



Tenneco Showcases New Large Engine SCR System For Marine Applications At 2015 Bariship Maritime Fair

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***Diesel aftertreatment system features integrated soot blower
which offers greater NOx reduction and enhanced catalyst performance***

Imabari, Japan...May 19, 2015 –Tenneco (NYSE: TEN), a leading global supplier of Clean Air aftertreatment technologies, will showcase its complete urea dosing control, fluid handling and catalyst solution for selective catalytic reduction (SCR) aftertreatment at the 2015 BariShip Maritime Fair in Imabari, Japan, May 21-23. The system features an integrated soot blower option, which ensures effectiveness of NOx reduction and overall catalyst performance when high sulphur fuels are used or engines operate at low exhaust temperature levels.

Tenneco's SCR aftertreatment system features a complete dosing control solution specifically designed for marine engine applications up to 7,500 kW or 10,000 hp. The system enables auxiliary and propulsion engines to meet EPA Tier IV and IMO Tier III regulatory requirements and provides precise and reliable delivery of liquid urea via a proprietary, high-performance injector design, a precision mechatronic fluid delivery pump, and customizable remote monitoring and controls.

The integrated soot blower is designed for use with a range of high-sulfur fuels, including marine diesel oil (MDO), and heavy fuel oil (HFO), and enables the SCR aftertreatment system to deliver consistent emissions reduction performance by preventing ash and soot from blocking the catalyst. The result is more effective NOx reduction and overall catalyst performance over the life of the system

"We're committed to developing diesel engine aftertreatment solutions that meet important marine regulatory requirements and deliver the performance expectations of global marine market customers," said Timothy Jackson, chief technology officer, Tenneco. "The ease with which the SCR system can be incorporated into marine propulsion and auxiliary engine applications demonstrates Tenneco's full-system integration expertise."

SCR System Features

The SCR system's modular design enables seamless integration for a broad range of engine sizes and works with electrically or mechanically controlled engines. It has been validated for durability and all components are easy to maintain and service without the need for special tools.

The fluid delivery system with dosing control software is capable of managing multiple injection points and sensors. The system can support urea flows up to 120 meters, which enables a wide array of installation options. Airless urea injection provides high dosing accuracy and consistency without the need for designated compressed air.

The system's unique Human Machine Interface (HMI) can be accessed on the front of the fluid delivery box or remotely via a touch screen tablet. It features an easy-to-use interface to access onboard diagnostic functions and to monitor and control all system parameters including but not limited to NOx reduction performance and urea concentration levels in real time.

Tenneco's large engine SCR system is designed to meet the requirements of major maritime classification societies including the ABS (American Bureau of Shipping), DNV GL (Det Norske Veritas Germanischer Lloyd), CCS (China Classification Society), KR (Korean Register of Shipping) and Class NK (Nippon Kaiji Kyokai). The system is currently undergoing sea trials and is expected to be ready for production later this year.

Global Engineering and Manufacturing Capabilities

Tenneco operates Clean Air engineering centers in seven countries globally, including its Japan technical center located in Yokohama. Tenneco has operated in Japan since 1973, and in 2012 the company opened its first manufacturing facility in Osaka to produce diesel aftertreatment systems for a customer in Japan. The Osaka facility adds to Tenneco's global clean air manufacturing network, which supports a growing number of commercial truck and off-highway programs in North America, Brazil, Europe, India, China, South Korea, and Japan.

In 2014, Tenneco opened a new technical center in Kunshan, China to support the development of diesel aftertreatment systems for high horsepower engines utilized in marine, locomotive and stationary power applications. In addition, the Kunshan facility is responsible for the design, development and manufacturing strategies of clean air products and technologies for the Asian commercial truck and off-highway markets.

Tenneco is an \$8.4 billion global manufacturing company with headquarters in Lake Forest, Illinois and approximately 29,000 employees worldwide. Tenneco is one of the world's largest designers, manufacturers and marketers of clean air and ride performance products and systems for automotive and commercial vehicle original equipment markets and the aftermarket. Tenneco's principal brand names are Monroe®, Walker®, XNOx™ and Clevite®Elastomer.

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