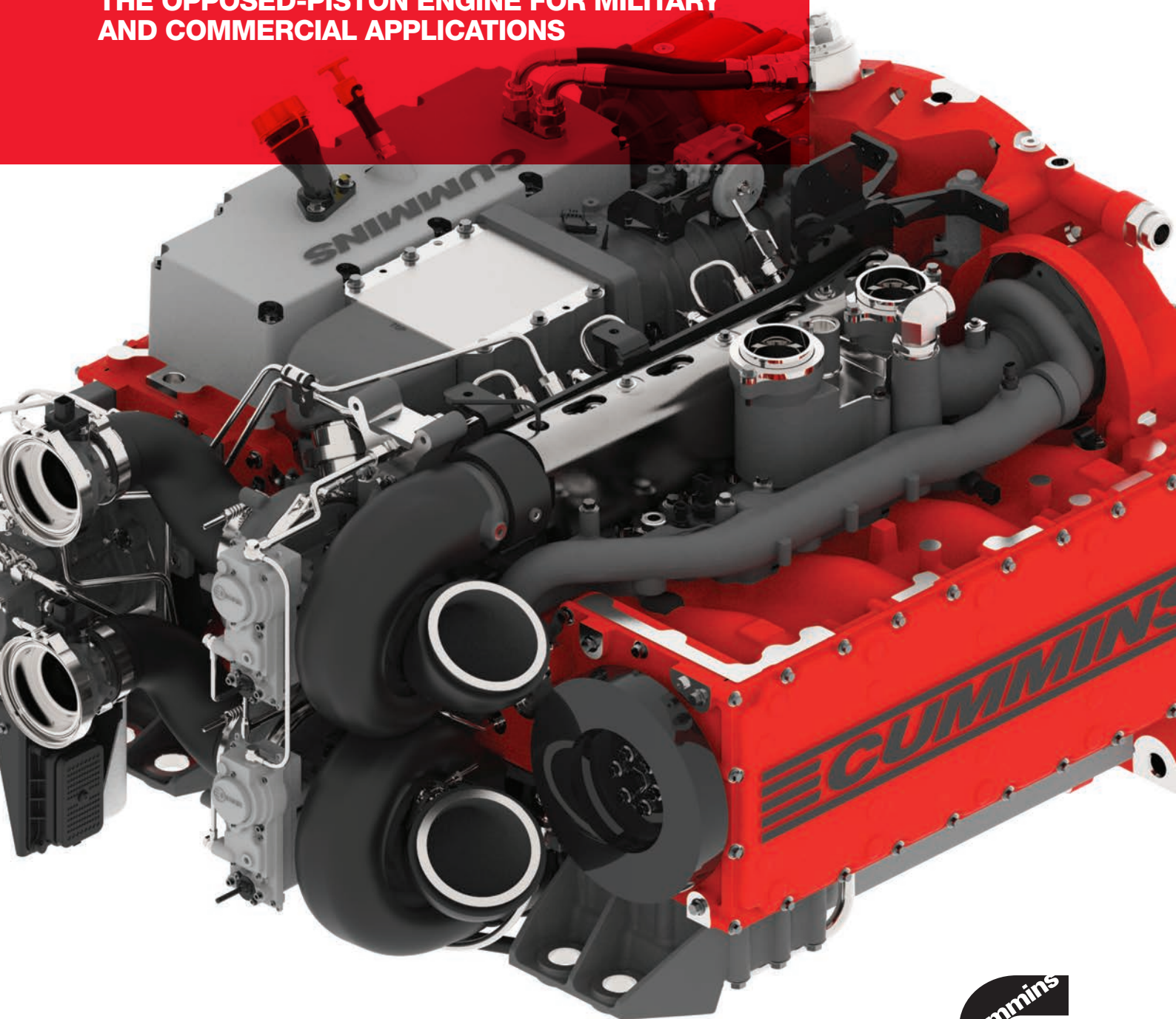


# ADVANCED COMBAT ENGINE

THE OPPOSED-PISTON ENGINE FOR MILITARY  
AND COMMERCIAL APPLICATIONS



# ACE

## STANDARD FEATURES AND BENEFITS

**Engine Design** – Opposed piston architecture with 2-stroke design for higher power density, improved power-to-volume ratio, high fuel efficiency and low heat rejection. Robust engine block designed for continuous operation and long life. Grey cast iron is used for efficiency, machinability and performance. Integrated coolant and lubrication systems for reduced joints and limited external plumbing.

**Fuel System** – Using Cummins XPI Fuel System, ACE is designed for operation in full-desert conditions across all specified military fuels.

**Lubrication System** – Integrated dry sump lubrication system with remote filtration enables ACE's low-profile engine design. The variable flow lube pump helps maintain engine efficiency. Lubrication system designed to enable remote or on-engine filtration systems.

**Cooling System** – Integrated aluminum jacket water aftercoolers and oil coolers optimize heat transfer, and the gear-driven water pump and low-restriction coolant circuit streamline coolant flow.

**Air Intake System** – Performance is everything. Combining a Cummins HE500 variable geometry turbocharger with an integrated, gear-driven supercharger, ACE minimizes transient response and maximizes performance.

**Exhaust System** – Using thermally insulated exhaust manifolds and exhaust manifold elbows reduces surface temperatures and improves safety.

**Versatility** – Although ACE is being developed for military applications such as the Next Generation Combat Vehicle, it can be used in commercial applications that also require high power with limited available space.

## GENERAL SPECIFICATIONS

|                 |   |
|-----------------|---|
| Configurations  | Opposed piston, 4-cylinder, 2-stroke diesel |
| Aspiration      | Supercharged/Aftercooled                    |
| Displacement    | 14.3 L (873 in <sup>3</sup> )               |
| Bore and Stroke | 130 mm x 135 mm (5.12 in x 5.31 in)         |
| Rotation        | Counterclockwise-facing flywheel            |
| Fuel System     | Cummins XPI Fuel System                     |

## PRODUCT DIMENSIONS AND WEIGHT\*

|                 |         |       |         |
|-----------------|---------|-------|---------|
| Overall Length  | mm (in) | 1,219 | (48)    |
| Length of Block | mm (in) | 782   | (31)    |
| Overall Width   | mm (in) | 1,092 | (43)    |
| Overall Height  | mm (in) | 584   | (23)    |
| Weight          | kg (lb) | 1,620 | (3,571) |

## POWER RATINGS

| kW  | BHP   | Engine Speed RPM | Rating Definition |
|-----|-------|------------------|-------------------|
| 745 | 1,000 | 2,600            | CONTINUOUS        |

\* Subject to change



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