Catalyst Systems

Honeywell

SCR SYSTEMS FOR THE POWER AND PROCESS INDUSTRIES

Selective Catalytic Reduction and Catalytic Oxidation

CALLIDUS TECHNOLOGIES
by Honeywell

Reducing NO_X and CO levels for simple-cycl recovery steam generators, package boilers,

Callidus Technologies by Honeywell can help you meet environmental regulations by reducing levels of NO_X, CO, and hydrocarbon emissions for Simple Cycle Catalyst Systems and Selective Catalytic Reduction Systems (SCR). Our extensive experience with modeling systems to manage and distribute hot gas flow easily translates into high performance catalyst system design. Each catalytic system is custom designed to meet each clients individual challenge to provide the best possible long term solution.

Adding to our leading edge technical capablities, Callidus also offers an industrial scale reserach and develoment facility with the capability to test and prove each design. Whether your requirement is ammonia or urea, we are equipped with the knowledge and expertise to provide you the highest quality product on the market today.

Fabrication takes place around the world in over 20 strategically located countries.

Callidus Fabrication Facility in China

Callidus R&D Testing Facility in USA

Selective Catalytic Reduction

Power Installations Include:

- Transition/Inlet Ducting
- Tempering Air System
- Flow Distribution Device
- Ammonia Injection Grid
- Catalyst Housing
- Catalyst Frame with Seals
- Catalyst
- Access Ladders or Stairs/ Platforms
- Silencing Equipment
- Outlet Stack with EPA Test Ports
- Ammonia Vaporization/ Flow Control Skid
- Ammonia Transfer/Storage

Process Installations Include:

- Transition/Inlet Ducting
- Dilution Air System
- Flow Distribution Device
- Ammonia Injection Grid
- Catalyst Housing
- Catalyst Frame with Seals
- Catalyst
- Ammonia Vaporization
- Ammonia Transfer/Storage

Catalytic Oxidation

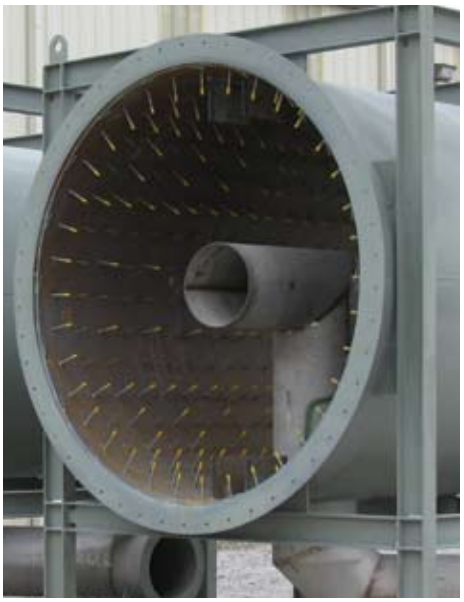
Power Installations Include:

- Transition/Inlet Ducting
- Flow Distribution Device
- Catalyst Housing
- Catalyst Support Frame and Seals
- Catalyst
- Exhaust Ducting

Process Installations Include:

- Suction Blower (s)
- Inlet Knockout Drum
- Dilution Air Fans
- Reheat Burner (as required)
- Catalyst Housing
- Catalyst Support Frame and Seals
- Catalyst
- Exhaust Ducting

le systems, heat , and thermal oxidizers.



Inlet of SCR System

Research and Development

Callidus is committed to being the leader in environmental and combustion technology discoveries. We know that a part of our success is directly related to our investment in research and development.

Our industrial scale R&D center is located on 290 acres in the central region of the U.S. (Oklahoma) and is designed to test catalyst systems, burners, thermal oxidizers and flares. The center is fully instrumented with computerized data acquisition systems devoted to research and development of new products, product improvements, new combustion processes and problem solution applications. Because of our expertise, innovation, flexibility and emphasis on customer service, Callidus has been selected on multiple occasions to work in cooperation with our clients to develop advanced equipment and solutions for specific process challenges and needs.

Callidus constantly strives to be the leading technology supplier to the environmental and combustion industries.

Quality and Manufacturing

Our manufacturing facility demonstrates the highest quality standards in the industry. In some cases, our internal quality assurance programs require higher performance than industry certification standards. Callidus fabrication and manufacturing is certified ISO 9001:2000

Callidus manufacturing and fabrication facilities are upgraded on a continual basis. Our current facilities occupy over 82,000 sq. ft. of proven manufacturing processes and equipment. As a global player in the combustion equipment market, our fabrication takes place around the world in over 20 strategically located countries, with proprietary items fabricated at our U.S. facility.

At Callidus, quality assurance is everyone's job. Every step of the project is consistently reviewed to ensure that we meet the expectations of the customer.

Selective Catalytic Reduction for:

- Simple-Cycle Gas Turbines
- Heat Recovery Steam Generators
- Packaged Boilers
- Process Applications
- Retrofit Catalyst Systems

Catalytic Oxidation for:

- Simple-Cycle Systems
- Retrofit Catalyst Systems
- Thermal Oxidizers

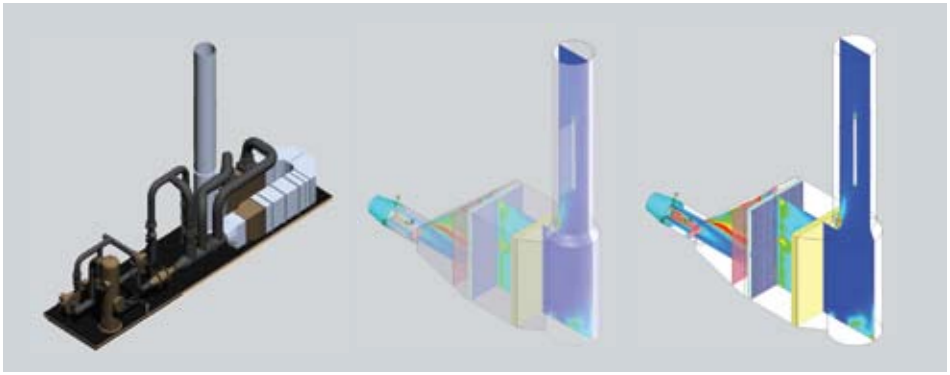
In Addition to Catalyst Systems, Callidus Technologies Offers:

- Low NO_X Burners
- Flares and Flare Systems
- Thermal Oxidizer Systems
- Vapor Control Systems
- Field Services and Parts
- CFD Modeling
- Training and Schools

ISO 9001:2000 Certification

USA Certification

China Certification



3D modeling plays an integral part in SCR system development

Thermal and flow computer simulations are used in each system we design

Test Facility

The Callidus test facility is in continual use for combustion technology research and development as well as customer witnessed demonstrations. Our array of test systems allows us to closely match actual field operating conditions, providing results which will more accurately predict actual measured performance.

Callidus 82,000 sq. ft. manufacturing and fabrication facility in USA

Callidus headquarters - Tulsa, Oklahoma. USA

Callidus Advantages:

- Custom designed distribution grid
- High efficiency ammonia injection grid
- Advanced ammonia vaporizer
- Worldwide services

Global Coverage

Callidus reaches the world market through our headquarters located in Tulsa, Oklahoma, USA, regional direct sales offices throughout the world and independent sales representation across the globe.

Meeting our customers' expectations and setting the standards for the combustion industry have always been our company goals. Each burner, flare, thermal oxidizer and catalyst system we design and manufacture is built with those goals in mind.

USA, Corporate Headquarters
7130 South Lewis, Suite 335
Tulsa, OK 74136
Phone: +1 918 496 7599
Fax: +1 918 488 9450
Catalyst_Sales@honeywell.com
www.callidus.com

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