High-Horsepower Solutions.
Cummins Emission Solutions is a world leader in aftertreatment technology, with proven experience in on-highway commercial vehicles and off-highway heavy-equipment markets. Our expertise in design innovation has introduced a unique solution to high-horsepower customers, with integrated mixing technology and exclusive high-flow urea systems. We have emission solutions which offer reliability at its best.

**The High-Horsepower Selective Catalytic Reduction System.**

The High-Horsepower Selective Catalytic Reduction (HHP SCR) System for U.S. Environmental Protection Agency (EPA) Tier 4 Final is the high-horsepower solution for off-highway applications, and is designed for durability to operate in rugged conditions. The HHP SCR System offers reduced space claim, with optimized catalysts, controls and dosing capabilities, for easier equipment integration.

The HHP SCR System has a modular design which can be integrated into most mobile off-highway, locomotive, power generation, rail or marine applications. This modular design has many benefits:

- Allows for multiple installation orientations, providing ease of integration and assembly for equipment manufacturers
- Offers flexible mounting options consisting of horizontal, vertical and upright positioning
- Comparable to previous Tier 2 silencer space claims, thus reducing customer integration costs
- Supports high-shock and vibration environment requirements
- Enables advanced, fully integrated SCR mixing

Offering optimized mixing capabilities in order to maximize oxides of nitrogen (NOx) emissions conversion, our HHP SCR System design has been developed with a fully integrated and enclosed decomposition chamber inside the SCR package, with high-flow urea dosing capabilities. The integrated decomposition chamber reduces the number of equipment interfaces, as well as space claim.

**Various Solutions To Meet Your Needs.**

Our HHP SCR offering includes three different size systems, each formulated to meet specific engine output needs:

<table>
<thead>
<tr>
<th>System Size</th>
<th>Applicable Engine Displacement</th>
</tr>
</thead>
<tbody>
<tr>
<td>HH4000</td>
<td>19-30 Liter</td>
</tr>
<tr>
<td>HH6000</td>
<td>38-50 Liter</td>
</tr>
<tr>
<td>HH8000</td>
<td>60-78 Liter</td>
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</tbody>
</table>
UL2 Urea Dosing System – Available For High-Flow Dosing.

Cummins Emission Solutions offers a complete product portfolio of urea dosing systems to best fit any off-highway SCR application while providing industry-leading performance. The UL2 Urea Dosing System is one of our newest engineered-component platform products, supporting application ranges for low-flow and high-flow SCR dosing applications.

The UL2 System is the only airless dosing system commercially available that is capable of meeting high-flow dosing rates of up to 20.5 kg/hr, unique to high-horsepower SCR applications. Our technology promotes simplicity by reducing the cost for additional dosing systems which may be needed for high-flow delivery of urea with other competitive systems. The UL2 System also has these features and benefits:

- Provides freeze-robustness, eliminating the need for power after key-off
- Offers safe shutdown, as no purging is necessary
- Offers improved reliability, as urea is continually present within the unit to prevent doser crystallization and promote quicker NOx treatment
- Offers modular architecture for flexible equipment integration, supporting extended urea transfer line lengths of up to 15 meters
- Offers integrated controls capability for the airless supply unit
- Offers several optimized and validated injection patterns through a patented pressure-swirl atomizer, enhancing dosing performance and minimizing validation costs

Catalyst Technology – Reduces Size And Improves Emissions Performance.

Our high-horsepower SCR solutions leverage our catalyst technology expertise with proven experience and real-world results in commercial-vehicle and equipment markets. Innovations in catalyst technologies and packaging design set Cummins Emission Solutions apart from the competition. Our catalyst solutions enable smaller space claims and better emissions performance while also allowing trade-offs in total system cost optimization. Our engineering experts will work with your designers to deliver the best catalyst solutions for your applications.

Learn More.

To learn more about these high-horsepower solutions or any of our innovative products, visit cumminsemissionsolutions.com.