



Marine Condition Monitoring

Product solutions for the marine industry

aerospace
climate control
electromechanical
filtration
fluid & gas handling
hydraulics
pneumatics
process control
sealing & shielding



ENGINEERING YOUR SUCCESS.

Marine Condition Monitoring

Parker Kittiwake - Keeping fuel and lube oils at peak performance, engines operating efficiently and essential on-deck and below-deck machinery at the ready.

Effective Vessel Condition Monitoring

Whether it's onboard a luxury cruiser, container ship or supply ship, tanker, bulker or carrier, Parker Kittiwake has the condition monitoring and analysis products designed, manufactured and tested to meet your various marine system needs; ensuring efficient and cost-effective operation.

Proven Oil and Fuel Monitoring

Ensuring that the fuel, lube and water on-board meets its specification is important, not only to maintain efficient operation, but also to meet marine regulations. Accurate, reliable and simple to use tests ensure you maintain your vessel at optimum efficiency.

Cylinder Monitoring



Parker Kittiwakes Cold Corrosion Test Kit and the new Ferrous Wear Meter (FWM), allow ship operators to monitor levels of both metallic and corroded iron in used cylinder scrape down oil, giving them a comprehensive overview of the operating conditions within the cylinder chamber.

Marine Water Test Kits



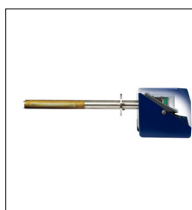
A legislation-driven requirement under the ILO Maritime Labour Convention 2006. These water and sewage test kits provide real-time analysis and simple to perform tests needing no specialist training. A single, convenient solution to avoid potential Port State inspection problems.

Fuel Monitoring



A range of fuel sampling and testing equipment to provide operators with accurate and representative samples to make sure that IMO MARPOL Annex VI regulations are adhered to. Equipment to test on-board to make sure the key fuel parameters are within specification without the need for lab testing.

Emissions Monitoring (CEMS)



The need to demonstrate environmental responsibility is key to today's marine industry. Fuels and exhaust gas emissions are subject to international control and public interest and the penalties for non-compliance are potentially huge. The Procal 2000 emissions monitoring system is proven the world over.

System Monitoring



Parker Kittiwake monitoring solutions for lube and hydraulic oils in marine applications cover a wide range of products and technologies. From monitoring water, metallic particle wear and fluid cleanliness, Parker Kittiwake has solutions for all your needs.

For more information and technical support on Parker Kittiwake products:
kittiwakeinfo@parker.com
www.kittiwake.com

Kittiwake developments are now a part of the Parker condition monitoring family and genuine Kittiwake products are only available from Parker Kittiwake.

Cylinder Monitoring

Ferrous Wear Meter

The Ferrous Wear Meter (FWM) quantifies metallic wear in an oil samples taken from cylinder scrapedown oil. The FWM offers a simple, easy to use instrument that offers Parker Kittiwakes quality, accuracy and reliability.

This unit is ideal for testing and analysing used cylinder scrapedown oil samples on - board. for metallic wear, indicating high cylinder liner wear. The FWM is constructed using a sophisticated magnetometer adapted for field applications. A 5 ml test tube filled with the sample is placed directly in the hole in the instrument and its metallic content, in PPM, is displayed on the screen in less than 2 seconds. Use in collaboration with the Cold Corrosion Test Kit (below) to obtain total iron measurements from your ships cylinder oil. **Part Number - FG-K30258-KW**



Cold Corrosion Test Kit

The oil used to lubricate the cylinders of large 2-stroke marine diesel engines has to contend with high temperatures and acidic products formed during the combustion of sulphur-rich bunker oils.

Parker Kittiwakes Cold Corrosion Test Kit is a quick, simple to use chemical test that provides an accurate measure of the parts per million (PPM) value of Fe^{2+} and Fe^{3+} compounds in used scrape down oil. Rather than simply giving a figure for the total iron (including metallic compounds), which other tests provide, knowing the specific PPM of corroded iron allows informed decisions to be made in adjustments to feed rates and the Base Number (BN) of the oil used. **Part Number - FG-K19763-KW**

DIGI Water & BN Test Kit

At the heart of Parker Kittiwakes on-board oil test solution range is the DIGI Test Cell, providing simple, accurate results for Water in Oil and Base Number.

Parker Kittiwakes oil test kit range provides a complete set of economically priced equipment with a level of accuracy suited to routine analysis. With an easy to read digital display providing instructions and results, a five year (5000 tests) battery life and built in memory for recording previous test results, the Parker Kittiwake DIGI Cell has become a favoured test method worldwide for on-board testing. Test cells are available for either Water in Oil or Base Number (BN). Alternatively, a DIGI Combined Test Cell is available that performs both test measurements in a single cell.

Part Number: FG-K1-008-KW



The world's first real-time alarm system for engine liner wear. Parker Kittiwakes LinerSCAN marks a new era in asset protection, providing early warning against critical engine damage.

Parker Kittiwakes LinerSCAN is designed to remove the uncertainty of cylinder liner damage resulting from low fuel quality, slow steaming, low sulphur levels, lower oil feed rates and cylinder oil formulation changes. Trials have shown that LinerSCAN highlights the first signs of damage earlier than other systems and enables safe reduction of lubricant feed rate. LinerSCAN is a fully automated system and will help save money by optimising the lubricant feed rate, reducing your maintenance loads and by helping you prevent unnecessary engine damage.

Part Number - FG-K17400-KW

LinerSCAN

Fuel Monitoring

Heated Viscometer

Make fast on-site maintenance decisions with Parker Kittiwakes Heated Viscometer. An accurate range, providing laboratory grade oil condition results in minutes.

The Parker Kittiwake Heated Viscometer provides a condition monitoring tool that enables you to make informed operational and maintenance decisions about your critical plant and equipment. Fuel and lubricating oils form a major cost element in the operation of almost all machinery and engines; the quality must be closely monitored to protect the investment. The ability to test on-site, at the point of use, enables engineers managers to conduct oil analysis quickly and easily. Detecting out-of-spec fuels or lubricants can identify potential problems before equipment damage occurs.

Part Number - FG-K1-200-KW



Protect your assets, improve productivity and increase up-time using regular on-site oil analysis with Parker Kittiwakes Density Meter.

The Parker Kittiwake Density Meter is suitable for both distillate and residual fuel oils. Measuring the density of fuel using hydrometers, the Density Meter can be used to confirm the quantity and grade of fuel delivered. Density is calculated electronically, giving fast, accurate results and estimating the combustion performance (CCAI) and allowing accurate correct viscosity in cP to cSt calculations. **Part Number - FG-K1-300-KW**

Compatibility Tester

The Parker Kittiwake Compatibility Tester identifies possible stability problems before blending two fuels, indicating the effectiveness of stability additives.

The Parker Kittiwake Compatibility Tester is possibly the most useful and underrated tool available for testing fuel oil compatibility and blends. The kit provides a quick useful tool for engineers faced with the necessity to mix or blend residual fuel oil or wishing to establish the stability of a new bunker delivery. The Compatibility Tester can be purchased as a stand-alone kit supplied in its own case, or as part of a more extensive suite of testing equipment in the Fuel and Lubricant Cabinet. **Part Number - FG-K1-500-KW**



Fuel oil sampling is an essential part of any bunkering operation. The most common and economic means of obtaining a representative sample is by using a drip type Bunker Sampler.

Representative fuel oil samples are required for both regulatory and commercial purposes. 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. Available in a variety of sizes, Parker Kittiwakes Bunker Samplers are lightweight and easy to install, meaning that obtaining a representative bunker fuel sample is quick and easy. **Part Number - Various**

Sampling Accessories

Parker Kittiwakes sampling solutions provide you with everything you need to easily gather an uncontaminated, representative sample of your fuel or lubricating oil.

Parker Kittiwake produce a complete range of oil and bunker fuel sample bottles, labels and mailing cartons for storage and safe transportation of the samples. Drip samplers use disposable 'cubitainers' which hold the oil before mixing and transfer to the sample bottles and keep out all external contamination. All consumables are available either as convenient sampling kits containing all necessary equipment, or supplied in bulk to refineries and bunker barge operations. **Part Number - Various**



Density Meter

Bunker Samplers

Bunker Sampler Storage System

A completely self-contained unit providing everything needed to comply with the collection, retention and storage of bunker fuel oil samples in accordance with IMO MARPOL annex VI regulations.

The Parker Kittiwake Bunker Sample Storage System is contained in a robust, metal case that is fully lockable for safe and secure sample storage. It comes complete with log book to record your sample details, plus training CDs and full instructions on bunker sampling and the latest regulations. Replacement consumables and a full range of bunker samples are easily available at short notice from Parker Kittiwake and can be shipped to the destination of your choice. **Part Number - FG-K16091-KW**



Fuel & Lubricant Cabinet

Parker Kittiwakes Fuel & Lubricant Cabinet is of rugged design and suitable for long term use in harsh environments, providing simple to use equipment ideal for operation by non-technical personnel.

Parker Kittiwakes Fuel & Lubricant Cabinet is typically supplied to deep sea marine customers for diesel engine lubricants and fuel oils. The ability to test oil and fuel on-site, at the point of use, enables ships crew to conduct oil and bunker fuel testing quickly and easily. Detecting out-of-spec fuels or lubricants can identify potential problems before equipment damage occurs. The Parker Kittiwake Fuel & Lubricant Cabinet is supplied with EasySHIP reagent systems to minimise transportation costs. **Part Number - FG-K4-400-KW**



System Monitoring

ThrusterSCAN

Parker Kittiwakes ThrusterSCAN delivers early warning of thruster component damage, lubricant degradation and seal failures; whilst providing information to help optimise thruster usage.

Parker Kittiwakes ThrusterSCAN removes the uncertainty related to thruster condition and gives real-time feedback on the effect of altering operating parameters. This critical information can be used to make informed decisions regarding thruster operation, lubricant changes and overhaul intervals. With both local and remote displays, alarms and data mangement, ThrusterSCAN is easily integrated into any maintenance regime.

Part Number - FG-K17755-KW



WaterSCAN

Parker Kittiwakes WaterSCAN delivers continuous, on-line warning of water ingress and soot build-up in oils at all stages of their service life. The effect of water ingress in an oil system can be rapid and catastrophic.

WaterSCAN has been developed to provide a highly accurate and reliable online, continuous measurement of both total water (free and dissolved) and soot content of mineral based lubrication oils in machinery. Parker Kittiwakes WaterSCAN removes the risks associated with offline testing and potential human error. Robust, waterproof housing and temperature stable circuitry ensures that the sensor can provide accurate, repeatable, reliable and real-time data in the harshest of conditions.

Part Number - FG-K17353-KW



Online Sensor Suite HMI

A combination of the sensor range with display and logging capabilities, the Sensor Suite HMI has been developed to offer real-time monitoring on critical applications such as Gearboxes and Gen Sets.

Able to provide more than 40 parameters in real time, the Sensor Suite HMI allows the operator to remotely monitor the evolution of any significant change in the lubricant. The full automation of this product eliminates any risk of sampling errors introduced by the operator. Designed to be installed in any lubrication line, the suite reports metallic wear debris mass, oil condition, moisture and metallic ferrous / non-ferrous debris counts in the lubricant. **Part Number - FG-K19401-KW**



System Monitoring

icountPD

icountPD particle detector is the online solution to accurate and repeatable independent monitoring of system contamination trends; a proven product in many applications and industries around the world.

The IPD offers owners and end users alike a cost-effective way to monitor continuous system performance for prolonged appraisal and trend analysis to extend fluid life and reduce machinery downtime. Features include visual indicators with power and alarm output warnings, self diagnostic data logging software, a moisture %RH indicator and full PC/PLC integration technology such as:- RS232 and 0-5 Volt, 4-20 mA, CAN(J1939). **Part Number - IPD1232230**



icountOS



The icountOS Oil Sampler is a monitoring tool designed to provide fluid qualification to ISO 4406:1999 standards. Simple to use and an innovative solution to the challenge of measuring oil quality.

The icountOS (IOS), which can now be specified as a fully WiFi enabled option for remote operation, delivers highly accurate, almost instant data on oil system contamination. A completely self-contained, laser detection particle counter with on-board battery and pump plus a 250,000 test memory with a web page generator for data download onto any PC or laptop. Precise, repeatable, reproducible results from real-time detection of particulate down to 4 microns (c) and dissolved water.

Part Number - IOS1210EUR

icountFPS

The icountFPS Fluid Property Sensor has been developed to provide simultaneous measurement of oil viscosity, density, dielectric constant and temperature in systems with a maximum operating pressure of 25 bar.

The compact, rugged construction of the icountFPS makes it an ideal inline product for on-board or in the lab data logging applications, connecting to a Parker IQAN data readout for example. The FPS operates using Harmonics (tuning fork) Technology and offers user programmable sample rates and a 30-second refresh rate. Intended for oil reporting applications up to 50 cSt viscosity, the FPS requires a 12 Volt operating power supply and is IP68 compatible. **Part Number - FPS2000**



Sentinel™ - Portable Fluid Purification System



The Sentinel™ is designed to 'stand guard' over your hydraulic systems 24/7, increasing productivity by eliminating moisture in the oil. Water is the second most destructive contaminant – typically 200ppm of water can reduce bearing life by 48% or more. Moisture accelerates the 'ageing' of hydraulic fluids, reducing oil lifetime by typically more than 50%.

The Sentinel uses vacuum dehydration technology, so that only clean, dry oil re-enters the reservoir system via the outlet port. Test data is displayed instantly on the built in display screen, for real time observation. Stored data can be downloaded straight to a PC or laptop for analysis via a standard USB connection. The Sentinel operates at flow rates of 12 litres/min. with a maximum online operating pressure of 0 - 4 Bar. In Sentinel mode, the system will automatically turn on, measure water content and run dehydration cycling if necessary, shutting itself off once fluid reaches the %RH set point.

Part Number - 945274

Marine Water Test Kits

Marine Hygiene Test Kit

The profile of Legionella bacteria being found and contracted upon high profile offshore installations (i.e. rigs, cruise ships and other vessels), has highlighted the health and safety of both the crew and visitors upon them.

Simple regular assessment and testing of these systems for microbiological activity, biocide (disinfection control) and implementing a correct control scheme (i.e. temperature monitoring), will ultimately reduce the risks and save lives. The Parker Kittiwake Marine Hygiene Kits were developed to offer rigs and vessels the complete monitoring solution for their water systems. These test kits provide real time analysis and simple to perform tests which require no specialist training.

Part Number - FG-K27977-KW



Sewage Effluent Test Kit



The discharge of raw sewage into the sea can create a health hazard, while in coastal areas sewage can also lead to oxygen depletion and an obvious visual pollution.

For renewal and random inspections, maintaining the system operating requirements in line with the effluent standards will be required. With this in mind, the Parker Kittiwake Marine Sewage Effluent Test Kit provides simple and accurate testing for BOD, Chlorine (Free), COD, Coliform Bacteria, pH and Total Suspended Solids. Regular testing will allow rapid corrective action to take place if required, helping to maintain optimum operating conditions, minimum downtime and reducing costs. Ultimately, the Parker Kittiwake Marine Effluent Kits will aid compliance with MARPOL Annex IV.

Part Number - FG-K27973-KW

Complete Marine Water Test Cabinet

If you require optimum performance from the systems on board an offshore installation or vessel, or need to adhere to legislation requirements, the Parker Kittiwake Marine Water Test Cabinet offers the best solution.

Parker Kittiwakes Complete Marine Water Test Cabinet offers an off-the-shelf solution, without the need to purchase numerous testing kits with manuals. It is supplied in a wall-mountable, steel storage cabinet with foam inserts, which will hold all equipment and reagents supplied. The Parker Kittiwake Complete Marine Water Test Cabinet will prove a valuable tool for system monitoring and control, ensure safe and correct operation and will also provide a key platform for demonstration of current inspectional requirements under the current and forthcoming legislation.

Part Number - FG-K28419-KW



Emissions Monitoring (CEMS)

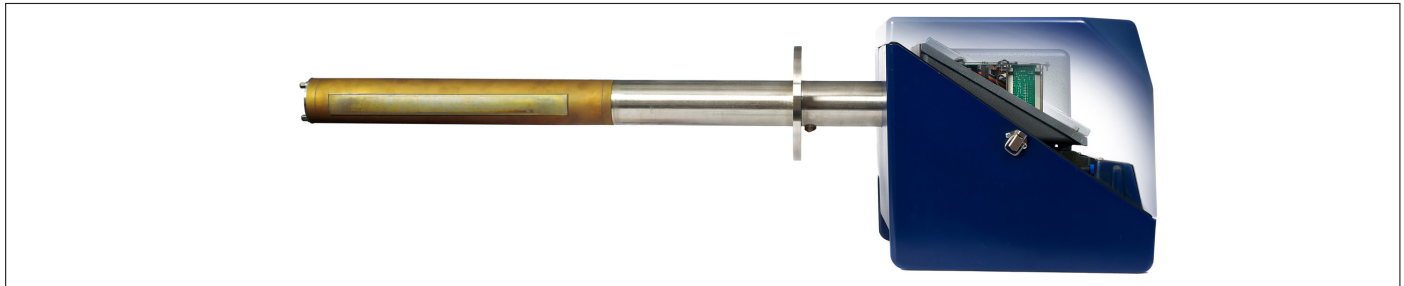
Procal P2000 IR Series

The Procal P2000 is an infra-red (IR), duct or stack-mounted gas analyser designed to provide in-stack analysis of up to six, gas-phase emission components to ensure ECA compliance in either scrubbed or unscrubbed installations.

A typical system comprises an in-situ mounted analyser, an integral calibration function and a control unit (see below) with options which include a powerful in-situ heater and a stand-alone analysis software package. Procal P2000 uses the reflective beam principle to directly measure process gas as it enters the sample cell. Unlike higher maintenance extractive systems, our patented, sintered metal technology removes the need for gas filtering or sample conditioning.

The analyser requires very little maintenance and achieves a class-beating up-time of over 98% up-time in demanding applications. The Procal P2000 analyser has been in service for over 25 years with continual product improvement to match ever tightening legislative requirements. Over 3400 Procal P2000 units are in operation worldwide.

Part Number - Contact Parker Kittiwake for specific requirements.



Procal 1200



The Procal 1200 Series of Analyser Control Units forms the hub of an advanced Continuous Emission Monitoring System. In addition to collecting data from our range of emission analysers, it is configured to receive data from complementary devices, e.g. Dust / Opacity, Oxygen and Flow. This enables the system to display gas concentrations on a normalised basis and if required, in mass units e.g. Kg/hour. **Part Number - Contact Parker Kittiwake for specific requirements.**

Visit our website to find out more about the  product range:
www.kittiwake.com