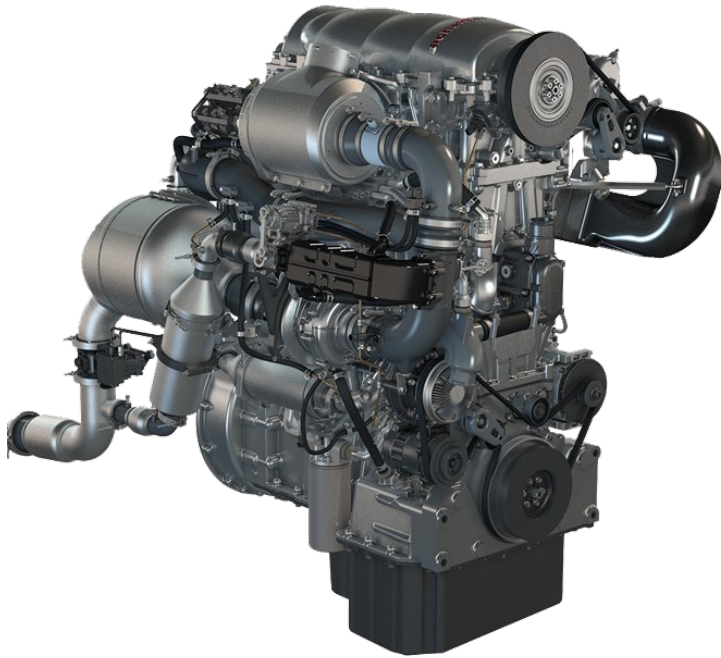


achatesPOWER[®]

Heavy-Duty Opposed-Piston Engine for Commercial Transportation Applications

Achates Power Develops Opposed-Piston Engines for Ultra-Clean, Ultra-Efficient and Cost-Effective Transportation



Concept Model of Heavy-Duty OP Engine

The Achates Power Opposed-Piston Engine is engineered to achieve superior thermal efficiency by virtue of its lower heat losses, improved combustion, and reduced pumping losses.

10.6L OP Engine Specifications

Displacement	10.6L
Cylinders	3
Pistons	6
Bore	120mm
Stroke (per piston)	312mm
Stroke to Bore ratio	2.6:1
Compression ratio	18:1
Max Power (kW)	335
Torque (Nm)	2375

Heavy-Duty Opposed-Piston Engine Fundamental Advantages:



Reduced Heat Rejection



Fuel Efficiency



Power Density



Lower Cost



Reduced Emissions

Extensive Capabilities for Commercial Transportation with 90% Reduction in NO_x and Meets the EPA 2027 Standards

Lower cost. Lower mass. Less complexity.

The Achates Power Opposed-Piston Engine is engineered to achieve superior fuel efficiency by virtue of its lower heat losses, improved combustion and reduced pumping losses. The Achates Power Heavy-Duty OP Engine delivers ultra-low NO_x by managing exhaust gas temperatures to ensure rapid catalyst light off and by maintaining aftertreatment temperatures at optimum operating conditions.

While most conventional engines trade efficiency for emission reduction, the Opposed-Piston Engine dramatically reduces fuel consumption to achieve CARB's lowest Ultra-Low NO_x standard of 0.02 grams per brake horsepower-hour (g/bhp/hr), while simultaneously reducing CO₂ emissions to meet the EPA's 2027 standard.

The Ultra-Low NO_x Heavy-Duty Truck Demonstrator program is part of California Climate Investments, a statewide program that puts billions of Cap-and-Trade dollars to work reducing greenhouse gas emissions, strengthening the economy and improving public health and the environment — particularly in disadvantaged communities. Significant funding is also being provided by the South Coast Air Quality Management District (SCAQMD) and the San Joaquin Valley Air Pollution Control District (SJVAPCD); funding is also coming from the Sacramento Metropolitan Air Quality Management District. (SMAQMD). CALSTART is managing the project and will collect and analyze emissions and performance data.

A Radically Improved Engine Driving the Future of Transportation Technologies Forward

The global transportation industry needs a fundamental, step-function improvement in the internal combustion engine efficiency to power the approximately 100 million engines that will be produced and sold year-in and year-out for decades to come. The demonstrated performance of the Achates Power Opposed-Piston Engine responds directly to the global transportation industry's needs. It offers a dramatic improvement in performance compared to conventional engines.



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