

Ferrous Wear Meter *plus*



Parker Kittiwake

ENGINEERING YOUR SUCCESS.



Ferrous Wear Meter *plus*



Parker Kittiwakes Ferrous Wear Meter (FWM) provides users with a quick, simple to operate method that measures ferrous wear debris in oil samples taken from a variety of types of machinery, including used cylinder scrapedown oil, gear boxes and bearings. Monitoring of ferrous wear levels with your oil samples on an ongoing basis allows any deterioration in machine condition to be quickly spotted and corrective action taken, saving you downtime and money, and preventing more serious damage occurring.

The rugged, simple, easy to use instrument provides instant, accurate measurements of ferrous wear content on the units screen. Contained in a fully portable case, its rugged design is ideal for testing and analysing oil samples both on-board, in the field or in the laboratory.

A sample of oil is placed in the supplied 5 mL test tube and this is inserted into the instrument. No further sample preparation is required and the ferrous debris content is displayed instantly on the easy to read screen, providing you with a quick, simple and clean method of analysis. Simple graphical instructions are displayed on the screen, requiring little or no training for users to operate.

By trending of ferrous wear measurements over time, any increase in wear levels can be monitored and appropriate actions taken to mitigate any damage. Machinery degradation can be observed as it happens and machines serviced as and when they need to be, rather than on a time or hours of operation basis, saving cost and manpower.

The unit comes supplied with power adaptors for all major socket types (UK, EU and US), allowing it to be deployed in many locations.

Features

- Simple, graphical user interface
- Immediate ferrous wear measurement in ppm
- Schedule maintenance as required

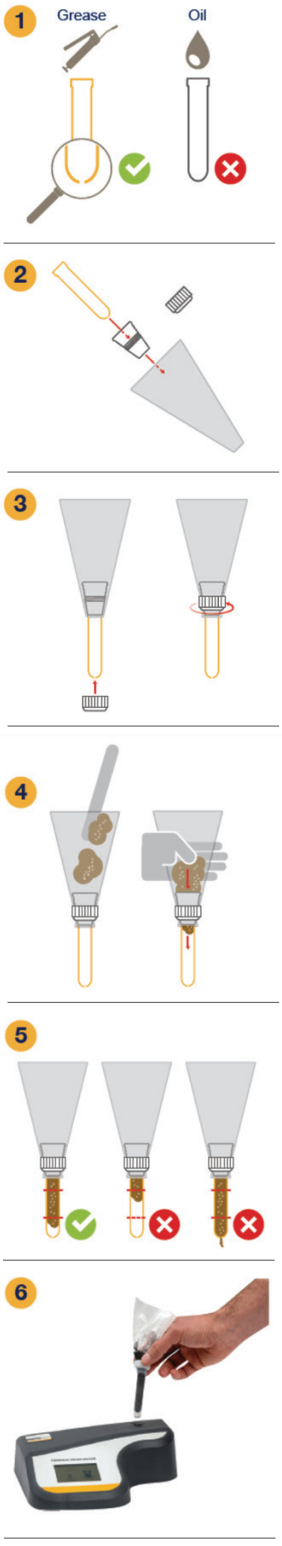
Benefits

- Reduced operating costs
- Decreased downtime
- Reduced scrapedown oil usage





FWM Grease Kit



Ferrous Wear Meter[plus]

Parker Kittiwakes Ferrous Wear Meter[plus] (FWM[plus]) offers an additional way to measure ferrous wear debris.

The accessory kit allows grease to be measured with the FWM[plus]. This New grease kit is available to order from Parker Kittiwake (This kit is compatible with the original FWM, but is limited by 2500 ppm range).
It contains 25 samples and is a clean, no-mess solution for testing. Only 5mL of grease is required in order to successfully run the test.



Features

- No reference (Sticker) calibration expiry
- Increase range (0-15%)
- Meets ASTM D8120

Specification

Rated Input Voltage	24 V d.c.
Rated Input Current	0.3 A
Operating temperature	15 to 40°C
IP Rating	IP22
Instrument Weight	1.1 Kg
Measurement Range	0 to 15% by mass (mg/kg)
Displayed Resolution	5 ppm between 0 and 2495 ppm 10 ppm between 2500 and 9990 ppm 0.01% between 1.00 and 9.99% 0.1% between 10.0 and 15.0%
Sample Container	Monitor 2.0 Test Tube
Test time	<3 seconds
Unit dimensions	250 mm Wide 230 mm Deep 75 mm High
Standard	ASTM D8120 Standard Test Method for Ferrous Debris Quantification

Ordering information

Part Number	FWM[plus] and Calibration options
FG-K30258-KW	FERROUS WEAR METER[plus] (Note part number unchanged from FWM)
FG-K31388-KW	FWM upgrade to FWM[plus] (Includes grease kit and optional Calibration Certificate)
IH-K27972-KW	Calibration Certificate
FG-K30368-KW	FWM[plus] calibration - @PKW

Part Number	Consumables and spares
FG-K30366-KW	Spare Power Supply (UK, US and EU socket adaptors)
FG-K30362-KW	Oil test tubes – 500 tests
FG-K31307-KW	Grease kit – 25 tests
FG-K31170-KW	Check Standards (High, Medium, Low)

Used scrapedown oil analysis

Given the ever increasing financial pressures on the shipping industry, the drive to save money applies to not only fuel savings, but also to cylinder lubrication oil. Even small savings of 10% or less, can result in tens of thousands of dollars savings in lube oil costs.

The FWM can be used for feed rate optimisation of cylinder scrapedown feed rates on-board vessels, allowing savings to be made in oil use, with confidence that catastrophic cylinder damage is not being caused to the liner and/or ring packs due to under lubrication of the cylinder bore.

This drive to save on operating costs has lead vessels to operate under slow steaming conditions, running the vessel at much lower speeds and hence, engine powers. This in turn, has led to issues within the cylinders, where water vapour combines with the sulphur by products of the combustion process and condenses on the inside of the cylinder liner walls, causing corrosive wear products, known in the industry as cold corrosion.

Parker Kittiwake offers unique test kits to measure this corroded iron content of the used scrape down oil and the FWM, used in conjunction with Parker Kittiwakes Cold Corrosion Test Kit (CCTK), allows the full picture of cylinder operating conditions to be obtained.

Cold Corrosion Test Kit (CCTK)

The CCTK provides a quick and simple on-board test to determine only the non-metallic iron concentration in used scrapedown oil. In under 5 minutes, a figure (in ppm) for the combined value of Fe^{2+} and Fe^{3+} concentrations is directly read out from the comparator unit. This figure can simply be added to the figure obtained from the FWM to give a figure for total iron (Fe, Fe^{2+} and Fe^{3+}) within the scrapedown oil sample.

This has the distinct advantage over a single total iron measurements obtained by other test methods in that the portion of wear attributable to cold corrosion and that attributable to metal on metal contact (scuffing, under lubrication, ring pack cracks or damage) can be instantly seen and the right corrective action immediately taken. Without knowing the relevant contributions to the total iron number, this informed decision making process is hindered.

Base Number (BN) Testing

Coupled with on-board testing of the residual base number of the scrapedown oil, using a Parker Kittiwake Digi Kit, operators can fine tune their operating regimes to ensure that the engine is run at the optimum conditions to ensure minimum wear, minimum scrapedown lubrication oil feed rates and overall, minimum cost.





Ordering information

Product Code	Description
FG-K19763-KW	Cold Corrosion Test Kit (CCTK) including Reagent Pack (100 tests)
FG-K19875-KW	Reagent Pack (100 tests)
FG-K1-004-KW	DIGI TBN Test Kit

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