ABB Power2® turbochargers take the pressure to boost efficiency

ABB Turbocharging Power2 800-M solution plays key role in first of new generation engines

Baden, Switzerland, June 3, 2015: ABB, the leading power and automation technology group, announces at Nor-Shipping 2015 the first application on a marine engine of its Power2 800-M second generation two-stage turbocharging solution. The technology has been developed and is scheduled for production at ABB Turbocharging headquarters in Baden, Switzerland.

The ground-breaking Wärtsilä 31 marine engine, announced by Wärtsilä this week, is equipped with this most advanced two-stage turbocharging solution from ABB Turbocharging, launching Power2 800-M firmly into the marine market.

Refinements to Power2 800-M have been among the most significant outcomes of the development and equipment testing processes surrounding advances in engine performance. The innovative two-stage ABB Turbocharging technology has increased pressure ratio capabilities up to 12, from 8 in the first generation, and turbocharger efficiency beyond 75%, compared to a single-stage turbocharger which is typically around 65-70%. This combination of higher efficiency and higher pressure ratio contributes to increased engine power density, and also translates into significant potential for saving on fuel consumption costs and up to 60% lower NOx emissions.

“New marine engine technology needs to offer consistency of performance across conventional and newer marine fuel options, demanding turbochargers that can work with highest pressure ratios in combination with highest efficiencies to minimize fuel consumption” explains Christoph Rofka, Senior General Manager - Products, ABB Turbocharging.

“Power2 800-M second generation has been developed from scratch with the two turbochargers working seamlessly together to extract a higher percentage of residual energy from the exhaust gases. It surpasses current industry standards in enabling increased power output, fuel savings and emission reductions. Our collaboration with Wärtsilä has allowed ABB’s state-of-the-art technology to be part of this first-of-a-kind engine project.” said Rofka.

This second generation of Power2 800-M is also over 20 percent more compact than conventional two-stage solutions, enabling space to be maximized on the engine. It was also designed with high availability and minimum downtime in mind being both easier to accommodate on the engine and, significantly for operators, it enables fast service execution under limited space conditions due to the
Press Release

‘extractable cartridge’ concept. This allows turbocharger overhauls without touching any engine connections, resulting in a significant reduction in servicing time.

ABB Turbocharging’s first generation of Power2 is already proven on power plant applications, and now the second generation advanced technology is targeted at marine applications where four-stroke engines operate across a wide range of load profiles facing increasingly demanding emissions legislation.

The increased pressure ratios and turbocharging efficiencies support engine concepts enabling “six figure savings” on fuel annually, says Rofka. The unveiling of the Wärtsilä 31 indicates that these “benefits will soon be available across a wide range of vessel types”, he adds. The latest generation of Power2 800-M is also designed to allow fuel flexibility as it is applicable to engines burning all marine fuel types.

About ABB Turbocharging

ABB Turbocharging (www.abb.com/turbocharging) is at the helm of the global industry in the manufacture and maintenance of turbochargers for 500 kW to 80+ MW diesel and gas engines. Our leading-edge technology and innovation enables our customers to perform better and produce fewer emissions, even in the toughest terrains. Approximately 200,000 ABB turbochargers are in operation across the globe on ships, power stations, gen-sets, diesel locomotives and large, off-highway vehicles. We have over 100 Service Stations in more than 50 countries globally and a wide service portfolio that guarantees Original Parts and Original Service anytime, anywhere.

ABB Group

ABB (www.abb.com) is a leader in power and automation technologies that enable utility, industry, and transport and infrastructure customers to improve their performance while lowering environmental impact. The ABB Group of companies operates in roughly 100 countries and employs about 140,000 people.

For more information please contact:
ABB Turbo Systems Ltd
Alexandra Christie
Baden, Switzerland
T: +41 58 585 9288
M: +41 798 764 875
alexandra.christie@ch.abb.com