

Precautions when removing the sensor of EM Log system

January 30, 2018

To our valued customers,

Please take note of the precautions when removing the sensor of the electromagnetic (EM) log system.

Please read and follow the instructions carefully to ensure appropriate work onboard.

EM Log Sensor : “Important Precautions when Removing the Sensor”

The EM Log Sensor is installed to penetrate the bottom plate and come into contact with the seawater. It protrudes into the seawater through the Sea Valve, which allows it to be removed for cleaning or replacement even when the vessel is at sea. When removing the Sensor, the Sea Valve must be closed to prevent seawater immersion, just before the Sensor is pulled out completely.

This document describes the precautions to be followed when removing the Sensor. These are very important to prevent the Sensor and connecting cables from becoming damaged, and more importantly, to avoid serious accidents such as seawater immersion or casualties. **Read this document carefully and pay close attention to it when performing maintenance work.**

1. Draft and water pressure

Pressure from seawater can lift the Sensor during the removal process. The pressure increases as the draft of the ship becomes deeper (see table below). The operator must pull out the Sensor slowly, while holding it down from above.

Draft [meters]	HS Type Dia 35mm [kgf]	FA Type Dia 48mm [kgf]	HV1 Dia 70mm [kgf]
2.0	2.0	3.7	7.8
4.0	3.9	7.4	15.7
6.0	5.9	11.1	23.5
8.0	7.8	14.8	31.4
10.0	9.8	18.5	39.2
12.0	11.8	22.1	47.1
14.0	13.7	25.8	54.9

It often becomes difficult to hold the Sensor down, if the water pressure exceeds 30 kgf. Under such circumstances, it is strongly recommended not to remove the Sensor and to work on it at a shallower draft.

2. Preparation and assignment of workers

Usually the Sensor and Sea Valve are installed in a watertight compartment partitioned by maintenance holes. Often workers cannot walk in this area. To address an unexpected situation and to prepare for an emergency, it is strongly recommended to assign one or more support staff. Also, ensure that adequate ventilation and clean air (oxygen level in the air) are present for the worker's safety, prior to starting the work.

3. Be sure to use the Chain when removing the HV-type Sensor (LS571)

As explained above, due to its larger diameter, the HV-type Sensor is under increased pressure from the seawater. Be sure to use the Chain to attach the Sensor to the Sea Valve. It is important to avoid the Sensor unexpectedly becoming detached from the Valve.

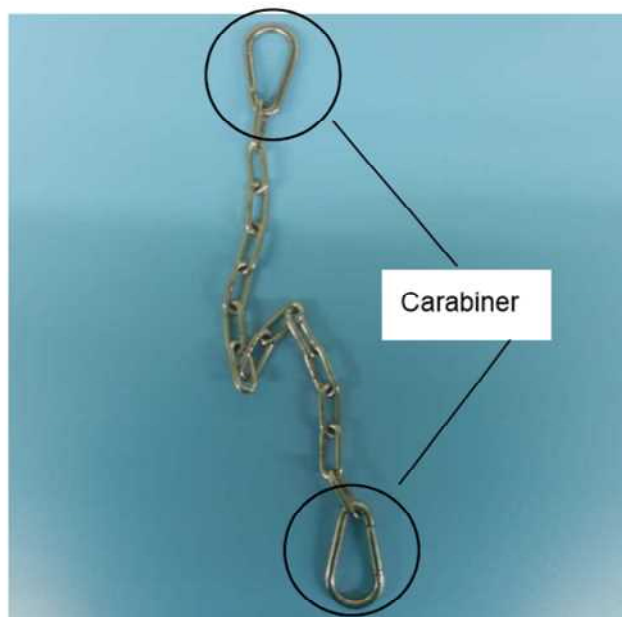
The Sea Valve can be opened or closed when the Chain is completely taut (please refer to the picture b below).



a. The Sensor is folded inside of the Valve.



b. As the Sensor is pulled all the way up, the Chain is completely taut



c. Chain

4. Precaution about the maintenance of the HV-type Sensor (LS571)

If the Chain is pulled up too quickly, the Carabiner might unexpectedly become detached from the Chain Plate. Pull up the Sensor slowly, while paying attention to the Carabiner.

