Market Update Note

MUN2017-06-28

ACOM – Automated Cylinder Oil Mixing

The automated cylinder oil mixing (ACOM) system is a newly developed cylinder oil delivery system which automatically mixes two finished oils to the optimum base number (BN) depending on the sulphur content of the fuel in use, see Fig. 1.

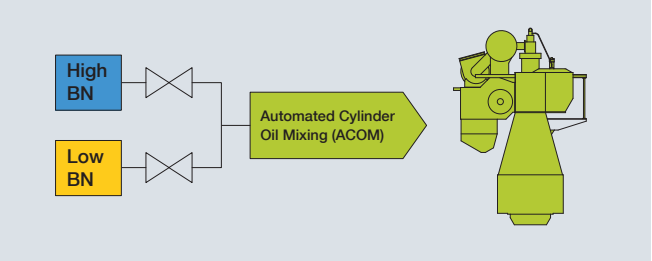

Fig. 1: Automated cylinder oil mixing (ACOM) system

The ACOM system will facilitate the lowest possible cylinder oil feed rate and thereby reduce costs, and still ensure safe lubrication and optimised tribology of the piston rings and liners.

The benefit of the ACOM system lies in its ability to ensure that the cylinder oil is mixed to match the sulpur content of the fuel in use, i.e. from 0.1% to 3.5%. The limits for when the ACOM is active depend on the adaptive cylinder oil control factor (ACC factor) for the engine, see SL2014-587/JAP. The ACC factor is also known as the feed rate factor.

In addition to facilitate a cylinder oil with a BN matched to the fuel, and thereby ensuring an optimised cylinder condition, long times between overhaul are achieved.

The ACOM system also measures the cylinder oil consumption in real time, and it is fitted with the features to read out the daily consumption and to download a file containing the data. Savings are achieved because the traditional cylinder oil day/measuring tanks can be omitted and the workload of the crew can thereby be reduced.

The ACOM mixes fully-formulated cylinder oils to the BN required to match the sulphur content of the fuel with a minimum dosage, see Fig. 2. This enables the operator to use a low cylinder oil feed rate, thereby saving costs, and, at the same time, keeping the cylinder oil BN at the optimum for the engine.

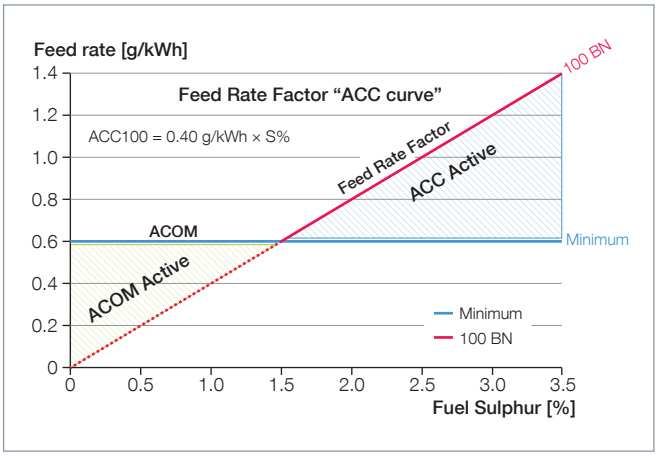

Fig. 2: Feed rate for optimum BN cylinder oil

Matching the lube oil to the actual sulphur content according to the engine type and operating pattern is a key factor in achieving efficient lubrication. Furthermore, by mixing two fully-formulated cylinder oils, detergency and dispersancy are always at the highest level, while viscosity is kept at the recommended level.

The ACOM unit is fully controlled by the engine control system via the main operating panel (MOP). Fig. 3 shows the typical dimensions of an ACOM system.

Market Update Note

Since 1 January 2017, ACOM has been included as standard in all new quotations for ME-GI/GIE/LGIM/LGIP engines specified for running in specified dual fuel mode (SDF). ACOM will be optional for all other engine types: ME-C/ME-B.

SDF means that the ratio of injected gas or liquid gas fuel and pilot fuel oil is flexible, for example when the available boil-off gas is limited. In the SDF operation mode, the BN level can be adjusted to optimal feed rate independent of the ratio of gas or liquid gas fuel and pilot fuel oil with varying sulphur content.

ACOM can be ordered and supplied for the MAN B&W two-stroke engines listed below. At the time of writing, the following latest engine types and configurations can be fitted with ACOM functionality in the MOP:

- ME-C
- All dual fuel type engines
- All Tier III type engines.

On ME-B engines, the ACOM is a stand-alone unit on which the BN values can be entered manually.

The ACOM can also be retrofitted on the above-listed engine types. For retrofit of ACOM on other engine types, please contact our Promotion & Customer Support department at: lsp@mandieselturbo.com.

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Height:	2,195 mm
Width:	780 mm
Depth:	540 mm

Fig. 3: Typical dimensions of an ACOM system