

Kittiwake Bunker Samplers

Instructions



Sample Position

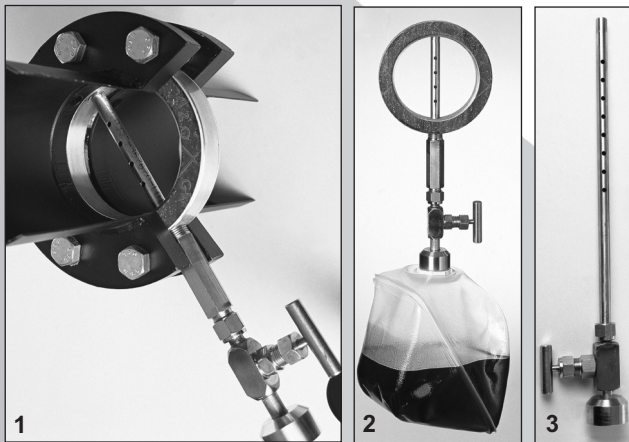
There is no single perfect location for obtaining a representative sample but the optimal location is at either end of the bunker delivery hose. It should be noted that the ISO fuel specification refers to "the required properties of the fuels at the time and place of custody transfer". This point of custody transfer is normally at the ship's manifold.

In most countries, the Customs Authority imposes duty on the product blended on shore, while the bunker fuel remains duty free if blended over the ship's rail. The maintenance of fuel quality in the distribution system is not totally predictable, not only because of occasional deliberate malpractice, but also due to the fact that

genuine accidents can occur. In view of the fact that in many cases the bunkers are blended shortly prior to the delivery, the place of custody transfer is the last point of checking the actual quality of the product delivered.

Many bunker suppliers state in their General Terms and Conditions that:

"The delivery shall be deemed completed when the oil has passed the flange connecting the seller's delivery facility with the receiving facilities provided by the buyer, at which point the seller's responsibility shall cease and the buyer shall assume all risks."



Figures 1, 2 and 3. Sampler installed in a pipeline. (Holes must face in the direction of flow); Cubitainer on Sampler; Sampler tube and valve.

- Always close the sampler valve before blowing through the fuel lines on completion of bunkering.
- Close the sampler valve if pumping stops, to prevent the sample being drawn back, under vacuum, into the fuel line.
- Always get the barge operator to witness removal and sealing of the cubitainer. If this request is refused, or if no witness is provided, then note this in the delivery log.

A Representative Sample

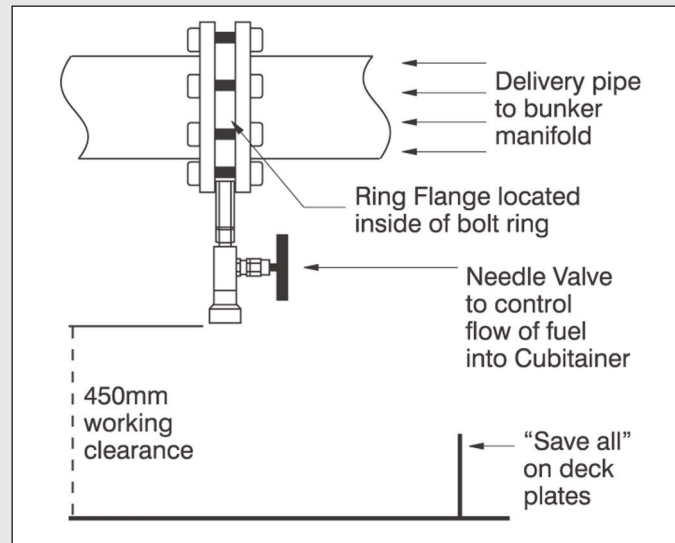


Figure 4. The figure shows the position of the sampler with the minimum working clearance required. **Note:** the sample is collected in a cubitainer, of typically five litre capacity, which is attached to the needle valve.

- 1: The tube within the sampler and sample valve should always be cleaned before use. This can be achieved by removing the tube, simply flushing it with a clean distillate fuel and allowing it to drain thoroughly before installing. The use of low flash point solvents is not recommended for cleaning the sampler. The tube should always be installed with the holes facing the direction as shown.
- 2: When bunkering starts, place a container under the sampler, open the sampler valve fully and flush the sampler with fuel.
- 3: Close the valve and attach a cubitainer onto the valve as shown. **Note:** Never leave the cubitainer unattended. Overfilling the cubitainer may result in over-pressurisation of the container and/or spillage.
- 4: Change the cubitainer when it is three quarters full. **Note:** If the sample is required only for testing on site, then it is possible to substitute a single sample bottle in place of the cubitainer.
- 5: Adjust the needle valve to give a slow and steady drip. Time the fill rate to estimate that it will provide for sufficient sample over the expected delivery period.
- 6: If the cubitainer fills during the bunkering period, remove it and add a numbered, tamper evident cap. Place an empty cubitainer on the sampler and continue to draw a sample.
- 7: On completion of the bunkering, remove and seal the cubitainer, fully open the sampler valve and allow the sampler to drain.

Storing the Sample

If the sample is only required for testing on site or for compliance with MARPOL, Annex VI 73/78, then it is possible to take just a single sample directly into the sample bottle rather than in to the cubitainer.

Select three or four clean sample bottles. The exact number depends on the final destination of the various samples. To cover all eventualities, it is recommended that four representative samples are obtained from the delivery. The distribution of the samples being:

- Supplier's sample
- Vessel's sample for onboard retention
- Onboard analysis sample
- Sample for independent analysis

The full cubitainer should be placed in the pourer box and thoroughly shaken to ensure that the contents are well mixed.

Attach the pourer spout and gradually transfer the contents into the sample bottles, filling each a little at a time. If more than one cubitainer was used during bunkering, then transfer a portion of both into each of the bottles

Complete the document labels and attach one to each sample bottle.

Flat pack shipping cartons are provided for the safe transportation of fuel samples. Always use IATA approved cartons to avoid delays and damage in transit.



Figure 5. The full cubitainer should be placed in the pourer box and the sample transferred to the sample bottle. If more than one bottle, pour a little at a time into each one until full.

Summary

- A representative sample is fundamental for all later testing.
- Continuous drip manual sampler is the proven method for effective sampling.
- The sample must be witnessed by all parties, supplier's representative as well as recipient/ship.
- The point of custody transfer is usually factory or ship's manifold.
- Careful measurements during delivery will produce savings.
- Samples should be handled and stored carefully - they may be the only evidence.

Compliance with IMO MARPOL Annex VI

With effect from 19th May 2005, MARPOL 73/78 Annex VI on the Prevention of Air Pollution from Ships becomes mandatory for all internationally trading vessels above 400 GT.

There are requirements, partly related to the SOx controls, which cover certain aspects related to fuel oil quality and supply arrangements - Regulation 18. Annex VI contains provisions allowing for special "SOx Emission Control Areas" (SECA's) to be established with more stringent controls on sulphur emissions. In these areas, the sulphur content of fuel oil used onboard ships must not exceed 1.5% m/m, alternatively, ships must fit an exhaust gas cleaning system or use other technological methods to limit SOx emissions.

Bunker collection, sampling and storage guidelines are provided in Annex VI and have been defined by MEPC 96(47), which states that:

"A retained sample of all fuel oils as supplied, is drawn at the ships receiving manifold, sealed, signed on behalf of the supplier and the Master or ship's officer in charge of the bunkering operation. The retained sample is to be kept under the ship's control until the subject fuel has been substantially consumed, but in any case for at least 12 months from the date of delivery."

It is important to remember that this sample is to be used solely for determination of compliance with Annex VI of MARPOL 73/78 and cannot be used for any other commercial purposes. However, samples can be drawn at the same time for other purposes.

MARPOL Annex VI requires you to store the sample for at least 12 months and the Bunker Delivery Receipt for three years.

