



IMES Electronic Indicator Standard Equipment on Kawasaki 2-strokes

Engine indicating specialist IMES GmbH of Kaufbeuren, Germany has announced that its type EPM-XP hand-held electronic device for periodic cylinder pressure monitoring has now been adopted on Kawasaki MAN B&W two stroke engines.

Henceforth, MAN B&W brand low speed two stroke engine built by Kawasaki under licence from MAN Diesel, will include the EPM-XP electronic indicator in its standard scope-of-supply instead of a mechanical indicator. IMES estimates, Kawasaki is the first builder of two-stroke diesels to specify an electronic indicator on new engines.

IMES reports that the outstanding accuracy and convenience of the EPM-XP available to its customers as a means of ensuring optimised setting of engine operating parameters. "This contract emphasises the central importance of indicated cylinder pressure as a value from which much can be deduced about an engine's operation and its overall condition," notes IMES managing director Stefan Neumann. "As well as saving fuel, optimising engine settings on the basis of accurate cylinder pressure readings will become increasingly important as a method of ensuring NOx emissions are kept in compliance with the IMO Tier II limits, which come into effect from January 2011."

A further major benefit is the ability to download data from the EPM-XP to a PC or laptop via a USB cable, after which the data can be processed using IMES' specially developed software and, importantly, transmitted via telephone line or the internet.

EPM-XP in detail



Fig.1: EPM-XP in use on KHI 2-stroke engine

Designed for periodic monitoring of cylinder pressure on diesel engines, the EPM-XP device is can record cylinder pressure values on a maximum of 20 cylinders on two-stroke engines operating at speeds of 40 to 300 rpm and on four-stroke medium and high speed diesels with rated speeds from 200 to 1500 rpm. Central to its performance is the proven accuracy, reliability, longevity and cost effectiveness of IMES' advanced pressure sensors employing TION thin film technology.

IMES notes that data recording with the EPM-XP electronic indicator has proven considerably simpler and more accurate than with mechanical engine indicators. After acquisition recorded data can be downloaded immediately to a PC or notebook via a USB cable and IMES' visualisation and data processing software used to process the data at leisure. Transmitting the data by telephone line or the Internet makes them available for expert analysis by. In a new development, a software upgrade is now offered by IMES allowing calculation of the output of every engine cylinder, Neumann reports.

The largely intuitive EPM-XP operating and interfacing procedures contrast with data acquisition from mechanical indicators where measurement accuracy is more prone to outside influences like engine vibration on the stylus of the barograph. The traced values are more difficult to read off accurately and need expert interpretation, as well a requiring manual entry into spreadsheets.

Neumann notes that the new contract follows a period of intense cooperation between engine builder and IMES and is the latest milestone in a partnership which dates back to 2006. "For example, we already supply the pressure sensors type HTT-04 which are an important technical feature on Kawasaki's recently launched high efficiency gas engine," he says.

"In the lead-up to the new contract the measurement, evaluation and communication capabilities of the EPM-XP were demonstrated to Kawasaki in early 2008, followed by the supply of two devices, one for test stand use and one for evaluation aboard ship. Following successful testing in both environments, IMES customised specification for the EPM-XP electronic indicators which will now be supplied with MAN B&W two stroke engine."