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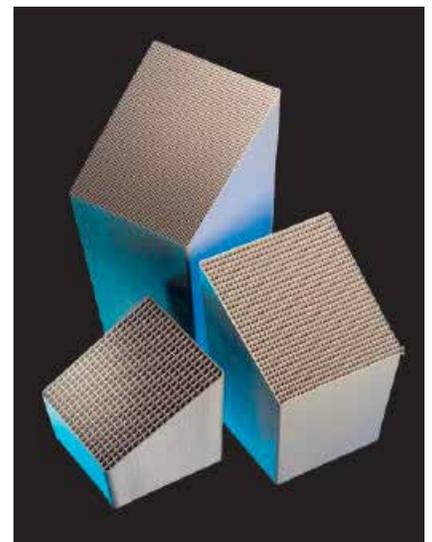


Ammonia slip catalyst

Johnson Matthey's advanced Ammonia Slip Catalyst (ASC) improves NO_x reduction with low NH₃ slip to improve the overall SCR system's perform

Even the best SCR catalyst will not achieve maximum NO_x reductions in a system with non-uniform NH₃ distribution. For stationary engines, significant variation in load, exhaust flow rate and NO_x concentration make it difficult to deliver NH₃ to the catalyst in the 1:1 ammonia NO_x ratio (ANR) required by reaction stoichiometry. Non-uniform NH₃ distribution can result in incomplete NO_x conversion where localized ANR is low, and in NH₃ slip where ANR is high.

Johnson Matthey
Inspiring science, enhancing life



To overcome the difficulty of attaining ideal stoichiometry, Johnson Matthey developed advanced ASC technology that combines highly active oxidation catalyst and SCR catalyst functions to improve NO_x reduction while maintaining low NH₃ slip. This technology was first proven on thousands of mobile engines and is now successfully operating on stationary engines. The ASC allows continuous operation at higher ANR, compensating for non-uniform NH₃ distribution and boosting NO_x conversion while maintaining low NH₃ slip. As an added bonus, the ASC delivers CO conversion which is not achieved over SCR catalyst alone. The SCR+ASC are usually installed in a single housing which results in lower material costs.

Contact us for more information:

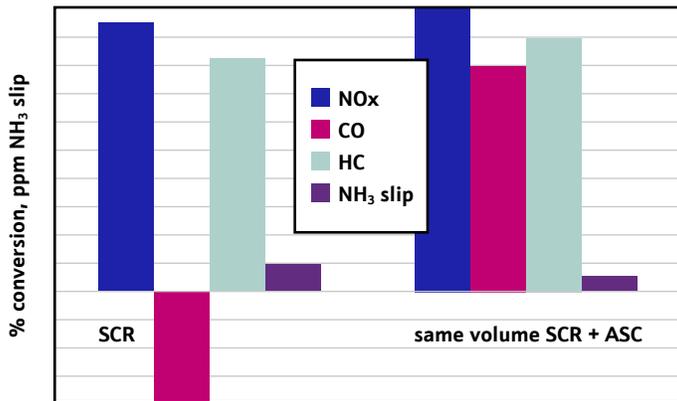
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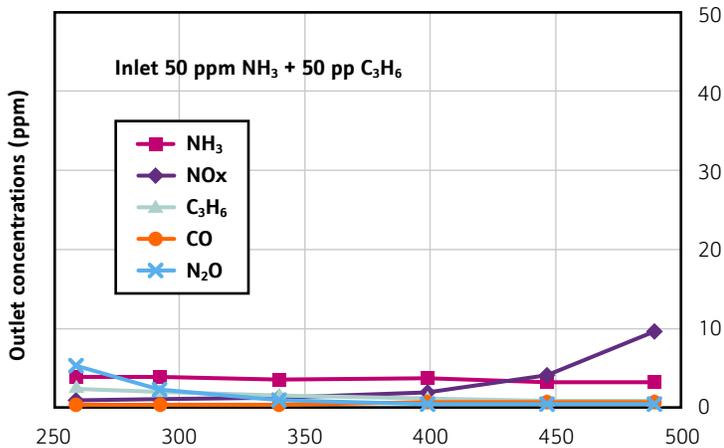
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Performance without and with ASC; same total catalyst volume



ASC converts NH₃ to N₂ and converts HC and CO to CO₂



ASC improves overall SCR system performance:

- ASC allows operation at higher ANR with low NH₃ slip
- Better NO_x and HC conversions with SCR+ASC
- CO forms from HCs over the SCR catalyst alone
- CO conversion achieved with SCR+ASC

The advanced ASC is very selective to N₂ which means that almost all of the NH₃ slip is converted to N₂ rather than NO_x. The ASC also converts hydrocarbons and CO to CO₂. The overall performance of the SCR catalyst system is improved by addition of ASC. And better SCR performance can mean reduced catalyst volume, which translates to lower system costs.

ASC converts NH₃ to N₂, not back to NO_x:

- Nearly complete conversion of NH₃ slip
- Formation of NO_x and N₂O, very low
- ASC is highly selective for N₂
- HC is converted to CO₂, no CO formed

