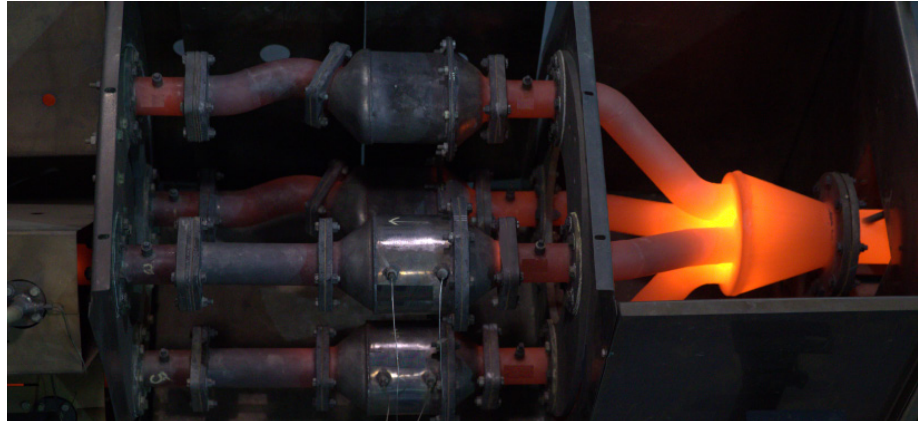


# SGS CATALYST AGING

Located within minutes of the Detroit Metro Airport, SGS provides catalyst aging services to clients around the world at its Taylor, MI location. Utilizing patented C-FOCAS® and natural gas burner technology, we successfully reduce aging cost for OEMs and suppliers alike while also providing burner manufacturing, engineering services, and support.

## WHAT IS C-FOCAS® BURNER-BASED CATALYST AGING?

- C-FOCAS® is a computer controlled, gasoline-fueled burner-based exhaust catalyst aging system developed to provide accelerated aging in order to shorten test time requirements and reduce costs through fuel savings.
- The system realistically simulates the flow of exhaust gas from an engine under a variety of load conditions allowing full-sized automotive catalyst systems to be rapidly and precisely aged. Unlike an engine, the multi-catalyst burner easily operates at temperatures exceeding 1200°C.
- Stoichiometric combustion systems are available for aging three-way catalysts using gasoline, natural gas, and propane fuels. The system can accurately inject oil or metered poison to simulate engine oil consumption.
- Four-up aging, with full size catalysts, reduces the carbon footprint correlated to multiple OEM specifications, SBC/Rat-A, independent control of A/F, flow, and temperature.
- The system has been demonstrated to accurately age catalysts using gasoline, natural gas or propane.



## ADVANTAGES OF C-FOCAS® BURNER-BASED CATALYST AGING OVER ENGINE DYNAMOMETER

- Burner-based catalyst aging allows independent control of thermal effects and the effects caused by lubrication oil poisoning. Unlike engine-based aging, where oil consumption is inherent to engine operation and changes with engine wear, the system consumes no oil during fuel-air combustion. Lube oil may be injected into the hot combustion products with a metering and measurement system. This process allows the user to age catalysts with or without oil poisoning effects.
- Catalyst aging temperature is precisely controlled with less variation and to higher extremes than can be obtained from an engine based system. The burner based system is not susceptible to engine related failure modes that can cause misfires and uncontrolled catalyst exotherms. This translates to fewer failures of expensive prototype catalysts. The system easily stays within  $\pm 5^{\circ}\text{C}$  at temperatures exceeding 1150°C.
- The C-FOCAS® aging system has been correlated to numerous aging specifications including RAT-A, ZDAKW, SBC, four-mode aging, and several proprietary OEM cycles. The result is significant reduction in both overall cycle time and fuel consumption with improved quality.

## CONTACT US

To request a quote or discuss your testing needs in detail, please call +01 844 730 4175 or email [us.transportation@sgs.com](mailto:us.transportation@sgs.com).

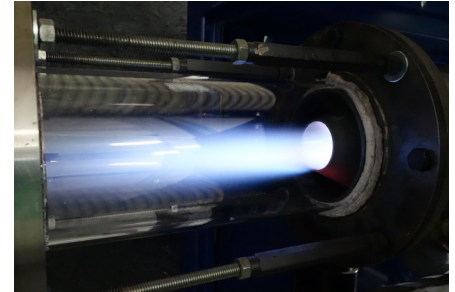


# SGS

# SGS DIESEL CATALYST AGING

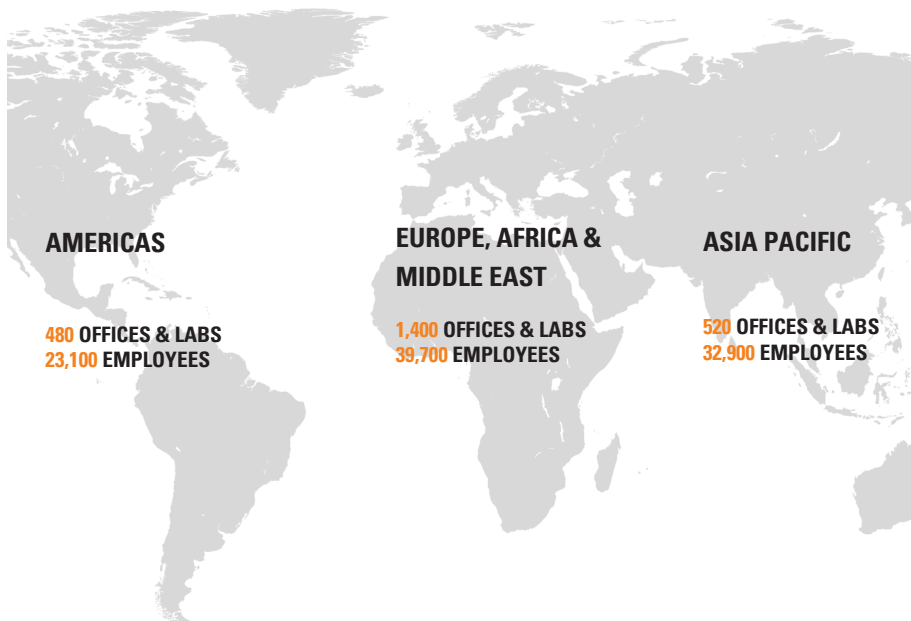
Using an economy natural gas burner for temperature and IEFI (In Exhaust diesel Fuel Injection) for diesel injection, the system offers a low-cost approach to diesel catalyst aging. SGS also offers economy NG1 natural gas fired burners, which can be coupled with an IEFI system, for thermal aging and cycling of diesel exhaust components.

- The IEFI system consists of a water cooled injection system, including numerous safeties, flexible TC and analog I/O, as well as closed loop control on temperature. This system is an economical approach to component validation and testing compared to standard dynamometer operating burden and costs.
- These economy burners feature a programmable controller allowing the development of thermal cycling protocols and tests.
- Applications include validation and testing of DPFs, catalytic converters, O2 sensors as well as other exhaust components.



## SGS GLOBAL & LOCAL

**95,000 EMPLOYEES | 2,400 OFFICES & LABS AROUND THE WORLD**



### VARIABLE ALTITUDE ENGINE & VEHICLE TESTING

Aurora, CO

### TEST CELL SOLUTIONS, SOFTWARE AND VARIABLE HORSEPOWER ENGINE AND VEHICLE TESTING

Columbus, IN

### FUEL & COMPONENT SYSTEMS TESTING

Lapeer, MI

### MILEAGE ACCUMULATION CENTER

Jackson, MI

### ROCKY MOUNTAIN HIGH ALTITUDE TEST CENTER

Empire, CO

### CATALYST AGING & COMPONENT TESTING SERVICES

Taylor, MI

### COMPONENT TESTING & ENGINEERING SERVICES

Troy, MI

# SGS

WHEN YOU NEED TO BE SURE