





Calibration of Sensors Associated with Miura BWMS

In this issue, we would like to provide information on the calibration of sensors used in our ballast water management system (Miura BWMS), which we often receive inquiries about.

In order to maintain functionality and safety and to prevent malfunctions, Miura BWMS requires annual calibration. The following is a list of sensors that require calibration.

Sensor	Model	【HK,HK-E】, 【HK-R,HK-ER】, 【HK-C,HK-EC】
a) Flow meter		○
b) UV sensor		○
c) Differential pressure transmitter		○
d) Salinity sensor (Option)		○*1

○: Calibration is required.

***1 Salinity sensor is optional part, but calibration is required if installed.**

- For details on calibration, refer to Chapter 5, 3. Calibration of Sensor in the operation manual.
- The calibration record form is the Calibration record of "XX" (XX is the name of sensor to be calibrated) shown at the end of the operation manual.

Please beware of imitations. Both IMO and USCG require the use of only parts that have been approved by the certification authority. No OEM parts are available, so use genuine parts only.

Calibration points for each sensor are as follows.

Flow meter
1) With the ballast pump stopped, check that the flow meter indicates zero.
2) Start deballasting with Sea to Sea line.
3) Start the ballast pump and adjust the ballast pump outlet pressure to the setting pressure for deballasting during commissioning. *Refer to the deballasting operation check in the commissioning test report.
4) If the absolute value of the difference between the deballasting flow rate stated in the commissioning test report and the measured flow rate divided by the setting flow rate is less than 15%, the flow meter is normal.

UV sensor
*Calibrate at the open ocean. *It must be calibrated annually and replaced in the fifth year before it expires.
1) Discharge seawater inside the UV reactor to remove the UV sensor box.
2) Remove the UV sensor box from the UV reactor and clean the UV sensor glass before restoring it.
3) Start deballasting with Sea to Sea line.
4) Once Miura BWMS is in "Ballast Water Treating" status, record the "UV dose" and "UV Illm." displayed at the top of the screen.
5) If "UV Illm." is 13 mW/cm ² or higher, the UV sensor is normal.

Differential Pressure Transmitter
1) Make zero point adjustment.

Salinity Sensor (Option)
1) Discharge seawater in the piping to remove the salinity sensor from the piping.
2) Remove the salinity sensor from the piping and clean the sensor surface.
3) Immerse the salinity sensor in the fresh (distilled) water produced by the fresh water generator and check that the salinity displayed on the control panel reads zero.

*Record the results in the calibration record.

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