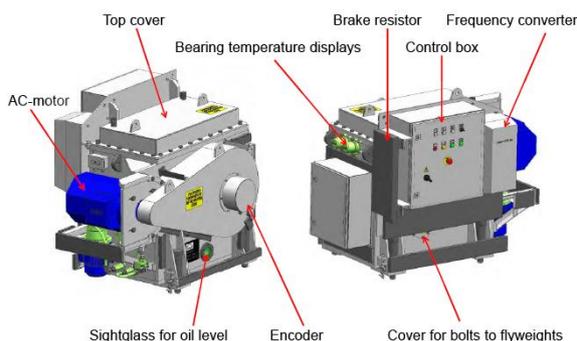
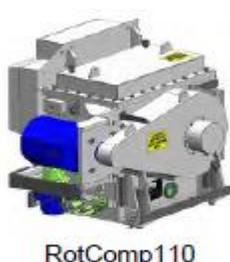


for MITSUI—MAN B&W engine, Electrically-driven moment compensator “RotComp”		No. 090	
		APPROVED	J. Watanabe
		CHECKED	
		PREPARED	H. Sakamoto
ENGINE TYPE	All	DATE	Jul. 27th, 2015

MAN Diesel and Turbo and MES have jointly developed the “RotComp” (Electrically-driven moment compensator) as the countermeasure for 2nd order unbalance moment which is the vibration source at hull vibration. We would hereby introduce the “RotComp” as follows.

In service vessels that have mounted the conventional MC/MC-C type engine, it may be necessary for the vessel to reduce the hull vibration at the Navigation Deck due to the operation style changes such as low load operation, super slow steaming and so on. It is now possible to solve such vibration problems by retro-fitting the “RotComp”. “RotComp” can reduce the hull vibration in the vertical direction, and it can be expected to reduce the vibration level in the longitudinal direction at the Navigation Deck.



At the installation, the following process is needed.

Step.1 : Investigation and Measurement

Hull vibration is to be investigated whether it is influenced by 2nd order unbalance moment, and is to be measured by means of portable type vibration measuring tool.

Remark) As the measurement result, there is a case that the device cannot be applied.

Step.2 : Examination and Plan

The measured vibration of 2nd order unbalance moment will first be analyzed. Then the necessary specifications of the “RotComp” and the position for proper installation will be carefully examined, and finally the modification / retrofitting work will be planned.

(expected work time: for 6 days, including function confirmation and vibration measurement etc.)

PRIORITY

IMMEDIATELY <input type="checkbox"/>	AT FIRST OPPORTUNITY <input type="checkbox"/>	WHEN CONVENIENT <input type="checkbox"/>	OTHERS <input checked="" type="checkbox"/>
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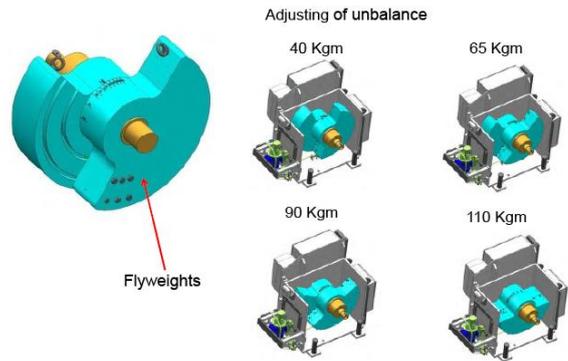
Issuer : MES TECHNOSERVICE CO., LTD.
 TECHNICAL DEPARTMENT / DIESEL ENGINE SERVICE DIVISION
 1-1, Tama 3-chome, Tamano, Okayama 706-8651 Japan
 TEL : +81-863-23-2385 / FAX : +81-863-23-2349
 E-mail : tech_de @mes.co.jp



About "RotComp"

[Structure / Characteristics]

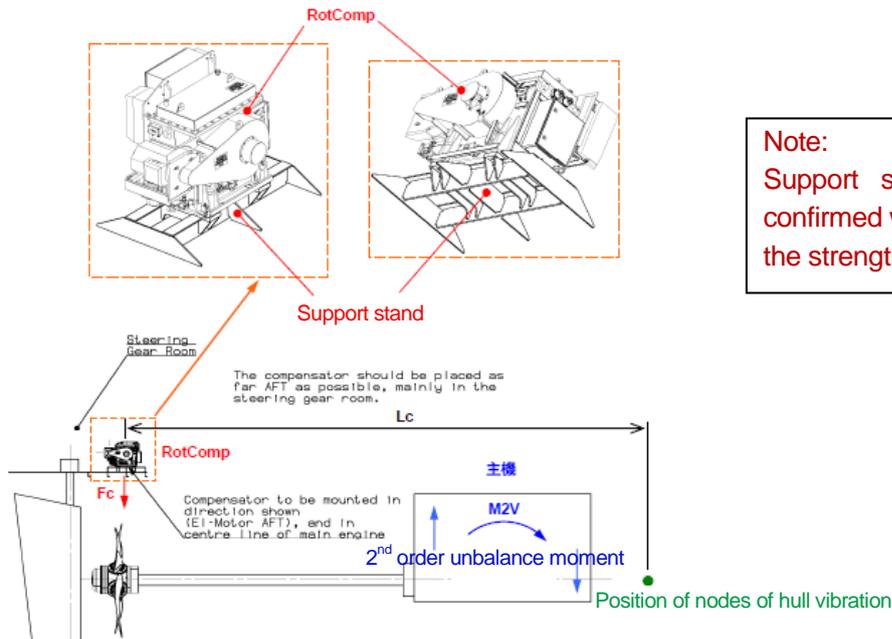
It is driven by an electric motor, and flyweights in the system generate a force in a direction opposite of the hull vibration at 2 times the main engine speed. Flyweights are composed in pairs, and changing of the generated force is possible by the adjustment of the angle at which the two overlap.



[Installation Location]

It is recommended to install the system at the steering gear room.

It is possible to increase the generated moment by keeping away from the position of nodes of the hull vibration, and to reduce the RotComp required size.



Note:

Support stand installation must be confirmed with the shipyard concerning the strength of the floor and bracket.

Sample case: "RotComp110" is retrofitted to 6S50MC-C8 :

Max. $\pm 21\text{mm/s}$ (peak) at 111rpm \rightarrow Reduced to less than $\pm 5\text{mm/s}$ at 100 - 127rpm

*the vibration reduction level will be influenced due to the capacity of the equipped RotComp, the mounting position, adjustment of the fly-wheel etc.

[RotComp / required spec] example

No. of cyl	Engine type	RotComp required size
4 / 5 / 6	S46MC-C7	RotComp110
	S46MC-C8	
4 / 5 / 6	S50MC-C7	RotComp110
	S50MC-C8	
5 / 6	S60MC-C7	RotComp250
	S60MC-C8	
5	S65MC-C8	RotComp500
6		RotComp250
5	S70MC-C7	RotComp500
6		RotComp250
6	S80MC-C7	RotComp500

Type	Weight	Compensator Max. force	Elect. Motor output
RotComp110	2200 kg	80 kN	14 kW
RotComp250	5500 kg	127 kN	14 kW
RotComp500	6300 kg	135 kN	35 kW

Concerning the details of this device and system, and also In case of other type engine, please contact with our sales office.