

# DREW BUNKER SAMPLER



## DESCRIPTION

The DREW Bunker Sampler is a simple continuous-drip sampler that offers a convenient and reliable method to obtain a representative fuel sample during bunkering. The DREW Bunker Sampler has received a Certificate of Design Assessment from the American Bureau of Shipping (ABS) and complies with IMO MARPOL 73/78 Annex VI for continuous-drip sampling of all grades of fuel.

Marine fuels, especially low sulfur grades, are often non-homogeneous due to stratification in the fuel supplier's tanks as a result of varying densities of blended fuels. These low sulfur fuel oils may be comprised of specially refined residual oil, ultra-low sulfur diesel fuel oil designed for motor vehicles and trains, and biodiesel. Refinery produced ultra-low sulfur fuel may have sulfur content as low as 0.0015%. Biodiesel naturally contains nearly zero sulfur content.

Fuel deliveries to the ship may have been pumped from multiple tanks on the bunker barge, each containing a different fuel. Fuel samples obtained at any moment during the bunkering period, simply by opening a valve in the fuel fill line, can often result in a non-representative sample. That sample may provide misleading information even though the laboratory analysis is accurate.

Fuel drawn from the DREW Bunker Sampler during the entire bunkering period will contain a portion from every fuel



strata of each tank pumped from the supplier's barge, more closely representing the fuel delivered to the ship's tanks.

When considering a common 2,000-ton fuel delivery, the typical one-liter sample drawn for onboard testing or shore-based laboratory analysis equals one-half part per million (0.5 ppm) of the total volume of fuel delivered. Therefore, the sampling method should be as accurate as possible for the type of fuel being delivered.

## FEATURES

- Easy between-flange installation
- Pre-mounted gaskets
- No bolt holes, compatible with ANSI, DIN, JIS flange standards
- Low cost
- No moving parts
- Durable, minimal maintenance
- Available in 50mm to 350mm (2" to 14") pipe sizes
- Optional valve lock

## BENEFITS

- Simple to use
- Ensures no leakage
- Easier selection process, only inner diameter (I.D.) required
- Cost effective investment for accurate and compliant sampling
- Minimal maintenance and repair costs
- No hot work or drilling required
- Exact fit for residual and distillate fuel bunkering manifolds
- Compliance for bunkering in Singapore for SS 600:2008



Contact your Drew Marine representative for more information

## APPLICATION AND USE

When using the DREW Bunker Sampler, sampling is carried out by continuous drip during the entire bunkering period. A valve on the sampler is used to adjust the drip rate into either the 5 L or 10 L Cubitainer<sup>1</sup> receptacle connected to the sampler. A new Cubitainer should be used for each bunkering and each different grade of fuel.

Once bunkering and sampling are completed, the Cubitainer is capped, and the primary sample is prepared by shaking before being poured into individual sample bottles. When filling the sample bottles, alternately pour small amounts into each bottle until filled, using three or four passes to fill each bottle.

Drew Marine recommends preparing a minimum of four individual fuel samples from the primary sample:

- a. two for the vessel, one of which is a MARPOL sample;
- b. two retained by the bunker tanker (or terminal);
- c. one for the bunker surveyor, if engaged;
- d. one for fuel testing services, if required.

The MARPOL and vessel retained samples should be stored in a Fuel Sample Retention Cabinet. Specifically, the MARPOL retained sample must be retained onboard for one year. The supplier sample should be offered to the supplier representative. The laboratory sample should be dispatched to the shore-based testing laboratory to determine the overall fuel quality for the bunker delivery.

## PROPER SAMPLER SELECTION

Fitted at the bunker manifold, the DREW Bunker Sampler requires a positive pressure in the fuel bunker line to obtain a representative sample. If a vacuum exists in the bunker line due to siphoning, continuous-drip fuel samplers cannot draw an adequate sample and should not be used. An alternate sampling method must be used.

To select the correct DREW Bunker Sampler, determine the pipe size inner diameter (I.D.) of each bunkering manifold. Since the DREW Bunker Sampler has no bolt holes, it is fitted in between the bunker manifold flange and bunkering hose flange. The exact flange standard of the bunkering manifold (i.e. ANSI, DIN, JIS, etc.) is not necessary. To order a sampling flange with bolt holes, please refer to the DREW DRIP-TEC continuous drip sampler.

## APPLICATION AND USE

DESCRIPTION	PCN
DREW Bunker Sampler, 50 mm (2")	1AB3200
DREW Bunker Sampler, 80 mm (3")	1AB3201
DREW Bunker Sampler, 100 mm (4")	1AB3202
DREW Bunker Sampler, 125 mm (5")	1AB3203
DREW Bunker Sampler, 150 mm (6")	1AB3204
DREW Bunker Sampler, 175 mm (7")	1AB3205
DREW Bunker Sampler, 200 mm (8")	1AB3206
DREW Bunker Sampler, 225 mm (9")	1AB3207
DREW Bunker Sampler, 250 mm (10")	1AB3208
DREW Bunker Sampler, 275 mm (11")	1AB3209
DREW Bunker Sampler, 300 mm (12")	1AB3210
DREW Bunker Sampler, 350 mm (14")	1AB3211
<b>Optional</b>	
DREW Bunker Sampler Valve Lock	1AB3212
Fuel Sample Retention Cabinet (Empty)	1AA7636
<b>Consumables</b>	
Fuel Sample Bottle Kit, 40 Bottles	1AA9829
5 L Cubitainer Kit, 12 PCS	1AA9830
10 L Cubitainer Kit, 12 PCS	1AA9831



Contact your Drew Marine representative for more information

Drew Marine maintains Safety Data Sheets on all of its products. These documents contain health and safety information for the development of appropriate product handling procedures to protect your employees. Safety Data Sheets should be read and understood by all of your supervisory personnel and employees before using Drew Marine products.



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