

Oil Samples are used to obtain a clear indication of the operating status of your machinery. One of the most important aspects of any oil analysis program is the sampling methods and equipment used. Often these are weak links that quickly compromise the program.

Obtaining a representative oil sample is one of the most important factors of a scheduled oil analysis program. Representative, uncontaminated oil samples are required for both regulatory and commercial purposes. A high standard oil sample will contain an accurate representation of the contaminants, additives, oxidation, particulates and wear condition of plant and equipment. If a sample does not represent the true condition of the oil and component at the time of sampling, the reliability of both the test result and it's interpretation is affected.

Kittiwake's sampling solutions provide you with everything you need to easily gather an uncontaminated, representative sample of your fuel or lubricating oil, whenever your oil analysis program requires it.



Protect your machinery from potentially critical problems, with regular monitoring of your oil condition.

Fuel Oil Sampling



Fuel oil sampling is an essential element of any bunkering operation.

Representative fuel oil samples are required for both regulatory and commercial purposes. Crucial aspects of the sampling process include taking the sample, the sampling location and witnessing the process.

The importance of a suitably drawn and witnessed representative fuel oil sample cannot be over-emphasised. It forms the basis of all discussion, debate or dispute resolution relating to the bunkering.

Drip Type Bunker Samplers

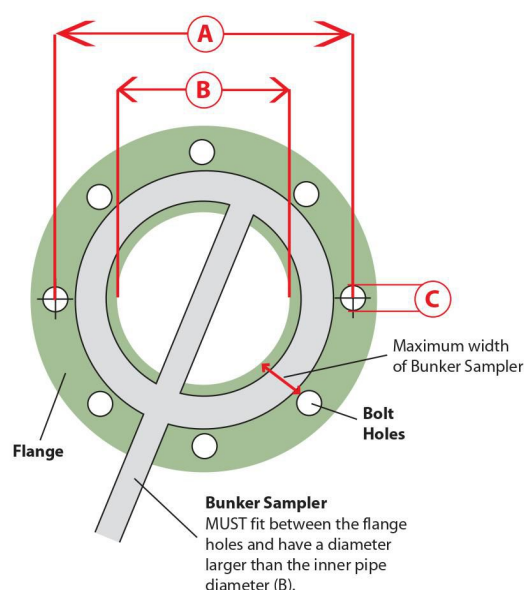
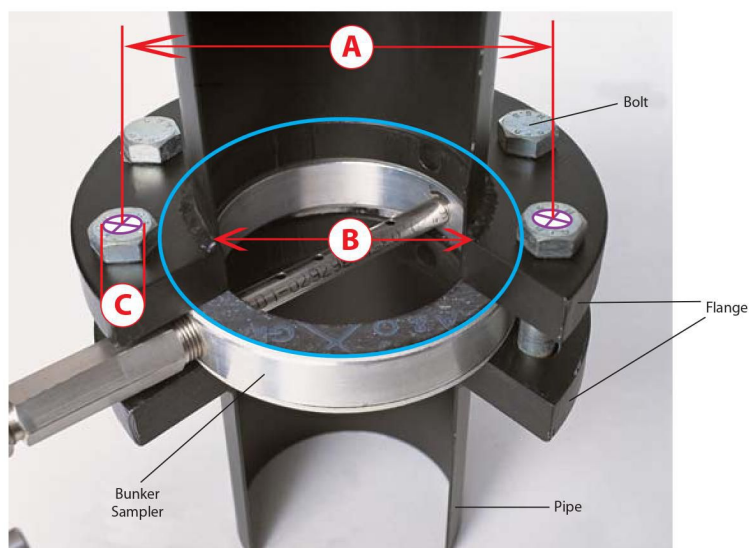
The most common and economic means of obtaining a representative sample is by using a drip type Bunker Sampler. In back to back tests performed by a major fuel testing laboratory over an extended period, samples obtained by drip samplers were identical to those from more expensive automatic fuel samplers.

- Lloyds Register approved and manufactured under strict ISO 9001:2000 quality assurance standards.
- IMO MARPOL 73/78 Annex VI compliant - helps you stay within the legal requirements for bunker sampling.
- Lightweight and very easy to install - obtaining a representative sample is quick and easy.
- Bunker Sampler Joint Rings included - all the equipment you need for correct installation.
- Even ex-stock bunker sampler sizes available from Kittiwake's extensive range of equipment.



Material:	Stainless Steel 304/316
Nominal Flange Thickness:	25 / 26 mm
Total Thickness: (including gaskets)	31 / 32 mm

Selecting the Correct Size of Drip Type Bunker Sampler



A = Pitch Circle Diameter

B = Nominal Pipe Size

C = Bolt Hole Diameter

Calculation

Pitch Circle Diameter (A) - Bolt Hole Diameter (C) = X

Select the nearest size Bunker Sampler with an outer diameter **smaller** than X and an inner diameter **larger** than the Nominal Pipe Size (B).

Example

Pitch Circle Diameter (A) = 290 mm

Bolt Hole Diameter (C) = 23 mm

Nominal Pipe Size (B) = 200 mm

290 (A) - 23 (C) = 267 (X)

Therefore the correct Bunker Sampler would be FG-K1-128-KW (8" Bunker Sampler), which has an outer diameter of 266 mm and an inner diameter of 221 mm. The outer diameter is smaller than X (the space between the flange bolts), yet the inner diameter is larger than the nominal pipe size (B), so that fuel flow is not impeded.

Sampler Sizes

Part Number	Nominal Pipe Size (B)	Inner Diameter	Outer Diameter	Weight	Flange Standard Correlations
FG-K1-122-KW	50 mm / 2"	63 mm	95 mm	3.40 kg	JISB2210 5K, 10K, 16K, BS 4504 PN10, PN16, BS10 D,E,F, ANSI B16.5 150, 300
FG-K1-123-KW	75 mm / 3"	86 mm	127 mm	3.90 kg	JISB2210 5K, 10K, 16K, BS 4504 PN16, BS10 D,E,F, ANSI B16.5 150, 300
FG-K1-124-KW	100 mm / 4"	116 mm	157 mm	4.28 kg	BS 4504 PN16, BS10 D,E,F, ANSI B16.5 150, 300
FG-K1-125-KW	125 mm / 5"	144 mm	188 mm	4.84 kg	JISB2210 5K, 10K, 16K, BS 4504 PN16, BS10 D,E, ANSI B16.5 150
FG-K1-126-KW	150 mm / 6"	171 mm	216 mm	5.46 kg	JISB2210 5K, 10K, 16K, BS 4504 PN16, BS10 D,E,F, ANSI B16.5 150, 300
FG-K1-127-KW	175 mm / 7"	194 mm	241 mm	6.16 kg	JISB2210 5K, 10K
FG-K1-128-KW	200 mm / 8"	221 mm	266 mm	6.48 kg	JISB2210 5K, 10K, 16K, BS 4504 PN10, PN16, BS10 D,E,F, ANSI B16.5 150
FG-K1-129-KW	225 mm / 9"	260 mm	307 mm	6.64 kg	ANSI B16.5 300
FG-K1-130-KW	250 mm / 10"	281 mm	328 mm	7.08 kg	JISB2210 10K, 16K, BS 4504 PN10, PN16, BS10 D,E,F, ANSI B16.5 150, 300
FG-K1-131-KW	275 mm / 11"	319 mm	361mm	7.2 kg	JISB2210 10K, BS 4504 PN10, PN16, BS10 D,E
FG-K1-132-KW	300 mm / 12"	340 mm	401 mm	7.5 kg	JISB2210 16K, BS10 F, ANSI B16.5 150, 300
FG-K1-133-KW	350 mm / 14"	375 mm	420 mm	7.96 kg	BS 4504 PN10, PN16, BS10 D,E,F, ANSI B16.5 150, 300