

MEASUREMENT & ANALYTICS

ABB helps the world's largest container ships save fuel at Maersk



World's largest container ship uses ABB's Cylmate pressure transducers to optimize performance of diesel engines.

Measurement made easy

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01-02 The 400 m-long, 59 m-wide 165,000 dwt vessel has a capacity of 18,000 TEU, making it the biggest vessel delivered to date.

Introduction

One of the largest and most efficient container ship uses ABB pressure transducers to measure the combustion pressure of its electronically controlled diesel engines. Twin 8-cylinder MAN diesel engines and two propellers drive the ship, named Mærsk Mc-Kinney Møller.

This is the first ship among Maersk's "Triple-E" class of container vessels, capable of carrying 18,270 twenty-foot standard containers. The Triple-E stands for the class's three design principles: economy of scale, energy efficient and environmentally improved. Currently, only a few ports have gantry cranes tall enough to fully load the ship.

Cylmate pressure transducers, suitable for both marine and power plant applications, measure the combustion pressure in each cylinder, continuously and in parallel, under all load conditions. The pressure transducers never need recalibration and they permit blow-through cleaning to prevent any build-up of combustion residues. Pressure measuring accuracy is 0.5% over the full range.

Its accuracy is not influenced by any clogging or heat flash from the combustion gases, which is a common problem of membrane-based pressure transducers.

Cylmate pressure transducers save money by enabling the tuning and controlling of the combustion pressure stroke-by-stroke. Used on electronically controlled diesel engines they provide improved energy efficiency and lower the risk for of f-hire costs. The unique and reliable Cylmate pressure transducer has proven its maintenance- and calibration-free performance during years of continuous operation.

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01 M/S Mærsk Mc-Kinney Møller calls at Port of Gothenburg, Sweden on her maiden voyage in August 2013.

02 Cylmate pressure transducers save money by enabling the tuning and controlling of the combustion pressure stroke-by-stroke.



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The unique and reliable Cylmate pressure transducer has proven its maintenance- and calibration-free performance during years of continuous operation.

Engine designers, engine builders, shipyards and shipowners enjoy major benefits with Cylmate pressure sensors

Facts	
Warranty	5 years
Life time	>10 years
Calibration	No calibration required
Maintenance	No maintenance required
Installation	Easy to install
Accuracy	<0,5% of full scale

By using Cylmate pressure sensors you will get the key knowledge for obtaining optimum and reliable engine performance:

- reduced fuel consumption
- an engine in good balance will avoid thermal and mechanical over-loads by assuring that the power distribution is equal between the cylinders
- an optimized engine will make it easier to comply with environmental regulations

ABB AB
Measurement & Analytics
Elektronikgatan 35
S-721 36 Västerås, Sweden

abb.com/measurement
abb.com/cylmate

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