

LEVELMASTER®

Success story - M/V Hoegh Asia

The Kockumation Group company, Kockum Sonics AB retrofits a remote ballast tank level gauging system LEVELMASTER to the PCTC Hoegh Asia.

The Pure Car and Truck Carrier (PCTC) Hoegh Asia has for some 17 years served in the Hoegh Autoliners fleet and recently drydocked at Zhoushan Xinya Shipyard in China in late April 2017.

The vessel was built in Korea and was originally fitted with a pneumatic remote level gauging system delivered by a local supplier. Unfortunately the original system did not work as designed and as accurate functionality is a key requirement of any ballast system, the Owners contacted Kockum Sonics to evaluate and design a suitable upgrade.

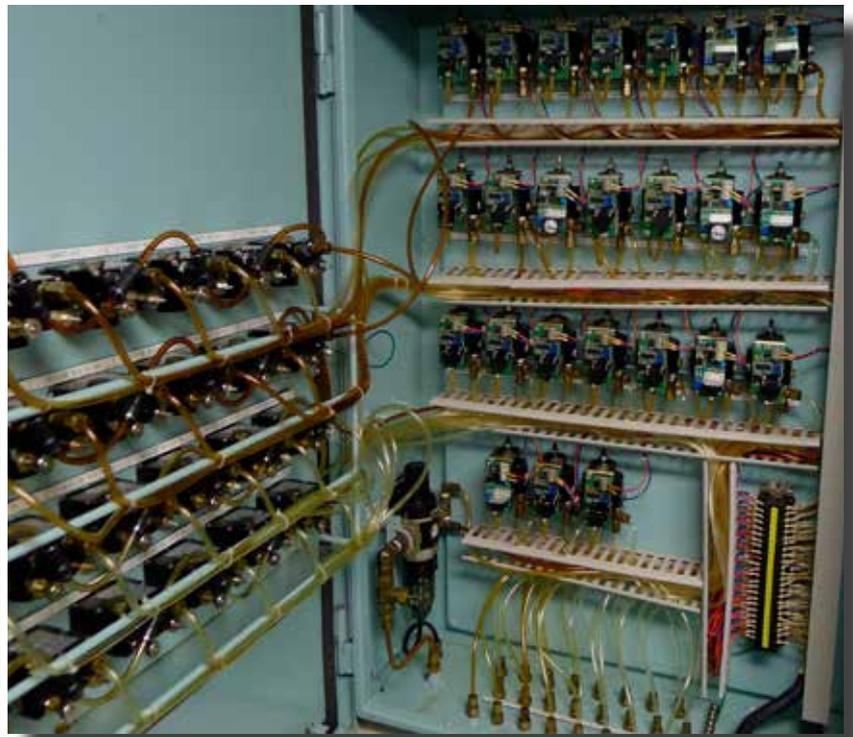
After a survey, Kockum Sonics designed a tailor made pneumatic system that would retain as much existing equipment as possible. The scope of supply included a new electro-pneumatic LEVELMASTER H8C, a panel PC providing level display and an interface to the existing automation system. The output was made identical to the original system so that no modifications were required in the presentation system.

Kockum Sonics' local service engineer attended the vessel as she arrived in Zhoushan Xinya Shipyard and the entire upgrade was completed in 3 days.





Original cabinet's exterior



Original cabinet's interior

Kockum Sonics carried out a survey on-board to evaluate the existing system and its status. On-board was a 16 year old pneumatic level gauging system with all components, except tank pipes, fitted in a cabinet located in engine control room. The Kockum Sonics' engineer took the exact measurements of the existing cabinet and investigated the communications to the display software.

With the collected information, Kockum Sonics built a bespoke back plate housing our LEVELMASTER H8 continuous remote tank gauging system. The aim was to install the new system with as little work as possible and avoiding having to change the main cabinet which saved the ship considerable work and costs. No hot-work was required during the retrofit.

Kockum Sonics' local service engineer attended the vessel upon its arrival at the Yard. Without interfering with any other jobs on-board, the new system could have been fitted in just 1.5 days. After the hardware was installed the engineer had to pause temporarily due to an unforced lack of air and power. However once the installation was restarted the final commissioning and testing was completed in just 1.5 days.

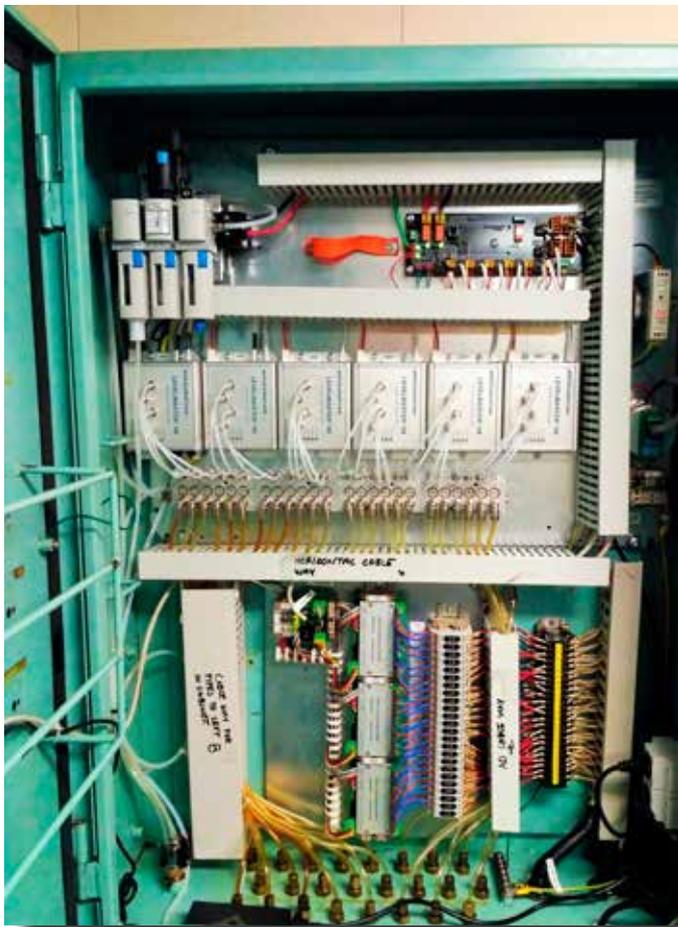
The original HANLA level system cabinet was stripped bare of all the original components except for the electrical analogue output terminals. It was critical to retain the terminals as these were wired to the automation system. The existing analogue output was loop powered with 24VDC and Kockum Sonics adopted this configuration and installed the relevant isolators.

Tank pipes entering the cabinet through cabinet base plate were kept with their original fittings thus saving a lot of installation time.

The original air treatment package did not meet Kockum Sonics' requirements so the old unit was removed and replaced with a new modern supportable version with a built in water alarm.



Original cabinet after clearing



New LEVELMASTER installed

The specially designed back plate was mounted into the existing cabinet and was constructed to utilize the existing fixing scheme.

The upper part of the back plate includes the measuring components from the LEVELMASTER H8 continuous system plus the new air preparation package whilst the lower part houses the communications modules including a specially designed 4-20mA analogue output signal configured to mimic the original. This allows a seamless identical export of data to the automation system.

Prior to shipping all components were pre-mounted and tested so that the service engineer only had to install the plates and make some simple interconnections within the cabinet saving a fortune in engineering time. Once in place the system was successfully started up and measuring was initiated.

As the original push buttons were removed from the cabinet door there were numerous openings that had to be filled. Kockum Sonics included a Panel PC in the scope and this was installed in the door and the remaining gaps were blanked with appropriately sized brushed stainless steel plates.

In the Panel PC, Kockum Sonics installed the LEVELMASTER presentation client as well as LEVELMASTER H8 Utility driver that act as powerful user-friendly complements to the original display software. One benefit of this is that the LEVELMASTER presentation client now acts as a redundant display because it communicates on its own dedicated serial link.

The LEVELMASTER H8 Utility Software is an excellent tool for maintenance and support of the system. The Utility software provides any user an extremely simple way to monitor the status of the system, including a watch dog alarm that alerts the crew in the advent of a system status issue. Furthermore, the software is self-analytical and in the vast majority of cases the crew will be able to resolve any failures without the need of a service visit.



Original door with LEVELMASTER PanelPC

LEVELMASTER system capabilities

The LEVELMASTER remote level gauging system provides a complete range of tank gauging equipment. Kockum Sonics offer an electro pneumatic system with pulse measurement as well as constant flow measurement.

Pressure sensors are available for both dry and submerged installation. The LEVELMASTER presentation provides a good overview of the tanks and their content. With built in warnings, the tanks are constantly monitored and alarms alert the user in the event of unexpected changes.

A LEVELMASTER Utility software is provided with all level gauging systems. The unique software tool provides the user with a good overview of the system. Periodical tests are done very quickly in an easy manner. Tests can be scheduled periodically easily through the software.

LEVELMASTER is of course compatible with other KOCKUM SONICS Products such as LOADMASTER® and SHIPMASTER®.

Project Management

The entire system was developed and produced in Malmö, Sweden. During the development phase the team were in close contact with Hoegh Wallem ship management to ensure a functioning system that met the high demands set by the system users.

We wish Hoegh Asia good luck on her future voyages.

Always ready to support you!

HEADQUARTERS:

Kockum Sonics AB, Industrigatan 39, P.O. Box 1035, SE-212 10 Malmö, Sweden, Tel: +46 (0) 40 671 88 00, Fax: +46 (0) 40 21 65 13
E-mail: info@kockumation.com, www.kockumation.com

CHINA SUBSIDIARY:

Kockum Sonics China, 2123 Pudong
Da Dao 1809, Dragon Pearl Complex,
Shanghai 200135, CHINA
Tel: +86 (21) 5885 27 29,
Fax: +86 (21) 6853 84 00

UNITED KINGDOM SUBSIDIARY:

Kockum Sonics (UK) Ltd., Unit 7 Leighton
Industrial Park, Billington Road, Leighton
Buzzard BEDS LU7 8YL, UK
Tel: +44 (0) 1525 8523 23,
Fax: +44 (0) 1525 8535 05

KOCKUMATION^{GROUP}