



QSB4.5 (Tier 4 Final/Stage IV)

Overview



Built To Overachieve.

The 4-cylinder QSB4.5 for Tier 4 Final is more powerful and responsive than ever before, delivering up to 173 hp (129 kW), with a peak torque of 520 lb-ft (705 N•m), a 12 percent increase over that of the previous Tier 4 Interim engine. The Tier 4 Final QSB4.5 shares a similar Cummins VGT Turbocharger, an HPCR fuel system and an ECM with the Cummins QSB6.7 engine. It is not surprising that the QSB4.5's power output is comparable in performance to that of many 6-cylinder engines

below 174 hp (130 kW), from a much smaller and lighter package.

SCR is combined with the simplicity of our Diesel Oxidation Catalyst (DOC) as a highly flexible installation package. Used on Tier 4 Interim installations, the DOC is proven to effectively remove Particulate Matter (PM) using simple flow-through passive oxidation. Smaller dimensions than other types of aftertreatment make this catalyst ideal for space-constrained equipment. Together, the DOC and Cummins SCR work as a fully integrated, ultra-clean aftertreatment system. Extremely robust packaging ensures that the aftertreatment system achieves durability equal to that of the QSB4.5 engine. This is the first application of our award-winning VGT Turbocharger technology on a 4-cylinder engine.

Cummins patented sliding nozzle technology has fewer wear sites than any other variable turbine design, bringing unprecedented durability while providing precise adjustment of airflow delivered to the engine, enabling rapid boost at low engine rpm while maintaining a high level of boost at higher rpm. The QSB4.5 brings the simplicity of a single turbocharger, in contrast with other 4-cylinder engines requiring two turbochargers to achieve equivalent power, torque and altitude capability. Mid- and high-mount options provide design flexibility, for easier machine integration.

The SCR system on the QSB4.5 has been configured specifically for this engine by CES, with the catalytic reaction occurring even at low operating temperatures. DEF dosing levels are minimized with enhanced mixing into the exhaust flow. A Cummins Direct Flow air cleaner helps make installation easier with a significantly reduced space claim and higher filtration capacity.

Engine Finder Specifications

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Certification Level	Tier 4 Final / Stage IV
Power	121 - 173 hp / 90 - 129 kW
Torque	347 - 520 lb-ft / 470 - 705 N•m

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Ratings

Inline 4-cylinder design, 4.5 liter displacement, EPA Tier 4 Final/EU Stage IV

Engine Model	Maximum Power Output hp (kW) @ rpm	Peak Torque lb-ft (N•m) @ rpm	Turbocharger	Aftertreatment
QSB4.5 173	173 (130) @ 2100	520 (705) @ 1500	Variable Geometry Turbocharger	Cummins Compact Catalyst + SCR
QSB4.5 173	173 (130) @ 2000	520 (705) @ 1500	Variable Geometry Turbocharger	Cummins Compact Catalyst + SCR
QSB4.5 163	168 (126) @ 2300	466 (632) @ 1500	Variable Geometry Turbocharger	Cummins Compact Catalyst + SCR
QSB4.5 160	163 (122) @ 2200	460 (624) @ 1500	Variable Geometry Turbocharger	Cummins Compact Catalyst + SCR
QSB4.5 160	165 (123) @ 2000	460 (624) @ 1500	Variable Geometry Turbocharger	Cummins Compact Catalyst + SCR
QSB4.5 155	155 (116) @ 2000	460 (624) @ 1500	Variable Geometry Turbocharger	Cummins Compact Catalyst + SCR
QSB4.5 140	142 (106) @ 1800	457 (620) @ 1500	Variable Geometry Turbocharger	Cummins Compact Catalyst + SCR
QSB4.5 130	140 (105) @ 2400	457 (620) @ 1500	Variable Geometry Turbocharger	Cummins Compact Catalyst + SCR
QSB4.5 130	130 (97) @ 2300	387 (525) @ 1500	Variable Geometry Turbocharger	Cummins Compact Catalyst + SCR
QSB4.5 130	140 (105) @ 2000	520 (705) @ 1500	Variable Geometry Turbocharger	Cummins Compact Catalyst + SCR
QSB4.5 121	121 (90) @ 2200	347 (470) @ 1500	Variable Geometry Turbocharger	Cummins Compact Catalyst + SCR

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Title	Bulletin Number
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Title	Bulletin Number
Cummins Agriculture Brochure - Growing Together (English) - A4 Format	4087328
Cummins Agriculture Brochure - Growing Together (German) - A4 Format	4087329
Cummins Clean Diesel Decal	4087321
Cummins Clean Diesel Decal - French	4087334
Cummins Engines For Rail Applications Brochure	4087364
Cummins Power For Well Servicing Brochure	4087355
Cummins Sulfur Tolerance Kit For Off-Highway Engines Flyer	4087440
Engines For Maintenance Of Way Brochure	4087296
High-Performance Engines For Mining Equipment Brochure	4087235
Tier 4 Final 4-Cylinder Engines Brochure	4087302
Tier 4 Final Folding Poster (12 x 38 3/4)	4087299
Tier 4 Final Operator Tip Card	4087381
Tier 4 Final Operator Tip Card - French	4087384
Tier 4 Final Operator Tip Card - Spanish	4087385
Underground Mining Engines Brochure	4087284

Cummins Inc, Box 3005,
Columbus, IN 47202-3005 USA

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