

Guide

# Why Partner With CATAGEN?

## Executive Summary

CATAGEN help our partners with accelerated reformer catalyst ageing using a synthetic recirculating gas reactor, The OMEGA. Our unique OMEGA technology can replicate inlet reformer conditions, including gas compositions, flow rate and temperature.

## What makes our OMEGA reactor so unique?

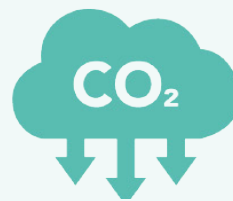
The OMEGA technology produces repeatable and reproducible data, enabling informed confident decisions on your reformer catalysts.



Testing  
Adaptability



Pure Measurement  
of Performance



CO<sub>2</sub> Emissions  
Saving



Cost Savings

## Testing Adaptability

The Versatile OMEGA - Synthetic Gas Reactor from CATAGEN is designed to be adaptable to your specific testing needs. It is capable of a wide range of gas compositions, accommodating varying flow rates from 5 g/s – 40 g/s, and operates within temperature ranges from 400°C to 900°C+ for catalyst testing. Moreover, our reactor is modularly constructed, allowing us to extend testing capabilities and accommodate catalyst samples of various sizes. Additionally, our onsite de-sulphurisation units ensure gas purity by reducing sulphur content in natural gas to the parts per billion range, minimizing the risk of contamination during testing.

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## Pure Measurement of Performance

At CATAGEN, we pride ourselves on delivering industry-leading reproducibility, with test-to-test variability consistently maintained below 2%. Our state-of-the-art technology relies on module infra-red furnaces, precise flow control, and meticulous temperature and gas composition control using mass flow controllers. This ensures not only the accuracy of measurements but also the utmost precision in replicating testing conditions, meeting the highest standards of performance testing.

## CO<sub>2</sub> Emissions Saving

Environmental responsibility is at the core of our approach. With CATAGEN, you can reduce your CO<sub>2</sub> emissions by up to an impressive 75% compared to alternative catalyst testing methods. The technology we employ enables us to achieve high recirculation rates, significantly minimizing CO<sub>2</sub> emissions produced during the testing process, and thus contributing to a more sustainable and eco-friendly approach. Our facility is also powered by renewable energy, further reducing our CO<sub>2</sub> impact.

## Cost Savings

CATAGEN specialises in cost-effective testing solutions, providing savings of up to 40% on your testing programmes. Our technology achieves remarkable results with recirculation rates of up to 75%, optimising gas mixture and reducing gas usage costs. With the escalating costs of gas and the extended useful life of SOFCs, our approach significantly lowers the overall expenses associated with durability testing for SOFCs and reformers.

