
WET WEIGHT	13,035 LB	5,913 KG

Features And Benefits.

- Two-Stage Turbocharging – Provides added performance at high altitude.
- Power Cylinder Package – Proven single-piece ferrous cast ductile iron pistons and cooling nozzles for maximum durability and reliability – combined with an advanced piston design that uses nitrided liners and cast-iron top rings – to handle high injection pressures with exceptional durability and a 10% longer life-to-overhaul compared to two-piece pistons.
- Cummins Prelub System – Eliminates wear from cold and hot starts – increases life-to-overhaul. Integral or remote mounting options.
- Fleetguard® ES Filtration – Fleetguard's ES oil filter can keep your equipment on the job up to 1,000 hours between filter changes if equipped with CENTINEL™ (depending on load factors). Combination full-flow and bypass design simplifies service and reduces replacement costs.
- CENTINEL Advanced Engine Oil Management System – Allows customers to extend oil change intervals up to 4,000 hours. Fully integrated design modulates burn rate based on load factor. Available with reserve tanks for continuous replenishment.
- Quantum System – Programmable features optimize engine performance to specific duty cycles and job requirements. 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.
- Advanced Engine Monitoring – Allows you to monitor engine performance cylinder by cylinder on a real-time basis, either through mine dispatch systems or over the Internet at www.MiningGateway.com. Also provides trending charts to help you keep preventive maintenance to a minimum without risking engine damage.

- ELIMINATOR™ Filtration System – Eliminates oil filter disposal headaches with a full-flow and centrifugal system that incorporates a permanent core. This optional feature eliminates up to 90% of lube system maintenance costs while increasing uptime by allowing 1,500 hours between filter changes if equipped with CENTINEL.

Taking Performance To High Altitudes.

Two-stage turbocharging, combined with two-pump, two-loop aftercooling, delivers 2100 hp (1567 kW) at 6,000-foot (1,829 meter) elevations and 2000 hp (1492 kW) at 8,000 ft (2,438 meters). For most altitudes, single-stage watercooled turbocharging is available.

Versatility.

QSK50 Quantum System technology is ideal for tough applications that demand continuous uptime, including front-end loaders, excavators and haul trucks that carry hundreds of tons capacity. QSK50 projected haul truck life-to-overhaul exceeds 875,000 gallons (3,312,238 liters) of fuel burned – which also makes it a great choice for repowers.

Maintenance.

The QSK50 is designed to maximize uptime with advanced filtration and lubrication systems, and standard oil filter changes up to 1,000 hours if equipped with CENTINEL.



MiningGateway.com.

Whether you are in your office or at home, MiningGateway.com lets you monitor engine performance, cylinder by cylinder, while your equipment is working. This option also provides trend data to help maintenance planning. Data is captured within your engine through standard Advanced Engine Monitoring hardware and software, a Cummins uptime exclusive.

QuickServe ProAct.™

In addition, Cummins offers QuickServe ProAct, which gives you daily monitoring of your engines by mining engine experts at a per-hour fee. Our specialists review cylinder-by-cylinder performance, tracking trend data and going beyond preventive maintenance to proactive maintenance. Also monitored are lubrication, cooling, as well as intake and exhaust temperatures. In the event a fault code is registered, our QuickServe ProAct team contacts the local Cummins distributor with their troubleshooting analysis and recommended repair actions.



INSITE.™

Cummins proprietary INSITE software includes step-by-step engine diagnostics, drawings and diagrams to improve troubleshooting and repair accuracy.

Cummins QuickCheck III.

Questions about engine information? Cummins QuickCheck III* puts every answer in the palm of your hand! 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). Use it to check everything from fuel burned and total engine hours to coolant temperature and boost pressure. QuickCheck III even logs fault codes, which can be used with Cummins INSITE to get detailed repair instructions for faster service.



*For information on hardware compatibility, please visit us online at <http://quickcheck.cummins.com> or see Bulletin 4081450.

The Cummins QuickServe® Commitment.



Cummins QuickServe offers you factory-certified technicians, the most sophisticated diagnostic and repair tools in the industry, and the largest international parts and service network of any engine manufacturer. Our worldwide team of mobile service technicians is always ready to deliver service when and where you need it. Every minute. Every day. Every year.

QuickServe® Online.

QuickServe Online (<http://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.



Base Warranty.

QSK50 engines come with a full 2-year/2,000-hour warranty that covers all Cummins branded components, including electrics such as starters and alternators. Major components coverage continues into the third year, up to 10,000 hours of operation from the time your QSK50 engine goes in service.



Three simple steps explain everything you need to know:

Step One: Full coverage on all Cummins industrial engines and branded components with unlimited hours during the first year of operation. This includes Cummins branded electrics such as alternators, starters, etc.

Step Two: Full coverage is extended for the second year, up to 2,000 hours of operation. Total hours are cumulative from the time the engine goes in service.

Step Three: Major components coverage including block, crankshaft, camshaft and rods on all products for the third year or up to 10,000 hours of operation.

Encompass Protection Plans.

Unlike plans offered by other diesel manufacturers, Encompass gives you a choice of hourly or unlimited plans and options that include parts only, parts and labor, or parts, labor and travel coverage. Encompass protection plans are available for your QSK50 engine with your choice of up to three years of extended coverage and unlimited hours. There are also years/hours plans available. Including 5 years/2,000 hours, 5 years/6,000 hours or 5 years/10,000 hours.

These plans cover all Cummins-manufactured components. Maintenance components are included through the end of the second year.

Encompass protection plans may be purchased up to six months after the in-service date of your QSK50 engine. See your Cummins distributor for pricing. For additional details, ask to see Bulletin 3624570.

A \$300 deductible applies per service visit after the expiration of the base warranty.



Every Question, Answered.

- MiningGateway.com – The latest Cummins mining information and current product upgrade data is available 24/7 at this web site.
- Service Network – Cummins engines are backed by the strength of Cummins global network of over 5,500 service locations worldwide.
- Customer Assistance Center – For technical assistance, service locations and product literature, call 1-800-DIESELS (1-800-343-7357).
- Cummins PowerMaster – E-mail the experts for timely answers to Cummins-related questions at powermaster@cummins.com.
- Cummins Online Registration – Register all your Cummins engines quickly and easily at www.everytime.cummins.com to ensure quality parts and service for your engine.



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