

# RAIL PRODUCT GUIDE

2019



**Cummins**



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# CUMMINS KEEPS THE RAIL INDUSTRY ALWAYS ON

Founded in 1919 by self taught mechanic and inventor Clessie Cummins and Indiana banker, W.G Irwin, Cummins has a proud history of delivering power to the rail industry. Our first diesel engine entered the railcar space in 1932. Fast forward 100 years and we're present in 190 countries, providing products and services across a range of locomotive, railcar, track maintenance and intermodal rail applications across the world.

## **SUSTAINABILITY**

Adopting a sustainable approach to our business model encompasses diversity, leadership and governance along with safety and environmental practices, community involvement and financial performance.

## **INNOVATION**

From the Cummins 125 hp 6-cylinder Model H engine being the first diesel engine to enter the railcar space, to powering Siemens Charger locomotive with the QSK95 engine, we empower our employees to apply the ingenuity necessary to make us better, faster, first. It's this creative spirit that enables us to power our customers through innovation and dependability.

## **EXPERTISE**

We employ an experienced team of technical and market experts focused on the rail industry and its customers. Factory trained rail application engineers will help you select the right spec for your

locomotive. Qualified rail technicians keep you up and running once in service.

## **COMPLETE RAIL SOLUTIONS**

Our complete line of locomotive, railcar, track maintenance and intermodal solutions are designed specifically for the challenges of rail applications. Because we understand that customer needs and operating conditions vary, we also offer custom generator set packaging through our distribution channel.

## **GLOBAL OPERATION**

Present in over 190 countries and territories, Cummins has the most extensive service network in the world with over 600 servicing distributor locations. Plus, our regional response teams ensure service and application expertise is available when and where it's needed, even in the most remote operating locations.

# PROUD HISTORY OF RAIL POWER PROVISION

## 1919 AN ENGINE ENTERPRISE BEGINS

Powering farm pumps and workshops, the single-cylinder 1½ to 6 hp Hvid was the first engine built by Cummins. Running on diesel or kerosene, it was called an ‘oil engine’ with the licensed Hvid design improved by ignition control. An influx of orders followed after advertising in Sears mail order catalog under the ‘Thermoil’ name, but a money back guarantee led to many engine returns and supply ended in 1921. Around 2,000 Hvids were built at the historic Cerealine Mill, today a part of Cummins Corporate Office Building.



## 1932 RADICAL RAILCAR DESIGN



Reading Railroad 65 became the first diesel railcar to enter service in America, bringing a radically different stainless steel light body and rubber tire wheels. Cummins 125 hp 6-cylinder Model H was fitted underfloor in the 42 seater built by Budd Micheline and able to rapidly accelerate up to 55 mph. While the stainless steel body would soon revolutionize the rail industry, the rubber tires proved easy to puncture and were replaced by metal wheels, with the railcar running until 1952.

## 1936 SUPER-SIZED SWITCHER

A venture to build locomotives was started by Cummins in Columbus to meet the growing demand for diesel-electric switchers for yard and short line transfers. Pioneering work produced the most powerful switcher yet built, with 1000 hp output from 2 x 12-cylinder 76-liter Model VL experimental engines. The 95-ton loco featured one of the first center cab designs, with a VL installed on each side. Design rights were transferred to GE, due to the high cost of entering the loco business.



## 1941 'DINKY' LEGENDARY LOCOS

The GE 25-tonner introduced a new class of tiny loco for short line work, known as a Dinky. Powered by a 150 hp Cummins HBI-600 giving strong traction, they were popular with industrial users and the U.S. military, who put several ashore during the first days of the Normandy landings in 1944. Around 500 Dinkies were built by the mid-1950s and they earned a legendary status for longevity, with some still operating today.



## 1945 'BIG HOOK' GIANT RAIL CRANES



The massive derrick rail cranes, known as Big Hooks, able to lift up to 250 tons, were used for train derailments and engineering work. One of the first to replace steam with diesel power was built by Industrial Brownhoist, using 2 x Cummins HBI-600, each with 150 hp. Pulled to site by a locomotive, the rail wrecker crane could then travel at 3mph to get into position. Many of the cranes remained operating for more than 50 years.

## 1950s GE 25-TON

- » 2 Axle small shunter
- » Offered 15000 pounds of tractive effort
- » Max speed of 20mph
- » Over 500 produced
- » Initially powered with HBI-600
- » 150 hp @ 1800 rpm.
- » Many repowered with NT 855 engine



## 1960s GE UM12C

- » Operator: State Railway of Thailand
- » 1963 and 1966 deliveries
- » 50 units total
- » 2 K38s per locomotive
- » 1320 hp output

## 1990 BRITISH RAIL CLASS 158

- » British Rail described the Class 158s as bringing “new standards of comfort and quality to rail travel on regional railways’ key long-distance cross-country routes”.
- » Interiors were described as fully carpeted, with panoramic windows and a variety of seats arranged both airline-style and in bays of four around tables. Unlike previous members of the Sprinter family, such as the Class 156 SuperSprinter, the Class 158s featured air conditioning, an on-board payphone, power-operated interior doors, a toilet in each carriage, and provision for

a refreshment service. Despite an increased top speed of 90 miles per hour (140 km/h), the units also promised a smoother, quieter ride than its predecessors.



- » The Class 158s were expected to achieve 13,500 miles of operation between major services and a range of up to 1,600 miles from each refuelling.



## 2001 SIEMENS VT605

- » Manufacturer: Siemens
- » Operator: DeutscheBahn Germany.
- » Application: VT605, Inter city high speed tilting railcar, 200 km/h
- » Traction Power: QSK19-R , 560 kW.
- » (750 hp) x 4 per 4 car set
- » Installed Power: 2238 kW (3000 hp)
- » Date in Service: Q2 2001

## 2017 SIEMENS CHARGER

- » In 2014 Cummins and Siemens began to work together for a submission to the PRIIA Specification. The answer was the Siemen’s charger powered by the QSK95.
- » Per the specification, the Locomotive needed to be Tier 4 Certified and deliver a top speed of 125 mph.



# INNOVATIVE LEADERS OF INDUSTRY

Getting the right technology in place is at the heart of what we do. Cummins leadership in combustion research, fuel, air-handling, aftertreatment and control systems allows us to maximize customer value by providing the most appropriate emissions control technology integrated into each equipment type and market.

## RESEARCH, DESIGN AND DELIVER

Our component technology companies, subsidiaries, alliances and our relationships with universities and national laboratories uniquely position us to design, manufacture and implement the best solutions for the rail industry.

## UNSURPASSED HIGH-SPEED RAIL POWER

The QSK95, the most powerful offering from Cummins with up to 4400 hp / 3281 kW, surpasses other high-speed engines. Its emissions capability and compact installation puts it ahead of much larger medium-speed engines.

## MEETS GLOBAL APPLICATION DEMAND

The most powerful high-speed 16V diesel engine meets EPA Tier 3 / Stage IIIA locomotive emissions with no aftertreatment and its strength means it can handle the demands of global applications.

The base engine design enables it to meet EPA Tier 4, EU Stage IIIB and Stage V emissions standards with only the addition of SCR aftertreatment. The engine build is ultra-strong for harsh rail environments. Premium materials achieve very long life-to-overhaul, offering a major reduction in total life cycle costs.

## PRODUCT FEATURES

- » Best-in-class fuel economy drives lowest total operating costs
- » 2200-bar clean burn Modular Common Rail Fuel System (MCRS)
- » Forged Steel Pistons, Connecting Rods, and Crankshaft
- » Two-Stage Aftercooling reduces radiator size and cost
- » Single-Stage Quad-Turbochargers deliver immediate response
- » 2 SAE-C hydraulic pump drives
- » Rigid 6 Point Direct-Block Mounting
- » High power to weight ratio greatly eases installations
- » Extended Service Intervals and minimal down time per service event
- » Every design decision based on durability and ease of service

**For availability, please contact your local Cummins distributor.**

# TOTAL POWER SOLUTION

Cummins offers a complete line of propulsion, generator set and auxiliary power solutions designed specifically for the challenges of locomotive, railcar, track maintenance, and intermodal applications.



# WORLD CLASS TECHNICAL SUPPORT

Our goal is to provide a level of support that no other company can match. With a global support network that spans more than 190 countries, Cummins is keeping you moving in a world that's Always On.

## **LOCAL EXPERTISE**

We sell our engines, generator sets and associated components through a global network of 600 distributor locations. Our local presence guarantees a face-to-face relationship wherever our products are operating, ensuring fast access to reliable service, engineering expertise and parts support.

## **ROBUST DESIGN. RESPONSIVE SERVICE SUPPORT**

Rail operations are extremely demanding, and at Cummins we know the importance of keeping your rail equipment on track at all times. With a Cummins engine in your machine, you get legendary reliability, durability, advanced emissions technology, and responsive service support.

## **BUILT FOR RELIABLE RAIL PERFORMANCE**

With over 30,000 engines running in the toughest rail applications, you can be assured that your rail engine is proven to perform. Exceptional durability is a fundamental requirement for all Cummins engines, mandating premium materials and quality-controlled manufacturing. In addition, Cummins engines are specifically designed and developed for multiple rebuilds.

## **ENGINEERING FOR EVERY APPLICATION**

With a complete product range from 49-4400 hp / 37-3281 kW along with a full understanding of the duty requirements of rail equipment, our engineers are able to apply the right engine for every application. This results in the highest availability at the lowest possible operating cost. Whether specifying for new equipment or repowering, Cummins will deliver to your exacting individual requirements.



# WORLDWIDE MANUFACTURING

Cummins has an impressive global manufacturing presence that produces the right technology products for global and regional markets. We are the only engine manufacturer with a fully global network of production facilities, technical centers and service coverage – a unique capability that puts us ahead of the competition.

- » Global build capability to meet local application and emission requirements
- » Six Sigma led process improvement common across all worldwide facilities
- » All products externally certified to ISO 9001-2000, the international standard for the highest quality design, manufacturing and supply



## ENGINES:

Columbus, Indiana (USA)  
Lakewood, New York (USA)  
Whitakers, North Carolina (USA)  
Sao Paulo, Brazil  
Phaltan, India  
Darlington, U.K.  
Power Systems:  
Elkhart, Indiana (USA)  
Seymour, Indiana (USA)  
Fridley, Minnesota (USA)  
Clovis, New Mexico (USA)  
Sao Paulo, Brazil  
Wuxi, China  
Wuhan, China  
Pune, India  
Ahmendnagar, India  
Ranjangaon, India  
Phaltan, India  
San Luis Potosi, Mexico  
Craiova, Romania  
Daventry, U.K.  
Stamford, U.K.  
Lagos, Nigeria

## COMPONENTS:

Columbus, Indiana (USA)  
Charleston, South Carolina (USA)  
Cookeville, Tennessee (USA)  
Mineral Point, Wisconsin (USA)  
Neillsville, Wisconsin (USA)  
Kilsyth, Australia  
Sao Paulo, Brazil  
Beijing, China  
Shanghai, China  
Wuxi, China  
Wuhan, China  
Quimper, France  
Marktheidenfeld, Germany  
Pune, India  
Dewas, India  
Pithampur, India  
Phaltan, India  
Rudrapur, India  
Ciudad Juarez, Mexico  
San Luis Potosi, Mexico  
Johannesburg, South Africa  
Suwon, South Korea  
Darlington, U.K.  
Huddersfield, U.K.

## ELECTRIFIED POWER:

Columbus, Indiana (USA)

## DISTRIBUTION:

Irvine, California (USA)  
Henderson, Colorado (USA)  
Atlanta, Georgia (USA)  
New Hudson, Michigan (USA)  
White Bear Lake, Minnesota (USA)  
Memphis, Tennessee (USA)  
Dallas, Texas (USA)  
Scoresby, Australia  
Mechelen, Belgium  
Montreal, Canada  
Vancouver, Canada  
Beijing, China  
Gross-Gerau, Germany  
Dordrecht, Holland  
Pune, India  
Tokyo, Japan  
Moscow, Russia  
Johannesburg, South Africa  
Wellingborough, U.K.

# COMPLEMENTARY PRODUCTS

Cummins Inc., a global power leader, is a corporation of complementary business units. We design, manufacture, distribute and service engines and related technologies, including fuel systems, controls, air handling, filtration and emission solutions.

## CUMMINS EMISSIONS SOLUTIONS

Dedicated to innovation and dependability in meeting global emissions regulations, developing and producing various emission technologies for all engine makes. Current solutions, along with future technologies under development, are designed to meet emission standards across all industries around the globe.



Aftertreatment

## CUMMINS FILTRATION

The industry leader in filtration, exhaust, coolant and chemical technologies for diesel and gas markets, offering dependability and reliability beyond OEM specifications and customer requirements.



Filtration

## CUMMINS GENERATOR TECHNOLOGIES

Premium quality alternators from two to 10,000 kVA. Our family of brands, MARKON®, STAMFORD® and Avk®, is known for robust build, reliable performance and versatile configurations.



Alternators

## CUMMINS TURBO TECHNOLOGIES

The world's largest manufacturer of turbochargers for the medium-heavy duty diesel engine market. A reputation for bringing innovative and dependable solutions to this key market sector.



Turbos

# INTERMODAL

## QSF2.8

Configuration:	Inline, 4-Cylinder
Displacement	2.8 L
Bore / Stroke	3.7 in / 3.94 in



Model Name	Rated Power hp (kW) @ rpm	Aftertreatment	Emissions
QSF2.8	65 (48) @ 2500	DOC	EPA Tier 4 Final, EU Stage IIIB
QSF2.8	65 (48) @ 2200	DOC	EPA Tier 4 Final, EU Stage IIIB
QSF2.8	49 (37) @ 2500	DOC	EPA Tier 4 Final, EU Stage IIIB
QSF2.8	49 (37) @ 2200	DOC	EPA Tier 4 Final, EU Stage IIIB

## QSF3.8

Configuration:	Inline, 4-Cylinder
Displacement	3.8 L
Bore / Stroke	4.02 in / 4.53 in



Model Name	Rated Power hp (kW) @ rpm	Aftertreatment	Emissions
QSF3.8	130 (97) @ 2500	SCR	EPA Tier 4 Final
QSF3.8	130 (97) @ 2200	SCR	EPA Tier 4 Final
QSF3.8	120 (89) @ 2500	SCR	EPA Tier 4 Final
QSF3.8	120 (89) @ 2200	SCR	EPA Tier 4 Final
QSF3.8	100 (75) @ 2200	SCR	EPA Tier 4 Final

# INTERMODAL

## F3.8



Configuration:	Inline 4-Cylinder
Displacement	3.8 L
Bore / Stroke	4.02 in / 4.53 in

Model Name	Rated Power hp (kW) @ rpm	Aftertreatment	Emissions
F3.8	173 (129) @ 2500	Single Module	EPA Tier 4 Final, EU Stage V
F3.8	154 (115) @ 2500	Single Module	EPA Tier 4 Final, EU Stage V
F3.8	154 (115) @ 2200	Single Module	EPA Tier 4 Final, EU Stage V
F3.8	148 (110) @ 2500	Single Module	EPA Tier 4 Final, EU Stage V
F3.8	148 (110) @ 2200	Single Module	EPA Tier 4 Final, EU Stage V
F3.8	134 (100) @ 2500	Single Module	EPA Tier 4 Final, EU Stage V
F3.8	134 (100) @ 2200	Single Module	EPA Tier 4 Final, EU Stage V
F3.8	121 (90) @ 2500	Single Module	EPA Tier 4 Final, EU Stage V
F3.8	121 (90) @ 2200	Single Module	EPA Tier 4 Final, EU Stage V
F3.8	101 (75) @ 2500	Single Module	EPA Tier 4 Final, EU Stage V
F3.8	101 (75) @ 2200	Single Module	EPA Tier 4 Final, EU Stage V
F3.8	74 (55) @ 2500	DOC, DPF	EPA Tier 4 Final, EU Stage V
F3.8	74 (55) @ 2200	DOC, DPF	EPA Tier 4 Final, EU Stage V

# INTERMODAL

## QSB4.5



Configuration:	Inline, 4-Cylinder
Displacement	4.5 L
Bore / Stroke	4.21 in / 4.88 in

Model Name	Rated Power hp (kW) @ rpm	Aftertreatment	Emissions
QSB4.5	173 (130) @ 2500	SCR, DOC, DRT	EPA Tier 4 Final
QSB4.5	173 (130) @ 2000	SCR, DOC, DRT	EPA Tier 4 Final
QSB4.5	163 (122) @ 2500	SCR, DOC, DRT	EPA Tier 4 Final
QSB4.5	160 (119) @ 2300	SCR, DOC, DRT	EPA Tier 4 Final
QSB4.5	160 (119) @ 2200	SCR, DOC, DRT	EPA Tier 4 Final
QSB4.5	155 (116) @ 2000	SCR, DOC, DRT	EPA Tier 4 Final
QSB4.5	140 (104) @ 2200	SCR, DOC, DRT	EPA Tier 4 Final
QSB4.5	140 (104) @ 2000	SCR, DOC, DRT	EPA Tier 4 Final
QSB4.5	130 (97) @ 2500	SCR, DOC, DRT	EPA Tier 4 Final
QSB4.5	130 (97) @ 2300	SCR, DOC, DRT	EPA Tier 4 Final
QSB4.5	130 (97) @ 2200	SCR, DOC, DRT	EPA Tier 4 Final
QSB4.5	121 (90) @ 2200	SCR, DOC, DRT	EPA Tier 4 Final

## B4.5



Configuration:	Inline, 4-Cylinder
Displacement	4.5 L
Bore / Stroke	4.21 in / 4.88 in

Model Name	Rated Power hp (kW) @ rpm	Aftertreatment	Emissions
B4.5	200 (149) @ 2500	Single Module	EPA Tier 4 Final, EU Stage V
B4.5	200 (149) @ 2200	Single Module	EPA Tier 4 Final, EU Stage V
B4.5	188 (140) @ 2500	Single Module	EPA Tier 4 Final, EU Stage V
B4.5	188 (140) @ 2200	Single Module	EPA Tier 4 Final, EU Stage V
B4.5	188 (140) @ 2000	Single Module	EPA Tier 4 Final, EU Stage V
B4.5	173 (129) @ 2500	Single Module	EPA Tier 4 Final, EU Stage V
B4.5	173 (129) @ 2200	Single Module	EPA Tier 4 Final, EU Stage V
B4.5	173 (129) @ 2000	Single Module	EPA Tier 4 Final, EU Stage V
B4.5	162 (121) @ 2500	Single Module	EPA Tier 4 Final, EU Stage V
B4.5	130 (97) @ 2500	Single Module	EPA Tier 4 Final, EU Stage V
B4.5	121 (90) @ 2200	Single Module	EPA Tier 4 Final, EU Stage V

# INTERMODAL

## QSB6.7

Configuration:	Inline, 6-Cylinder
Displacement	6.7 L
Bore / Stroke	4.21 in / 4.88 in



Model Name	Rated Power hp (kW) @ rpm	Aftertreatment	Emissions
QSB6.7	300 (224) @ 2500	DOC + SCR	EPA Tier 4 Final
QSB6.7	275 (205) @ 2500	DOC + SCR	EPA Tier 4 Final
QSB6.7	260 (194) @ 2500	DOC + SCR	EPA Tier 4 Final
QSB6.7	260 (194) @ 2200	DOC + SCR	EPA Tier 4 Final
QSB6.7	250 (186) @ 2500	DOC + SCR	EPA Tier 4 Final
QSB6.7	250 (186) @ 2200	DOC + SCR	EPA Tier 4 Final
QSB6.7	225 (168) @ 2500	DOC + SCR	EPA Tier 4 Final
QSB6.7	225 (168) @ 2000	DOC + SCR	EPA Tier 4 Final
QSB6.7	215 (160) @ 1800	DOC + SCR	EPA Tier 4 Final
QSB6.7	200 (149) @ 2200	DOC + SCR	EPA Tier 4 Final
QSB6.7	195 (145) @ 2300	DOC + SCR	EPA Tier 4 Final
QSB6.7	190 (142) @ 2000	DOC + SCR	EPA Tier 4 Final
QSB6.7	173 (129) @ 2300	DOC + SCR	EPA Tier 4 Final
QSB6.7	173 (129) @ 2200	DOC + SCR	EPA Tier 4 Final
QSB6.7	173 (129) @ 2100	DOC + SCR	EPA Tier 4 Final
QSB6.7	164 (122) @ 2300	DOC + SCR	EPA Tier 4 Final
QSB6.7	158 (118) @ 2100	DOC + SCR	EPA Tier 4 Final
QSB6.7	155 (116) @ 2200	DOC + SCR	EPA Tier 4 Final
QSB6.7	146 (109) @ 2100	DOC + SCR	EPA Tier 4 Final

# INTERMODAL

## B6.7



Configuration:	Inline, 6-Cylinder
Displacement	6.7 L
Bore / Stroke	4.21 in / 4.88 in

Model Name	Rated Power hp (kW) @ rpm	Aftertreatment	Emissions
B6.7	326 (243) @ 2200	Single Module	EPA Tier 4 Final, EU Stage V
B6.7	316 (236) @ 2500	Single Module	EPA Tier 4 Final, EU Stage V
B6.7	310 (231) @ 2200	Single Module	EPA Tier 4 Final, EU Stage V
B6.7	300 (224) @ 2500	Single Module	EPA Tier 4 Final, EU Stage V
B6.7	280 (209) @ 2200	Single Module	EPA Tier 4 Final, EU Stage V
B6.7	280 (209) @ 2000	Single Module	EPA Tier 4 Final, EU Stage V
B6.7	261 (195) @ 2500	Single Module	EPA Tier 4 Final, EU Stage V
B6.7	260 (194) @ 2500	Single Module	EPA Tier 4 Final, EU Stage V
B6.7	250 (186) @ 2000	Single Module	EPA Tier 4 Final, EU Stage V
B6.7	232 (173) @ 2000	Single Module	EPA Tier 4 Final, EU Stage V
B6.7	225 (168) @ 2500	Single Module	EPA Tier 4 Final, EU Stage V
B6.7	200 (149) @ 2500	Single Module	EPA Tier 4 Final, EU Stage V
B6.7	195 (145) @ 2000	Single Module	EPA Tier 4 Final, EU Stage V
B6.7	173 (129) @ 2500	Single Module	EPA Tier 4 Final, EU Stage V

# INTERMODAL

## QSL9

Configuration:	Inline, 6-Cylinder
Displacement	8.9 L
Bore / Stroke	4.49 in. / 5.69 in

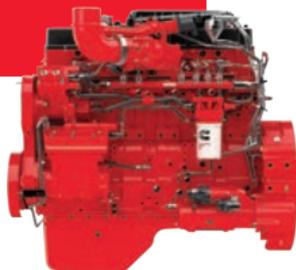


Model Name	Rated Power hp (kW) @ rpm	Aftertreatment	Emissions
QSL9	380 (283) @ 2100	DOC + SCR	EPA Tier 4 Final
QSL9	350 (261) @ 2100	DOC + SCR	EPA Tier 4 Final
QSL9	340 (254) @ 1800	DOC + SCR	EPA Tier 4 Final
QSL9	333 (248) @ 2100	DOC + SCR	EPA Tier 4 Final
QSL9	320 (239) @ 2200	DOC + SCR	EPA Tier 4 Final
QSL9	320 (239) @ 1800	DOC + SCR	EPA Tier 4 Final
QSL9	310 (231) @ 2100	DOC + SCR	EPA Tier 4 Final
QSL9	300 (224) @ 2200	DOC + SCR	EPA Tier 4 Final
QSL9	300 (224) @ 2000	DOC + SCR	EPA Tier 4 Final
QSL9	285 (213) @ 2000	DOC + SCR	EPA Tier 4 Final
QSL9	275 (205) @ 2200	DOC + SCR	EPA Tier 4 Final
QSL9	265 (198) @ 2000	DOC + SCR	EPA Tier 4 Final
QSL9	260 (194) @ 2200	DOC + SCR	EPA Tier 4 Final
QSL9	250 (186) @ 2200	DOC + SCR	EPA Tier 4 Final

# INTERMODAL

## L9

Configuration:	Inline, 6-Cylinder
Displacement	8.9 L
Bore / Stroke	4.49 in / 5.69 in



Model Name	Rated Power hp (kW) @ rpm	Aftertreatment	Emissions
L9	430 (321) @ 2100	Single Module	EPA Tier 4 Final, EU Stage V
L9	415 (309) @ 2100	Single Module	EPA Tier 4 Final, EU Stage V
L9	400 (298) @ 1800	Single Module	EPA Tier 4 Final, EU Stage V
L9	390 (291) @ 2100	Single Module	EPA Tier 4 Final, EU Stage V
L9	380 (283) @ 1800	Single Module	EPA Tier 4 Final, EU Stage V
L9	365 (272) @ 2100	Single Module	EPA Tier 4 Final, EU Stage V
L9	350 (261) @ 1800	Single Module	EPA Tier 4 Final, EU Stage V
L9	340 (254) @ 2100	Single Module	EPA Tier 4 Final, EU Stage V
L9	338 (252) @ 1800	Single Module	EPA Tier 4 Final, EU Stage V
L9	325 (242) @ 1800	Single Module	EPA Tier 4 Final, EU Stage V
L9	310 (231) @ 2100	Single Module	EPA Tier 4 Final, EU Stage V
L9	295 (220) @ 1800	Single Module	EPA Tier 4 Final, EU Stage V
L9	280 (209) @ 2100	Single Module	EPA Tier 4 Final, EU Stage V

# INTERMODAL

## X12

Configuration:	Inline, 6-Cylinder
Displacement	11.8 L
Bore / Stroke	5.2 in / 5.67 in

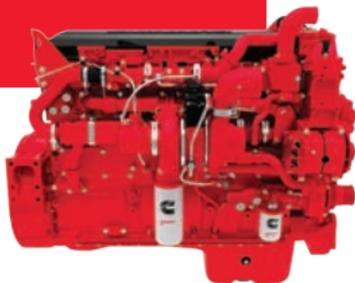


Model Name	Rated Power hp (kW) @ rpm	Aftertreatment	Emissions
X12	513 (383) @ 1900	DPF, DRP, SCR	EPA Tier 4 Final, EU Stage V
X12	500 (373) @ 1800	DPF, DRP, SCR	EPA Tier 4 Final, EU Stage V
X12	475 (354) @ 1800	DPF, DRP, SCR	EPA Tier 4 Final, EU Stage V
X12	460 (343) @ 2100	DPF, DRP, SCR	EPA Tier 4 Final, EU Stage V
X12	450 (336) @ 1800	DPF, DRP, SCR	EPA Tier 4 Final, EU Stage V
X12	435 (324) @ 1900	DPF, DRP, SCR	EPA Tier 4 Final, EU Stage V
X12	430 (321) @ 2100	DPF, DRP, SCR	EPA Tier 4 Final, EU Stage V
X12	430 (321) @ 1800	DPF, DRP, SCR	EPA Tier 4 Final, EU Stage V
X12	400 (298) @ 2100	DPF, DRP, SCR	EPA Tier 4 Final, EU Stage V
X12	400 (298) @ 1800	DPF, DRP, SCR	EPA Tier 4 Final, EU Stage V
X12	375 (280) @ 2100	DPF, DRP, SCR	EPA Tier 4 Final, EU Stage V
X12	375 (280) @ 1900	DPF, DRP, SCR	EPA Tier 4 Final, EU Stage V
X12	375 (280) @ 1800	DPF, DRP, SCR	EPA Tier 4 Final, EU Stage V
X12	350 (261) @ 2100	DPF, DRP, SCR	EPA Tier 4 Final, EU Stage V
X12	350 (261) @ 1800	DPF, DRP, SCR	EPA Tier 4 Final, EU Stage V

# INTERMODAL

## QSX15

Configuration:	Inline, 6-Cylinder
Displacement	14.9 L
Bore / Stroke	5.39 in / 6.65 in



Model Name	Rated Power hp (kW) @ rpm	Aftertreatment	Emissions
QSX15	675 (503) @ 2100	DPF, DRP, SCR	EPA Tier 4 Final, EU Stage V
QSX15	650 (485) @ 2100	DPF, DRP, SCR	EPA Tier 4 Final, EU Stage V
QSX15	630 (470) @ 2100	DPF, DRP, SCR	EPA Tier 4 Final, EU Stage V
QSX15	625 (466) @ 1800	DPF, DRP, SCR	EPA Tier 4 Final, EU Stage V
QSX15	600 (447) @ 2100	DPF, DRP, SCR	EPA Tier 4 Final, EU Stage V
QSX15	600 (447) @ 1800	DPF, DRP, SCR	EPA Tier 4 Final, EU Stage V
QSX15	575 (429) @ 1800	DPF, DRP, SCR	EPA Tier 4 Final, EU Stage V
QSX15	550 (410) @ 2100	DPF, DRP, SCR	EPA Tier 4 Final, EU Stage V
QSX15	550 (410) @ 1800	DPF, DRP, SCR	EPA Tier 4 Final, EU Stage V
QSX15	535 (399) @ 2100	DPF, DRP, SCR	EPA Tier 4 Final, EU Stage V
QSX15	525 (391) @ 1800	DPF, DRP, SCR	EPA Tier 4 Final, EU Stage V
QSX15	500 (373) @ 2100	DPF, DRP, SCR	EPA Tier 4 Final, EU Stage V
QSX15	500 (373) @ 1800	DPF, DRP, SCR	EPA Tier 4 Final, EU Stage V
QSX15	450 (336) @ 2100	DPF, DRP, SCR	EPA Tier 4 Final, EU Stage V

## QSK19

Configuration:	Inline, 6-Cylinder
Displacement	18.9 L
Bore / Stroke	6.25 in / 6.25 in



Model Name	Rated Power hp (kW) @ rpm	Aftertreatment	Emissions
QSK19	760 (567) @ 2000	1 x 4000 Series SCR	EPA Tier 4 Final, EU Stage V
QSK19	760 (567) @ 1800	1 x 4000 Series SCR	EPA Tier 4 Final, EU Stage V

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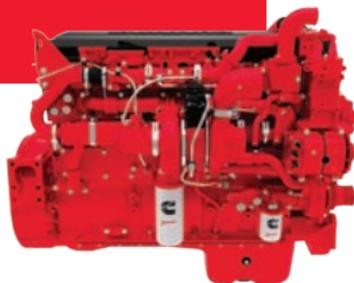


**ALWAYS ON**

# HEAD-END POWER

## QSX15

Configuration:	Inline, 6-Cylinder
Displacement	15 L
Bore / Stroke	5.39 in / 6.65 in



Model Name	Rated Power hp (kW) @ rpm	Aftertreatment	Emissions
X15	680 (507) @ 1800	1 x 4000 Series SCR	EPA Tier 4 Final, EU Stage V
QSX15	680 (507) @ 1800	N/A	EPA Tier 2
QSX15	620 (462) @ 1800	N/A	EPA Tier 2
QSX15	569 (424) @ 1800	N/A	EPA Tier 4 Interim
QSX15	555 (414) @ 1800	N/A	EPA Tier 2
QSX15	504 (376) @ 1800	N/A	EPA Tier 3
QSX15	504 (376) @ 1800	N/A	EPA Tier 4 Interim

# HEAD-END POWER

## QSK19

Configuration:	Inline, 6-Cylinder
Displacement	18.9 L
Bore / Stroke	6.25 in / 6.25 in



Model Name	Rated Power hp (kW) @ rpm	Aftertreatment	Emissions
QSK19	815 (608) @ 1800	N/A	EPA Tier 4 Interim / NSPS
QSK19	750 (559) @ 1800	N/A	EPA Tier 4 Interim / NSPS / 2g TA Luft Compliant

## QSK23

Configuration:	Inline, 6-Cylinder
Displacement	23.2 L
Bore / Stroke	6.69 in / 6.69 in



Model Name	Rated Power hp (kW) @ rpm	Aftertreatment	Emissions
QSK23	1085 (809) @ 1800	N/A	EPA Tier 2
QSK23	1030 (768) @ 1800	N/A	EPA Tier 2
QSK23	880 (656) @ 1800	N/A	EPA Tier 2

# TRACK MAINTENANCE

## QSF2.8



Configuration:	Inline, 4-Cylinder
Displacement	2.8 L
Bore / Stroke	3.7 in / 3.94 in

Model Name	Rated Power hp (kW) @ rpm	Aftertreatment	Emissions
QSF2.8	65 (48) @ 2500	DOC	EPA Tier 4 Final, EU Stage IIIB
QSF2.8	65 (48) @ 2200	DOC	EPA Tier 4 Final, EU Stage IIIB
QSF2.8	49 (37) @ 2500	DOC	EPA Tier 4 Final, EU Stage IIIB
QSF2.8	49 (37) @ 2200	DOC	EPA Tier 4 Final, EU Stage IIIB

## QSF3.8



Configuration:	Inline, 4-Cylinder
Displacement	3.8 L
Bore / Stroke	4.02 in / 4.53 in

Model Name	Rated Power hp (kW) @ rpm	Aftertreatment	Emissions
QSF3.8	130 (97) @ 2500	SCR	EPA Tier 4 Final
QSF3.8	130 (97) @ 2200	SCR	EPA Tier 4 Final
QSF3.8	120 (89) @ 2500	SCR	EPA Tier 4 Final
QSF3.8	120 (89) @ 2200	SCR	EPA Tier 4 Final
QSF3.8	100 (75) @ 2200	SCR	EPA Tier 4 Final

# TRACK MAINTENANCE

## F3.8

Configuration:	Inline 4-Cylinder
Displacement	3.8 L
Bore / Stroke	4.02 in / 4.53 in



Model Name	Rated Power hp (kW) @ rpm	Aftertreatment	Emissions
F3.8	173 (129) @ 2500	Single Module	EPA Tier 4 Final, EU Stage V
F3.8	154 (115) @ 2500	Single Module	EPA Tier 4 Final, EU Stage V
F3.8	154 (115) @ 2200	Single Module	EPA Tier 4 Final, EU Stage V
F3.8	148 (110) @ 2500	Single Module	EPA Tier 4 Final, EU Stage V
F3.8	148 (110) @ 2200	Single Module	EPA Tier 4 Final, EU Stage V
F3.8	134 (100) @ 2500	Single Module	EPA Tier 4 Final, EU Stage V
F3.8	134 (100) @ 2200	Single Module	EPA Tier 4 Final, EU Stage V
F3.8	121 (90) @ 2500	Single Module	EPA Tier 4 Final, EU Stage V
F3.8	121 (90) @ 2200	Single Module	EPA Tier 4 Final, EU Stage V
F3.8	101 (75) @ 2500	Single Module	EPA Tier 4 Final, EU Stage V
F3.8	101 (75) @ 2200	Single Module	EPA Tier 4 Final, EU Stage V
F3.8	74 (55) @ 2500	DOC, DPF	EPA Tier 4 Final, EU Stage V
F3.8	74 (55) @ 2200	DOC, DPF	EPA Tier 4 Final, EU Stage V

# TRACK MAINTENANCE

## QSB4.5



Configuration:	Inline, 4-Cylinder
Displacement	4.5 L
Bore / Stroke	4.21 in / 4.88 in

Model Name	Rated Power hp (kW) @ rpm	Aftertreatment	Emissions
QSB4.5	173 (130) @ 2500	SCR, DOC, DRT	EPA Tier 4 Final
QSB4.5	173 (130) @ 2000	SCR, DOC, DRT	EPA Tier 4 Final
QSB4.5	163 (122) @ 2500	SCR, DOC, DRT	EPA Tier 4 Final
QSB4.5	160 (119) @ 2300	SCR, DOC, DRT	EPA Tier 4 Final
QSB4.5	160 (119) @ 2200	SCR, DOC, DRT	EPA Tier 4 Final
QSB4.5	155 (116) @ 2000	SCR, DOC, DRT	EPA Tier 4 Final
QSB4.5	140 (104) @ 2200	SCR, DOC, DRT	EPA Tier 4 Final
QSB4.5	140 (104) @ 2000	SCR, DOC, DRT	EPA Tier 4 Final
QSB4.5	130 (97) @ 2500	SCR, DOC, DRT	EPA Tier 4 Final
QSB4.5	130 (97) @ 2300	SCR, DOC, DRT	EPA Tier 4 Final
QSB4.5	130 (97) @ 2200	SCR, DOC, DRT	EPA Tier 4 Final
QSB4.5	121 (90) @ 2200	SCR, DOC, DRT	EPA Tier 4 Final

# TRACK MAINTENANCE

## B4.5



Configuration:	Inline, 4-Cylinder
Displacement	4.5 L
Bore / Stroke	4.21 in / 4.88 in

Model Name	Rated Power hp (kW) @ rpm	Aftertreatment	Emissions
B4.5	200 (149) @ 2500	Single Module	EPA Tier 4 Final, EU Stage V
B4.5	200 (149) @ 2200	Single Module	EPA Tier 4 Final, EU Stage V
B4.5	188 (140) @ 2500	Single Module	EPA Tier 4 Final, EU Stage V
B4.5	188 (140) @ 2200	Single Module	EPA Tier 4 Final, EU Stage V
B4.5	188 (140) @ 2000	Single Module	EPA Tier 4 Final, EU Stage V
B4.5	173 (129) @ 2500	Single Module	EPA Tier 4 Final, EU Stage V
B4.5	173 (129) @ 2200	Single Module	EPA Tier 4 Final, EU Stage V
B4.5	173 (129) @ 2000	Single Module	EPA Tier 4 Final, EU Stage V
B4.5	162 (121) @ 2500	Single Module	EPA Tier 4 Final, EU Stage V
B4.5	130 (97) @ 2500	Single Module	EPA Tier 4 Final, EU Stage V
B4.5	121 (90) @ 2200	Single Module	EPA Tier 4 Final, EU Stage V

# TRACK MAINTENANCE

## QSB6.7



Configuration:	Inline, 6-Cylinder
Displacement	6.7 L
Bore / Stroke	4.21 in / 4.88 in

Model Name	Rated Power hp (kW) @ rpm	Aftertreatment	Emissions
QSB6.7	300 (224) @ 2500	DOC + SCR	EPA Tier 4 Final
QSB6.7	275 (205) @ 2500	DOC + SCR	EPA Tier 4 Final
QSB6.7	260 (194) @ 2500	DOC + SCR	EPA Tier 4 Final
QSB6.7	260 (194) @ 2200	DOC + SCR	EPA Tier 4 Final
QSB6.7	250 (186) @ 2500	DOC + SCR	EPA Tier 4 Final
QSB6.7	250 (186) @ 2200	DOC + SCR	EPA Tier 4 Final
QSB6.7	225 (168) @ 2500	DOC + SCR	EPA Tier 4 Final
QSB6.7	225 (168) @ 2000	DOC + SCR	EPA Tier 4 Final
QSB6.7	215 (160) @ 1800	DOC + SCR	EPA Tier 4 Final
QSB6.7	200 (149) @ 2200	DOC + SCR	EPA Tier 4 Final
QSB6.7	195 (145) @ 2300	DOC + SCR	EPA Tier 4 Final
QSB6.7	190 (142) @ 2000	DOC + SCR	EPA Tier 4 Final
QSB6.7	173 (129) @ 2300	DOC + SCR	EPA Tier 4 Final
QSB6.7	173 (129) @ 2200	DOC + SCR	EPA Tier 4 Final
QSB6.7	173 (129) @ 2100	DOC + SCR	EPA Tier 4 Final
QSB6.7	164 (122) @ 2300	DOC + SCR	EPA Tier 4 Final
QSB6.7	158 (118) @ 2100	DOC + SCR	EPA Tier 4 Final
QSB6.7	155 (116) @ 2200	DOC + SCR	EPA Tier 4 Final
QSB6.7	146 (109) @ 2100	DOC + SCR	EPA Tier 4 Final

# TRACK MAINTENANCE

## B6.7



Configuration:	Inline, 6-Cylinder
Displacement	6.7 L
Bore / Stroke	4.21 in / 4.88 in

Model Name	Rated Power hp (kW) @ rpm	Aftertreatment	Emissions
B6.7	326 (243) @ 2200	Single Module	EPA Tier 4 Final, EU Stage V
B6.7	316 (236) @ 2500	Single Module	EPA Tier 4 Final, EU Stage V
B6.7	310 (231) @ 2200	Single Module	EPA Tier 4 Final, EU Stage V
B6.7	300 (224) @ 2500	Single Module	EPA Tier 4 Final, EU Stage V
B6.7	280 (209) @ 2200	Single Module	EPA Tier 4 Final, EU Stage V
B6.7	280 (209) @ 2000	Single Module	EPA Tier 4 Final, EU Stage V
B6.7	261 (195) @ 2500	Single Module	EPA Tier 4 Final, EU Stage V
B6.7	260 (194) @ 2500	Single Module	EPA Tier 4 Final, EU Stage V
B6.7	250 (186) @ 2000	Single Module	EPA Tier 4 Final, EU Stage V
B6.7	232 (173) @ 2000	Single Module	EPA Tier 4 Final, EU Stage V
B6.7	225 (168) @ 2500	Single Module	EPA Tier 4 Final, EU Stage V
B6.7	200 (149) @ 2500	Single Module	EPA Tier 4 Final, EU Stage V
B6.7	195 (145) @ 2000	Single Module	EPA Tier 4 Final, EU Stage V
B6.7	173 (129) @ 2500	Single Module	EPA Tier 4 Final, EU Stage V

# TRACK MAINTENANCE

## QSL9

Configuration:	Inline, 6-Cylinder
Displacement	8.9 L
Bore / Stroke	4.49 in. / 5.69 in



Model Name	Rated Power hp (kW) @ rpm	Aftertreatment	Emissions
QSL9	380 (283) @ 2100	DOC + SCR	EPA Tier 4 Final
QSL9	350 (261) @ 2100	DOC + SCR	EPA Tier 4 Final
QSL9	340 (254) @ 1800	DOC + SCR	EPA Tier 4 Final
QSL9	333 (248) @ 2100	DOC + SCR	EPA Tier 4 Final
QSL9	320 (239) @ 2200	DOC + SCR	EPA Tier 4 Final
QSL9	320 (239) @ 1800	DOC + SCR	EPA Tier 4 Final
QSL9	310 (231) @ 2100	DOC + SCR	EPA Tier 4 Final
QSL9	300 (224) @ 2200	DOC + SCR	EPA Tier 4 Final
QSL9	300 (224) @ 2000	DOC + SCR	EPA Tier 4 Final
QSL9	285 (213) @ 2000	DOC + SCR	EPA Tier 4 Final
QSL9	275 (205) @ 2200	DOC + SCR	EPA Tier 4 Final
QSL9	265 (198) @ 2000	DOC + SCR	EPA Tier 4 Final
QSL9	260 (194) @ 2200	DOC + SCR	EPA Tier 4 Final
QSL9	250 (186) @ 2200	DOC + SCR	EPA Tier 4 Final

# TRACK MAINTENANCE

## L9

Configuration:	Inline, 6-Cylinder
Displacement	8.9 L
Bore / Stroke	4.49 in / 5.69 in



Model Name	Rated Power hp (kW) @ rpm	Aftertreatment	Emissions
L9	430 (321) @ 2100	Single Module	EPA Tier 4 Final, EU Stage V
L9	415 (309) @ 2100	Single Module	EPA Tier 4 Final, EU Stage V
L9	400 (298) @ 1800	Single Module	EPA Tier 4 Final, EU Stage V
L9	390 (291) @ 2100	Single Module	EPA Tier 4 Final, EU Stage V
L9	380 (283) @ 1800	Single Module	EPA Tier 4 Final, EU Stage V
L9	365 (272) @ 2100	Single Module	EPA Tier 4 Final, EU Stage V
L9	350 (261) @ 1800	Single Module	EPA Tier 4 Final, EU Stage V
L9	340 (254) @ 2100	Single Module	EPA Tier 4 Final, EU Stage V
L9	338 (252) @ 1800	Single Module	EPA Tier 4 Final, EU Stage V
L9	325 (242) @ 1800	Single Module	EPA Tier 4 Final, EU Stage V
L9	310 (231) @ 2100	Single Module	EPA Tier 4 Final, EU Stage V
L9	295 (220) @ 1800	Single Module	EPA Tier 4 Final, EU Stage V
L9	280 (209) @ 2100	Single Module	EPA Tier 4 Final, EU Stage V

# TRACK MAINTENANCE

## X12

Configuration:	Inline, 6-Cylinder
Displacement	11.8 L
Bore / Stroke	5.2 in / 5.67 in

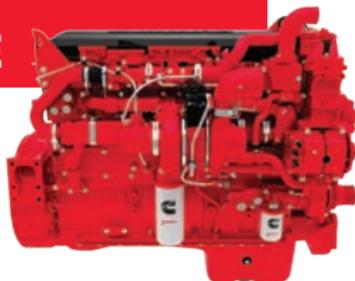


Model Name	Rated Power hp (kW) @ rpm	Aftertreatment	Emissions
X12	513 (383) @ 1900	DPF, DRP, SCR	EPA Tier 4 Final, EU Stage V
X12	500 (373) @ 1800	DPF, DRP, SCR	EPA Tier 4 Final, EU Stage V
X12	475 (354) @ 1800	DPF, DRP, SCR	EPA Tier 4 Final, EU Stage V
X12	460 (343) @ 2100	DPF, DRP, SCR	EPA Tier 4 Final, EU Stage V
X12	450 (336) @ 1800	DPF, DRP, SCR	EPA Tier 4 Final, EU Stage V
X12	435 (324) @ 1900	DPF, DRP, SCR	EPA Tier 4 Final, EU Stage V
X12	430 (321) @ 2100	DPF, DRP, SCR	EPA Tier 4 Final, EU Stage V
X12	430 (321) @ 1800	DPF, DRP, SCR	EPA Tier 4 Final, EU Stage V
X12	400 (298) @ 2100	DPF, DRP, SCR	EPA Tier 4 Final, EU Stage V
X12	400 (298) @ 1800	DPF, DRP, SCR	EPA Tier 4 Final, EU Stage V
X12	375 (280) @ 2100	DPF, DRP, SCR	EPA Tier 4 Final, EU Stage V
X12	375 (280) @ 1900	DPF, DRP, SCR	EPA Tier 4 Final, EU Stage V
X12	375 (280) @ 1800	DPF, DRP, SCR	EPA Tier 4 Final, EU Stage V
X12	350 (261) @ 2100	DPF, DRP, SCR	EPA Tier 4 Final, EU Stage V
X12	350 (261) @ 1800	DPF, DRP, SCR	EPA Tier 4 Final, EU Stage V

# TRACK MAINTENANCE

## QSX15

Configuration:	Inline, 6-Cylinder
Displacement	14.9 L
Bore / Stroke	5.39 in / 6.65 in



Model Name	Rated Power hp (kW) @ rpm	Aftertreatment	Emissions
QSX15	675 (503) @ 2100	DPF, DRP, SCR	EPA Tier 4 Final, EU Stage V
QSX15	650 (485) @ 2100	DPF, DRP, SCR	EPA Tier 4 Final, EU Stage V
QSX15	630 (470) @ 2100	DPF, DRP, SCR	EPA Tier 4 Final, EU Stage V
QSX15	625 (466) @ 1800	DPF, DRP, SCR	EPA Tier 4 Final, EU Stage V
QSX15	600 (447) @ 2100	DPF, DRP, SCR	EPA Tier 4 Final, EU Stage V
QSX15	600 (447) @ 1800	DPF, DRP, SCR	EPA Tier 4 Final, EU Stage V
QSX15	575 (429) @ 1800	DPF, DRP, SCR	EPA Tier 4 Final, EU Stage V
QSX15	550 (410) @ 2100	DPF, DRP, SCR	EPA Tier 4 Final, EU Stage V
QSX15	550 (410) @ 1800	DPF, DRP, SCR	EPA Tier 4 Final, EU Stage V
QSX15	535 (399) @ 2100	DPF, DRP, SCR	EPA Tier 4 Final, EU Stage V
QSX15	525 (391) @ 1800	DPF, DRP, SCR	EPA Tier 4 Final, EU Stage V
QSX15	500 (373) @ 2100	DPF, DRP, SCR	EPA Tier 4 Final, EU Stage V
QSX15	500 (373) @ 1800	DPF, DRP, SCR	EPA Tier 4 Final, EU Stage V
QSX15	450 (336) @ 2100	DPF, DRP, SCR	EPA Tier 4 Final, EU Stage V

# TRACK MAINTENANCE

## QSK19-R

Configuration:	Inline, 6-Cylinder
Displacement	18.9 L
Bore / Stroke	6.25 in / 6.25 in



Model Name	Rated Power hp (kW) @ rpm	Aftertreatment	Emissions
QSK19	760 (567) @ 2000	1 x 4000 Series SCR	EPA Tier 4 Final
QSK19	760 (567) @ 1800	1 x 4000 Series SCR	EPA Tier 4 Final

## QSK19

Configuration:	Inline, 6-Cylinder
Displacement	18.9 L
Bore / Stroke	6.25 in / 6.25 in



Model Name	Rated Power hp (kW) @ rpm	Aftertreatment	Emissions
QSK19	760 (567) @ 2000	1 x 4000 Series SCR	EPA Tier 4 Final, EU Stage V
QSK19	760 (567) @ 1800	1 x 4000 Series SCR	EPA Tier 4 Final, EU Stage V

# TRACK MAINTENANCE

## QSK23



Configuration:	Inline, 6-Cylinder
Displacement	23.2 L
Bore / Stroke	6.69 in / 6.69 in

Model Name	Rated Power hp (kW) @ rpm	Aftertreatment	Emissions
QSK23	1050 (783) @ 2100	1 x 6000 Series SCR	EPA Tier 4 Final
QSK23	1000 (746) @ 1800	1 x 6000 Series SCR	EPA Tier 4 Final
QSK23	950 (708) @ 2100	1 x 6000 Series SCR	EPA Tier 4 Final
QSK23	950 (708) @ 1800	1 x 6000 Series SCR	EPA Tier 4 Final
QSK23	860 (641) @ 2100	1 x 6000 Series SCR	EPA Tier 4 Final
QSK23	860 (641) @ 1800	1 x 6000 Series SCR	EPA Tier 4 Final
QSK23	760 (567) @ 2100	1 x 4000 Series SCR	EPA Tier 4 Final
QSK23	760 (567) @ 1800	1 x 4000 Series SCR	EPA Tier 4 Final

## QST30



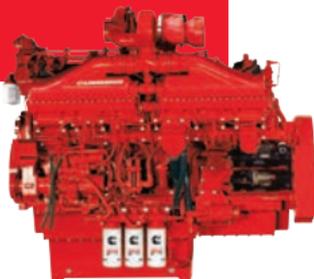
Configuration:	Vee, 12-Cylinder
Displacement	30.5 L
Bore / Stroke	5.51 in / 6.5 in

Model Name	Rated Power hp (kW) @ rpm	Aftertreatment	Emissions
QST30	1500 (1119) @ 2100	2 x 4000 Series SCR	EPA Tier 3 Switcher
QST30	1500 (1119) @ 1900	2 x 4000 Series SCR	EPA Tier 3 Switcher
QST30	1350 (1007) @ 1900	2 x 4000 Series SCR	EPA Tier 3 Switcher
QST30	1200 (895) @ 2100	2 x 4000 Series SCR	EPA Tier 3 Switcher
QST30	1000 (746) @ 1800	2 x 4000 Series SCR	EPA Tier 4 Final
QST30	950 (708) @ 2100	2 x 4000 Series SCR	EPA Tier 4 Final

# TRACK MAINTENANCE

## QSK38

Configuration:	Vee, 12-Cylinder
Displacement	37.9L
Bore / Stroke	6.26 in / 6.26 in



Model Name	Rated Power hp (kW) @ rpm	Aftertreatment	Emissions
QSK38	1260 (940) @ 1800	2 x 4000 Series SCR	EPA Tier 4 Final
QSK38	1086 (810) @ 1800	2 x 4000 Series SCR	EPA Tier 4 Final

## QSK50

Configuration:	Vee, 16-Cylinder
Displacement	50.5 L
Bore / Stroke	6.26 in / 6.26 in



Model Name	Rated Power hp (kW) @ rpm	Aftertreatment	Emissions
QSK50-2S	2500 (1864) @ 1900	2 x 6000 Series SCR	EPA Tier 4 Final
QSK50-2S	2300 (1715) @ 1900	2 x 6000 Series SCR	EPA Tier 4 Final
QSK50-2S	2250 (1678) @ 1900	2 x 6000 Series SCR	EPA Tier 4 Final
QSK50-2S	2000 (1491) @ 1900	2 x 6000 Series SCR	EPA Tier 4 Final
QSK50-2S	1675 (1249) @ 1800	2 x 6000 Series SCR	EPA Tier 4 Final
QSK50-SS	1600 (1193) @ 1800	2 x 4000 Series SCR	EPA Tier 4 Final
QSK50-SS	1500 (1119) @ 1800	2 x 4000 Series SCR	EPA Tier 4 Final
QSK50-SS with ETV	1900 (1417) @ 1800	2 x 6000 Series SCR	EPA Tier 4 Final
QSK50-SS with ETV	1600 (1193) @ 1800	2 x 4000 Series SCR	EPA Tier 4 Final
QSK50-SS with ETV	1575 (1175) @ 1900	2 x 4000 Series SCR	EPA Tier 4 Final
QSK50-SS with ETV	1500 (1119) @ 1800	2 x 4000 Series SCR	EPA Tier 4 Final
QSK50-SS with ETV	1500 (1119) @ 1200	2 x 4000 Series SCR	EPA Tier 4 Final

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## L9



Configuration:	Inline, 6-Cylinder
Displacement	8.9 L
Bore / Stroke	4.49 in / 5.69 in

Model Name	Rated Power hp (kW) @ rpm	Aftertreatment	Emissions
L9	430 (321) @ 2100	Single Module	EPA Tier 4 Final, EU Stage V
L9	415 (309) @ 2100	Single Module	EPA Tier 4 Final, EU Stage V
L9	400 (298) @ 1800	Single Module	EPA Tier 4 Final, EU Stage V
L9	390 (291) @ 2100	Single Module	EPA Tier 4 Final, EU Stage V
L9	380 (283) @ 1800	Single Module	EPA Tier 4 Final, EU Stage V
L9	365 (272) @ 2100	Single Module	EPA Tier 4 Final, EU Stage V
L9	350 (261) @ 1800	Single Module	EPA Tier 4 Final, EU Stage V
L9	340 (254) @ 2100	Single Module	EPA Tier 4 Final, EU Stage V
L9	338 (252) @ 1800	Single Module	EPA Tier 4 Final, EU Stage V
L9	325 (242) @ 1800	Single Module	EPA Tier 4 Final, EU Stage V
L9	310 (231) @ 2100	Single Module	EPA Tier 4 Final, EU Stage V
L9	295 (220) @ 1800	Single Module	EPA Tier 4 Final, EU Stage V
L9	280 (209) @ 2100	Single Module	EPA Tier 4 Final, EU Stage V

# RAILCAR

## QSL9



Configuration:	Inline, 6-Cylinder
Displacement	8.9 L
Bore / Stroke	4.49 in. / 5.69 in

Model Name	Rated Power hp (kW) @ rpm	Aftertreatment	Emissions
QSL9	380 (283) @ 2100	DOC + SCR	EPA Tier 4 Final
QSL9	350 (261) @ 2100	DOC + SCR	EPA Tier 4 Final
QSL9	340 (254) @ 1800	DOC + SCR	EPA Tier 4 Final
QSL9	333 (248) @ 2100	DOC + SCR	EPA Tier 4 Final
QSL9	320 (239) @ 2200	DOC + SCR	EPA Tier 4 Final
QSL9	320 (239) @ 1800	DOC + SCR	EPA Tier 4 Final
QSL9	310 (231) @ 2100	DOC + SCR	EPA Tier 4 Final
QSL9	300 (224) @ 2200	DOC + SCR	EPA Tier 4 Final
QSL9	300 (224) @ 2000	DOC + SCR	EPA Tier 4 Final
QSL9	285 (213) @ 2000	DOC + SCR	EPA Tier 4 Final
QSL9	275 (205) @ 2200	DOC + SCR	EPA Tier 4 Final
QSL9	265 (198) @ 2000	DOC + SCR	EPA Tier 4 Final
QSL9	260 (194) @ 2200	DOC + SCR	EPA Tier 4 Final
QSL9	250 (186) @ 2200	DOC + SCR	EPA Tier 4 Final

## X12

Configuration:	Inline, 6-Cylinder
Displacement	11.8 L
Bore / Stroke	5.2 in / 5.67 in

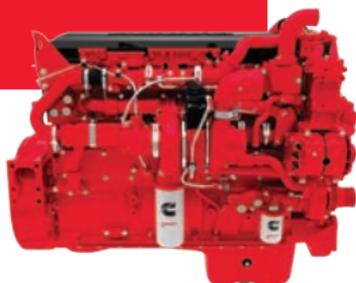


Model Name	Rated Power hp (kW) @ rpm	Aftertreatment	Emissions
X12	513 (383) @ 1900	DPF, DRP, SCR	EPA Tier 4 Final, EU Stage V
X12	500 (373) @ 1800	DPF, DRP, SCR	EPA Tier 4 Final, EU Stage V
X12	475 (354) @ 1800	DPF, DRP, SCR	EPA Tier 4 Final, EU Stage V
X12	460 (343) @ 2100	DPF, DRP, SCR	EPA Tier 4 Final, EU Stage V
X12	450 (336) @ 1800	DPF, DRP, SCR	EPA Tier 4 Final, EU Stage V
X12	435 (324) @ 1900	DPF, DRP, SCR	EPA Tier 4 Final, EU Stage V
X12	430 (321) @ 2100	DPF, DRP, SCR	EPA Tier 4 Final, EU Stage V
X12	430 (321) @ 1800	DPF, DRP, SCR	EPA Tier 4 Final, EU Stage V
X12	400 (298) @ 2100	DPF, DRP, SCR	EPA Tier 4 Final, EU Stage V
X12	400 (298) @ 1800	DPF, DRP, SCR	EPA Tier 4 Final, EU Stage V
X12	375 (280) @ 2100	DPF, DRP, SCR	EPA Tier 4 Final, EU Stage V
X12	375 (280) @ 1900	DPF, DRP, SCR	EPA Tier 4 Final, EU Stage V
X12	375 (280) @ 1800	DPF, DRP, SCR	EPA Tier 4 Final, EU Stage V
X12	350 (261) @ 2100	DPF, DRP, SCR	EPA Tier 4 Final, EU Stage V
X12	350 (261) @ 1800	DPF, DRP, SCR	EPA Tier 4 Final, EU Stage V

# RAILCAR

## QSX15

Configuration:	Inline, 6-Cylinder
Displacement	14.9 L
Bore / Stroke	5.39 in / 6.65 in



Model Name	Rated Power hp (kW) @ rpm	Aftertreatment	Emissions
QSX15	675 (503) @ 2100	DPF, DRP, SCR	EPA Tier 4 Final EU Stage V
QSX15	650 (485) @ 2100	DPF, DRP, SCR	EPA Tier 4 Final EU Stage V
QSX15	630 (470) @ 2100	DPF, DRP, SCR	EPA Tier 4 Final EU Stage V
QSX15	625 (466) @ 1800	DPF, DRP, SCR	EPA Tier 4 Final EU Stage V
QSX15	600 (447) @ 2100	DPF, DRP, SCR	EPA Tier 4 Final EU Stage V
QSX15	600 (447) @ 1800	DPF, DRP, SCR	EPA Tier 4 Final EU Stage V
QSX15	600 (447) @ 1800	DPF	EPA Tier 4 Switcher
QSX15	575 (429) @ 1800	DPF, DRP, SCR	EPA Tier 4 Final EU Stage V
QSX15	550 (410) @ 2100	DPF, DRP, SCR	EPA Tier 4 Final EU Stage V
QSX15	550 (410) @ 1800	DPF, DRP, SCR	EPA Tier 4 Final EU Stage V
QSX15	535 (399) @ 2100	DPF, DRP, SCR	EPA Tier 4 Final EU Stage V
QSX15	525 (391) @ 1800	DPF, DRP, SCR	EPA Tier 4 Final EU Stage V
QSX15	500 (373) @ 2100	DPF, DRP, SCR	EPA Tier 4 Final EU Stage V
QSX15	500 (373) @ 1800	DPF, DRP, SCR	EPA Tier 4 Final EU Stage V
QSX15	450 (336) @ 2100	DPF, DRP, SCR	EPA Tier 4 Final EU Stage V

# RAILCAR

## QSK19-R

Configuration:	Inline, 6-Cylinder
Displacement	18.9 L
Bore / Stroke	6.25 in / 6.25 in



Model Name	Rated Power hp (kW) @ rpm	Aftertreatment	Emissions
QSK19	760 (567) @ 2000	1 x 4000 Series SCR	EPA Tier 4 Final
QSK19	760 (567) @ 1800	1 x 4000 Series SCR	EPA Tier 4 Final

## QSK19

Configuration:	Inline, 6-Cylinder
Displacement	18.9 L
Bore / Stroke	6.25 in / 6.25 in



Model Name	Rated Power hp (kW) @ rpm	Aftertreatment	Emissions
QSK19	760 (567) @ 2000	1 x 4000 Series SCR	EPA Tier 4 Final, EU Stage V
QSK19	760 (567) @ 1800	1 x 4000 Series SCR	EPA Tier 4 Final, EU Stage V

# RAILCAR

## QSK23

Configuration:	Inline, 6-Cylinder
Displacement	23.2 L
Bore / Stroke	6.69 in / 6.69 in



Model Name	Rated Power hp (kW) @ rpm	Aftertreatment	Emissions
QSK23	1050 (783) @ 2100	1 x 6000 Series SCR	EPA Tier 4 Final
QSK23	1000 (746) @ 1800	1 x 6000 Series SCR	EPA Tier 4 Final
QSK23	950 (708) @ 2100	1 x 6000 Series SCR	EPA Tier 4 Final
QSK23	950 (708) @ 1800	1 x 6000 Series SCR	EPA Tier 4 Final
QSK23	860 (641) @ 2100	1 x 6000 Series SCR	EPA Tier 4 Final
QSK23	860 (641) @ 1800	1 x 6000 Series SCR	EPA Tier 4 Final
QSK23	760 (567) @ 2100	1 x 4000 Series SCR	EPA Tier 4 Final
QSK23	760 (567) @ 1800	1 x 4000 Series SCR	EPA Tier 4 Final

# DURABLE PERFORMANCE. THE POWER TO GO ANYWHERE.

For over 80 years, Cummins has brought innovation, reliability and performance to rail operations around the world. Cummins continues that legacy of breakthrough technology with our strong commitment to advanced and dependable products. From yard switchers and mainline freight to passenger locomotives and more, Cummins engines have withstood some of the toughest duty cycles and environmental conditions imaginable. Backed by our global support network in over 190 countries, Cummins engines keep you moving in a world that's Always On.

Learn more at [www.cummins.com/rail](http://www.cummins.com/rail)



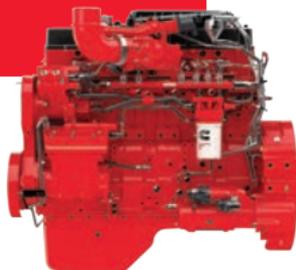
**ALWAYS ON**



# LOCOMOTIVE

## L9

Configuration:	Inline, 6-Cylinder
Displacement	8.9 L
Bore / Stroke	4.49 in / 5.69 in



Model Name	Rated Power hp (kW) @ rpm	Aftertreatment	Emissions
L9	430 (321) @ 2100	Single Module	EPA Tier 4 Final, EU Stage V
L9	415 (309) @ 2100	Single Module	EPA Tier 4 Final, EU Stage V
L9	400 (298) @ 1800	Single Module	EPA Tier 4 Final, EU Stage V
L9	390 (291) @ 2100	Single Module	EPA Tier 4 Final, EU Stage V
L9	380 (283) @ 1800	Single Module	EPA Tier 4 Final, EU Stage V
L9	365 (272) @ 2100	Single Module	EPA Tier 4 Final, EU Stage V
L9	350 (261) @ 1800	Single Module	EPA Tier 4 Final, EU Stage V
L9	340 (254) @ 2100	Single Module	EPA Tier 4 Final, EU Stage V
L9	338 (252) @ 1800	Single Module	EPA Tier 4 Final, EU Stage V
L9	325 (242) @ 1800	Single Module	EPA Tier 4 Final, EU Stage V
L9	310 (231) @ 2100	Single Module	EPA Tier 4 Final, EU Stage V
L9	295 (220) @ 1800	Single Module	EPA Tier 4 Final, EU Stage V
L9	280 (209) @ 2100	Single Module	EPA Tier 4 Final, EU Stage V

# LOCOMOTIVE

## QSL9

Configuration:	Inline, 6-Cylinder
Displacement	8.9 L
Bore / Stroke	4.49 in. / 5.69 in



Model Name	Rated Power hp (kW) @ rpm	Aftertreatment	Emissions
QSL9	380 (283) @ 2100	DOC + SCR	EPA Tier 4 Final
QSL9	350 (261) @ 2100	DOC + SCR	EPA Tier 4 Final
QSL9	340 (254) @ 1800	DOC + SCR	EPA Tier 4 Final
QSL9	333 (248) @ 2100	DOC + SCR	EPA Tier 4 Final
QSL9	320 (239) @ 2200	DOC + SCR	EPA Tier 4 Final
QSL9	320 (239) @ 1800	DOC + SCR	EPA Tier 4 Final
QSL9	310 (231) @ 2100	DOC + SCR	EPA Tier 4 Final
QSL9	300 (224) @ 2200	DOC + SCR	EPA Tier 4 Final
QSL9	300 (224) @ 2000	DOC + SCR	EPA Tier 4 Final
QSL9	285 (213) @ 2000	DOC + SCR	EPA Tier 4 Final
QSL9	275 (205) @ 2200	DOC + SCR	EPA Tier 4 Final
QSL9	265 (198) @ 2000	DOC + SCR	EPA Tier 4 Final
QSL9	260 (194) @ 2200	DOC + SCR	EPA Tier 4 Final
QSL9	250 (186) @ 2200	DOC + SCR	EPA Tier 4 Final

## X12

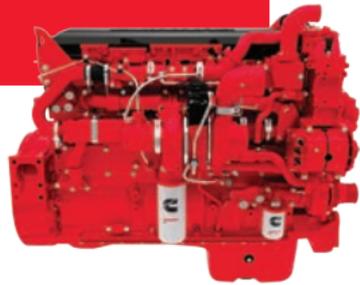
Configuration:	Inline, 6-Cylinder
Displacement	11.8 L
Bore / Stroke	5.2 in / 5.67 in



Model Name	Rated Power hp (kW) @ rpm	Aftertreatment	Emissions
X12	513 (383) @ 1900	DPF, DRP, SCR	EPA Tier 4 Final, EU Stage V
X12	500 (373) @ 1800	DPF, DRP, SCR	EPA Tier 4 Final, EU Stage V
X12	475 (354) @ 1800	DPF, DRP, SCR	EPA Tier 4 Final, EU Stage V
X12	460 (343) @ 2100	DPF, DRP, SCR	EPA Tier 4 Final, EU Stage V
X12	450 (336) @ 1800	DPF, DRP, SCR	EPA Tier 4 Final, EU Stage V
X12	435 (324) @ 1900	DPF, DRP, SCR	EPA Tier 4 Final, EU Stage V
X12	430 (321) @ 2100	DPF, DRP, SCR	EPA Tier 4 Final, EU Stage V
X12	430 (321) @ 1800	DPF, DRP, SCR	EPA Tier 4 Final, EU Stage V
X12	400 (298) @ 2100	DPF, DRP, SCR	EPA Tier 4 Final, EU Stage V
X12	400 (298) @ 1800	DPF, DRP, SCR	EPA Tier 4 Final, EU Stage V
X12	375 (280) @ 2100	DPF, DRP, SCR	EPA Tier 4 Final, EU Stage V
X12	375 (280) @ 1900	DPF, DRP, SCR	EPA Tier 4 Final, EU Stage V
X12	375 (280) @ 1800	DPF, DRP, SCR	EPA Tier 4 Final, EU Stage V
X12	350 (261) @ 2100	DPF, DRP, SCR	EPA Tier 4 Final, EU Stage V
X12	350 (261) @ 1800	DPF, DRP, SCR	EPA Tier 4 Final, EU Stage V

# LOCOMOTIVE

## QSX15



Configuration:	Inline, 6-Cylinder
Displacement	14.9 L
Bore / Stroke	5.39 in / 6.65 in

Model Name	Rated Power hp (kW) @ rpm	Aftertreatment	Emissions
QSX15	675 (503) @ 2100	DPF, DRP, SCR	EPA Tier 4 Final EU Stage V
QSX15	650 (485) @ 2100	DPF, DRP, SCR	EPA Tier 4 Final EU Stage V
QSX15	630 (470) @ 2100	DPF, DRP, SCR	EPA Tier 4 Final EU Stage V
QSX15	625 (466) @ 1800	DPF, DRP, SCR	EPA Tier 4 Final EU Stage V
QSX15	600 (447) @ 2100	DPF, DRP, SCR	EPA Tier 4 Final EU Stage V
QSX15	600 (447) @ 1800	DPF, DRP, SCR	EPA Tier 4 Final EU Stage V
QSX15	600 (447) @ 1800	DPF	EPA Tier 4 Switcher
QSX15	575 (429) @ 1800	DPF, DRP, SCR	EPA Tier 4 Final EU Stage V
QSX15	550 (410) @ 2100	DPF, DRP, SCR	EPA Tier 4 Final EU Stage V
QSX15	550 (410) @ 1800	DPF, DRP, SCR	EPA Tier 4 Final EU Stage V
QSX15	535 (399) @ 2100	DPF, DRP, SCR	EPA Tier 4 Final EU Stage V
QSX15	525 (391) @ 1800	DPF, DRP, SCR	EPA Tier 4 Final EU Stage V
QSX15	500 (373) @ 2100	DPF, DRP, SCR	EPA Tier 4 Final EU Stage V
QSX15	500 (373) @ 1800	DPF, DRP, SCR	EPA Tier 4 Final EU Stage V
QSX15	450 (336) @ 2100	DPF, DRP, SCR	EPA Tier 4 Final EU Stage V

# LOCOMOTIVE

## QSK19

Configuration:	Inline, 6-Cylinder
Displacement	19 L
Bore / Stroke	6.25 in / 6.25 in



Model Name	Rated Power hp (kW) @ rpm	Aftertreatment	Emissions
QSK19	760 (567) @ 2000	1 x 4000 Series SCR	EPA Tier 4 Final EU Stage V
QSK19	760 (567) @ 1800	1 x 4000 Series SCR	EPA Tier 4 Final EU Stage V
QSK19	755 (563) @ 1800	N/A	EPA Tier 3 Switcher EPA Tier 3 Linehaul

## QSK23

Configuration:	Inline, 6-Cylinder
Displacement	23.2 L
Bore / Stroke	6.69 in / 6.69 in



Model Name	Rated Power hp (kW) @ rpm	Aftertreatment	Emissions
QSK23	1050 (783) @ 2100	1 x 6000 Series SCR	EPA Tier 4 Final
QSK23	1000 (746) @ 1800	1 x 6000 Series SCR	EPA Tier 4 Final
QSK23	950 (708) @ 2100	1 x 6000 Series SCR	EPA Tier 4 Final
QSK23	950 (708) @ 1800	1 x 6000 Series SCR	EPA Tier 4 Final
QSK23	860 (641) @ 2100	1 x 6000 Series SCR	EPA Tier 4 Final
QSK23	860 (641) @ 1800	1 x 6000 Series SCR	EPA Tier 4 Final
QSK23	760 (567) @ 2100	1 x 4000 Series SCR	EPA Tier 4 Final
QSK23	760 (567) @ 1800	1 x 4000 Series SCR	EPA Tier 4 Final

# LOCOMOTIVE

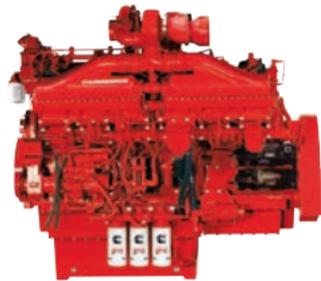
## QST30



Configuration:	Vee, 12-Cylinder
Displacement	30.5 L
Bore / Stroke	5.51 in / 6.5 in

Model Name	Rated Power hp (kW) @ rpm	Aftertreatment	Emissions
QST30	1500 (1119) @ 2100	2 x 4000 Series SCR	EPA Tier 3 Switcher
QST30	1500 (1119) @ 1900	2 x 4000 Series SCR	EPA Tier 3 Switcher
QST30	1350 (1007) @ 1900	2 x 4000 Series SCR	EPA Tier 3 Switcher
QST30	1200 (895) @ 2100	2 x 4000 Series SCR	EPA Tier 3 Switcher
QST30	1000 (746) @ 1800	2 x 4000 Series SCR	EPA Tier 4 Final
QST30	950 (708) @ 2100	2 x 4000 Series SCR	EPA Tier 4 Final

## QSK38



Configuration:	Vee, 12-Cylinder
Displacement	37.7L
Bore / Stroke	6.26 in / 6.26 in

Model Name	Rated Power hp (kW) @ rpm	Aftertreatment	Emissions
QSK38	1500 (1119) @ 1800	2 x 4000 Series SCR	EPA Tier 3 Switcher, EPA Tier 3 Linehaul
QSK38	1350 (1007) @ 1800	2 x 4000 Series SCR	EPA Tier 3 Switcher, EPA Tier 3 Linehaul

# LOCOMOTIVE

## QSK50

Configuration:	Vee, 16-Cylinder
Displacement	50.5 L
Bore / Stroke	6.26 in / 6.26 in



Model Name	Rated Power hp (kW) @ rpm	Aftertreatment	Emissions
QSK50	2130 (1588) @ 1800	N/A	EPA Tier 3 Switcher EPA Tier 3 Linehaul
QSK50	2000 (1491) @ 1800	N/A	EPA Tier 3 Switcher EPA Tier 3 Linehaul
QSK50	1800 (1342) @ 1800	N/A	EPA Tier 3 Switcher EPA Tier 3 Linehaul

# LOCOMOTIVE

## QSK60

Configuration:	Vee, 16-Cylinder
Displacement	60.4 L
Bore / Stroke	6.26 in / 7.48 in



Model Name	Rated Power hp (kW) @ rpm	Aftertreatment	Emissions
QSK60	2700 (2013) @ 1800	N/A	EPA Tier 3 Linehaul
QSK60	2500 (1864) @ 1800	N/A	EPA Tier 3 Linehaul
QSK60	2301 (1715) @ 1800	N/A	EPA Tier 3 Linehaul
QSK60	2700 (2013) @ 1800	2 x 8000 Series SCR	EPA Tier 4 Linehaul
QSK60	2310 (1723) @ 1800	2 x 8000 Series SCR	EPA Tier 4 Linehaul

## QSK95

Configuration:	Vee, 16-Cylinder
Displacement	95.3 L
Bore / Stroke	7.48 in / 8.27 in



Model Name	Rated Power hp (kW) @ rpm	Aftertreatment	Emissions
QSK95	4400 (3281) @ 1800	1 x 2400 Series SCR	EPA Tier 4 Linehaul
QSK95	4200 (3132) @ 1800	1 x 2400 Series SCR	EPA Tier 4 Linehaul
QSK95	4000 (2983) @ 1800	1 x 2400 Series SCR	EPA Tier 4 Linehaul

# DIGITAL SOLUTIONS. REALTIME MONITORING.

## PrevenTech® Rail

PrevenTech® Rail is Cummins' new digital solution that provides remote engine monitoring and reporting of equipment health to reduce maintenance costs, streamline operational efficiency and maximize uptime. By combining engine hardware, digital technologies and data-driven expert analysis, PrevenTech® Rail delivers proactive recommendations that allow customers to:

- » Lower costs by providing condition-based maintenance recommendations
- » Analyze engine performance and utilization to improve productivity
- » Stop progressive damage before it starts with advanced detection of critical engine situations

### KEY FEATURES

- » **Equipment Map** provides global positioning system of connected equipment locations with color coded identifiers that categorize problematic assets according to issue severity
- » **Alert Notifications** describes performance issues with recommendations for repair and suggested remaining time to act
- » **Engine Data Log** displays real-time equipment information for publicly broadcasted engine parameters to monitor multiple performance metrics simultaneously

- » **Graphing** visually charts engine parameter behaviors across time and different equipment for mapped analysis
- » **Equipment Histories** logs and records historical equipment alert data for comparative analysis and trend spotting
- » **FleetguardFIT™** interprets remaining useful oil and filter life to help extend planned maintenance intervals
- » **Assisted Monitoring** provides up to 24/7 optional global equipment monitoring from Cummins Care with personalized service recommendations
- » **Customer Dashboard** digitally centralizes equipment health management using web-based user interface for customers
- » **Custom Rules** enables customers to develop and specify their own criteria for triggering performance alerts
- » **NIST Compliant** provides enhanced data encryption for secure transfer and storage of customer information

Contact your local Cummins distributor to learn more and request a product demo. We also offer a variety of premium options that help customers reduce maintenance and tailor engines for specific applications.

# OPTIONS TO ELIMINATE DOWNTIME



## **AUTOMATED OIL CHANGES FOR REDUCED MAINTENANCE SCHEDULE**

Cummins CENTINEL Advanced Engine Oil Management System automates oil changes technology and allows equipment to work up to 4,000 hours between service events. Depending on the duty cycle, 15-20 oil changes could be eliminated

from current maintenance schedules. While the equipment is running, CENTINEL monitors the engine's duty cycle. At precise intervals, it bleeds off a small amount of used oil and sends it to the fuel tank, where it blends with diesel fuel and is burned during combustion.

Simultaneously, this system automatically replaces the used oil with the exact same quantity of new, fresh oil from a reserve tank (or tanks) mounted to the equipment.

This constant infusion of new oil replaces vital additives that wear out over time, so the engine gets better protection with reduced wear for higher availability and reduced maintenance.

## **ELIMINATOR:**

Getting rid of the need for disposal and replacement of used oil filters can reduce lube system maintenance costs by as much as 90%. ELIMINATOR is a combination full-flow and centrifugal system that incorporates a permanent stainless steel core, eliminating the need for disposable oil filters.

It consists of a two-stage filter media system. The first filter screens for particles as small as 20 microns, while a centrifugal separator constantly spins, depositing the heaviest particles on a replaceable liner.

This constant infusion of new oil replaces vital additives that wear out over time, so the engine gets better protection with reduced wear. Equipment has higher availability, a lower cost per hour of operation and reduced maintenance.



# GENUINE CUMMINS PARTS

Cummins understands how much every hour of downtime can cost. That's why we always recommend Genuine Cummins new and ReCon® parts. Built for your engine's original specifications for reliability, and durability. You aren't just replacing a worn part, you're improving the performance of your whole machine.

- » Designed to work with your specific engine
- » Promote longer engine life
- » Include the latest upgrades in materials, component design and workmanship
- » Backed by the best warranty in the business

## **BETTER PARTS. BETTER AVAILABILITY.**

Of course, it doesn't matter how good Genuine Cummins quality is if a part isn't close at hand when you need it. That's why Cummins rail distributors maintain a full inventory of parts for all rail engines registered in their territory, including yours. Cummins also operates parts distribution centers in strategic locations around the globe, helping to ensure that your parts arrive as quickly as possible. In critical need situations, we work hard to get the parts you need delivered to you within 24 hours.



You don't want to take chances on anything less than the unmatched quality of Genuine Cummins parts.

## **A BETTER WARRANTY THAT TRAVELS WELL.**

Genuine Cummins quality is the reason these parts come with a full factory warranty that covers replacement, labor, progressive damage and consumables, with no deductible.

Having a great warranty doesn't matter when you've got a problem 500 miles from an authorized repair shop. That's the advantage of buying a Genuine Cummins engine or part. We have a network of over 6,500 authorized parts and service locations worldwide where your warranty will be honored and the work will be completed by professional technicians who are trained and certified by Cummins. For additional warranty information or to find an authorized service location near you, visit [care.cummins.com](http://care.cummins.com)

# CUMMINS RECON PRODUCTS

Genuine Cummins ReCon® engines and parts deliver a cost-effective, environmentally friendly, no-surprise solution that quickly gets your Cummins powered equipment back on track.

Our ReCon® products are not simply repaired or rebuilt; they are remanufactured in authorized factories around the world.

We offer factory remanufactured parts for all engine models, plus:

- » Remanufactured Short Blocks & Long Blocks
- » Engine displacements from 4.5 to 19 liters

## ROBUST REMANUFACTURE REGIME

We take the utmost care to remanufacture engines and parts that are comparable to new Cummins products.

- » **Core Acceptance:** you can get money back for exchanging your worn out engine or part. Any Cummins authorized repair facility worldwide can perform the simple visual inspection on your old part and give you immediate credit toward its replacement.
- » **Disassembly:** engines and parts are completely disassembled with to protect and prepare key components for processing – right down to the last screw, nut, bolt and spring.

- » **Cleaning:** each part is carefully cleaned using the latest technology to remove debris without removing any metal, including the use of dry ice, enzymes and lasers for specialized cleaning needs.
- » **Inspection:** the latest technology, including ultrasonic inspection, is just one of the many methods used to verify that every ReCon® part meets original factory specifications.
- » **Restoration:** we use a variety of techniques to ensure that parts meet original specifications or improved standards of performance. If a part doesn't meet specifications, it is scrapped and replaced with a new Genuine Cummins part. Any upgrades or supercessions that have occurred since the original part was made will be included as part of the remanufacturing process.
- » **Testing:** validation testing using fail-safe processes verifies that the performance and reliability of the finished product meet our standards.
- » **Reintroduction:** Once the remanufacturing process is complete Cummins engines and parts are ready to be reintroduced into the field.

# CUMMINS QUALITY RIGHT WHEN YOU NEED IT

Our rail distributors maintain a full inventory of parts for all rail engines registered in their territory. Our distribution centers operate in strategic locations around the globe, helping to ensure that your parts arrive as quickly as possible. In critical need situations, we work hard to get what you need delivered to you within 24 hours.

You don't need to accept anything less than the unmatched quality of Genuine Cummins parts.

## **WORLDWIDE WARRANTY**

Cummins new and ReCon® parts come with a comprehensive full factory warranty, ensuring peace of mind and financial protection. Every part is backed 100% for parts, labor, progressive damage and consumables, with no deductibles.

Your warranty is valid within our network of over 6,500 authorized parts and service locations worldwide where the work will be completed by professional technicians, trained and certified by Cummins.

For additional warranty information or to find an authorized service location near you, visit [quickserve.cummins.com](http://quickserve.cummins.com).

## **RAIL ENGINE WARRANTY**

Every Cummins rail engine is backed by a comprehensive warranty that is valid and consistent worldwide. Major components, including the block, camshaft, crankshaft and connecting rods, are covered for an extended period under the base engine warranty.

## **PROTECT YOUR INVESTMENT WITH ENCOMPASS**

With Encompass, you can extend your coverage period up to six years from engine in-service date depending on your specific engine and rating. This coverage can include parts, labor and travel. You can customize the amount of coverage required for your application. Coverage limitations and responsibilities are accessible at anytime on our website, [cummins.com](http://cummins.com). For more details, please contact your local Cummins distributor.

Cummins Inc., a global power leader, is a corporation of complementary business units that design, manufacture, distribute and service engines and related technologies, including fuel systems, controls, air handling, filtration, emission solutions and electrical power generation systems. Headquartered in Columbus, Indiana (USA), Cummins serves customers in more than 190 countries through its network of 600 company-owned and independent distributor facilities and more than 7,500 dealer locations.

Cummins offers a complete line of propulsion and auxiliary power solutions from 49 to 4400 hp (37 to 3281 kW) and generator sets from four to 1240 kW, designed specifically for the challenges of commercial, recreational and government rail applications. Our products are supported by a global team of rail-certified distributors, offering sales, service and application expertise. Proven reliability, durability and technology. Always On.

Learn more about Cummins rail products by visiting our website:

**[www.cummins.com/rail](http://www.cummins.com/rail)**

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