

Bunker Samplers / Fuel Sampler Instructions

Introduction - IMO MARPOL Annex VI

With effect from 19th May 2005, MARPOL 73/78 Annex VI on the Prevention of Air Pollution from Ships became mandatory for all internationally trading vessels above 400 GT. Regulation 18(3) of Annex VI to MARPOL 73/78 provides that for each ship subject to regulations 5 and 6 of that Annex, details of fuel oil for combustion purposes delivered to, and used on board the ship, shall be recorded by means of a bunker delivery note which shall contain at least the information specified in appendix V to that Annex. In accordance with regulation 18(6) of Annex VI, the bunker delivery note shall be accompanied by a representative sample of the fuel oil delivered. This sample is to be used solely for determination of compliance with Annex VI of MARPOL 73/78. The sample is to be sealed and signed by the supplier's representative and the master or officer in charge of the bunker operation on completion of bunkering operations, and retained under the ship's control until the fuel oil is substantially consumed, but in any case for a period of not less than 12 months from the time of delivery. The resolution specifies that the volume of the sample bottle should be no less than 400 ml.

General

In addition to the regulatory requirements fuel sampling and analysis is essential for verification of the quality of the fuel received onboard. This is particularly important when it comes to machinery damage related to fuel quality. Off spec fuel can lead to extensive damage to the vessels machinery which is costly for all involved.

Sampling Procedures / Methods

The fuel sample is to be obtained at the receiving ship's inlet bunker manifold and is to be drawn continuously throughout the bunker delivery period. The ISO fuel specification states "required properties of the fuels at the time and place of custody transfer" which normally is the receiving ship's inlet bunker manifold.

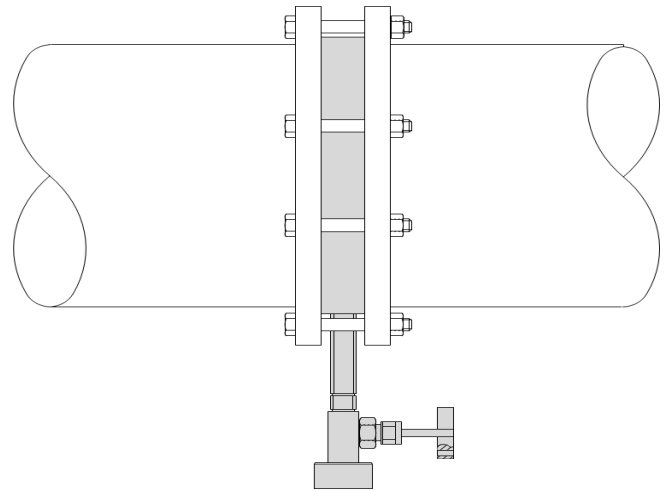
The sample should be obtained by one of the following methods:

1. manual valve-setting continuous-drip sampler; or
2. time-proportional automatic sampler; or
3. flow-proportional automatic sampler.

The Bunker Samplers and Fuel Samplers fall both under the first category.

Assembling of Fuel and Bunker Sampler

The **Bunker Samplers** are being placed between the receiving and incoming manifold and are being held in place by the screwing connection of these two. See the following diagram:



The **Fuel Sampler** is intended to be installed directly in the fuel line. For that either install the sampler on an existing 1/2" threaded element ideally near to the point of custody transfer or weld in the supplied threaded element.

The sampler's lance comes in uni length and need to be cut to fit into your fuel delivery line. The lance can be pulled for cleaning and storage purposes - for that close the ball valve after pulling the lance to avoid leakage.

Keep in mind

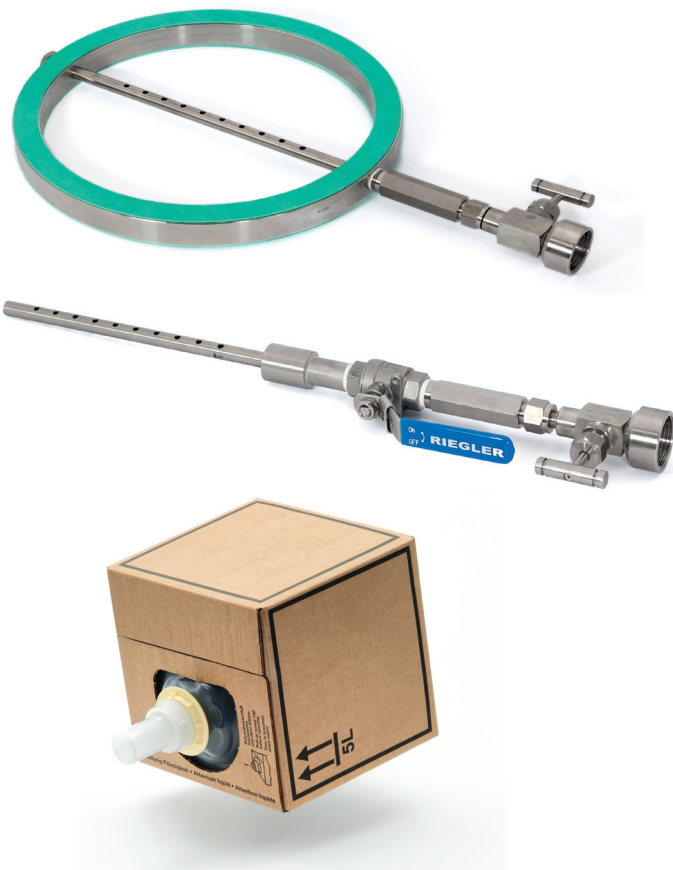
1. Perforated **sampling lance should point towards the flow**.
2. **Mount grounding cable** to the flange bolts.
3. **Do not forget** to attach the **cubitainer to the sampler**; place mount below cubitainer.
4. **Keep** the **sampler**, the **valve** and **pressure gauge** (optionally) **always clean**; it can be cleaned by using a clean distillate fuel.
5. **Do not leave the cubitainer unattended** as there is the risk of overfilling it which may result in overpressure and spillage.
6. Adjust the valve so that a **sample is being drawn over the whole time of bunkering**.
7. **Close** the samplers valve **before** blowing through the fuel lines on **completion of the bunkering**.
8. **Close** the **valve upon end of the pumping** to **avoid any sample liquid is being drawn back** into the line.

After completion of the bunkering thoroughly clean sampler, valve and pressure gauge (optionally).

Put the filled cubitainer into the supplied handling carton and attach the spout. Ready the sample bottles – usually there are about three or four samples needed:

1. Suppliers sample.
2. MARPOL required retention sample.
3. Sample for onboard analysis.
4. Sample for shore based lab analysis

Thoroughly shake the cubitainer to mix the sample then evenly distribute the contents of the cubitainer into the sample bottles by gradually transferring the fuel.



Sample Labeling & Storage

Regulations require that the sample bottle labels are to contain the following information:

1. Location at which, and the method by which, the sample was drawn.
2. Date of commencement of delivery.
3. Name of bunker tanker/bunker installation.
4. Name and IMO number of the receiving ship.
5. Signatures and names of the supplier's representative and the ship's representative.
6. Details of seal identification.
7. Bunker grade.

The retained sample should be kept in a safe storage location, outside the ship's accommodation, where personnel would not be exposed to vapours which may be released from the sample. Care should be exercised when entering a sample storage location. Pursuant to regulation 18(6) of Annex VI of MARPOL 73/78, the retained sample should be retained under the ship's control until the fuel oil is substantially consumed, but in any case for a period of not less than 12 months from the time of delivery. The ship's master should develop and maintain a system to keep track of the retained samples.

A suitable logbook is available from CMT.

CMT supplies a whole range of sampling equipment including but not limited to bunker samplers, storage cabinets cubitainer packs, sample logbooks, sample bottles, labels and mailing cartons. All this and more can be found on

www.CMTechnologies.de – your condition monitoring partner!



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