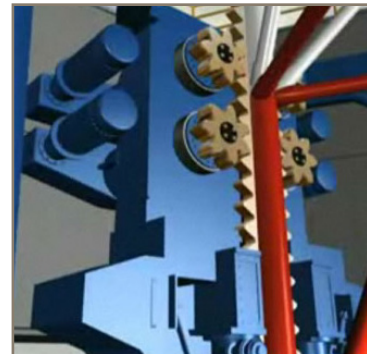


aerospace  
climate control  
electromechanical  
**filtration**  
fluid & gas handling  
hydraulics  
pneumatics  
process control  
sealing & shielding



# Metallic Wear Debris Sensor

Hazardous Area Certified



ENGINEERING YOUR SUCCESS.

# The world's first hazardous area approved on-line sensor for Metallic Wear Debris Monitoring & Analysis

Obtaining the earliest indication of changes in machinery condition allows the correct actions to be taken to prevent unplanned downtime, catastrophic failure and loss of production. In the continuous drive to offer this technology to the widest audience, Kittiwake are proud to announce the world's first ATEX Zone 1 approved Ex Wear Debris sensor, offering unparalleled sensor resolution to give the earliest indication of failure.

Parker Kittiwake are world leaders in the condition monitoring arena. With over 20 years experience developing products for in-service oil analysis, allowing large plant operators to accurately monitor their critical assets condition.

The hazardous area Metallic Wear Debris Sensor warns of abnormal bearing and gear wear at the earliest stage, in hazardous area applications.

The Parker Kittiwake Metallic Wear Debris Sensor is fully compliant with ASTM D7917-14 - Standard practice for Inductive wear debris sensors in Gearbox and drive train applications.



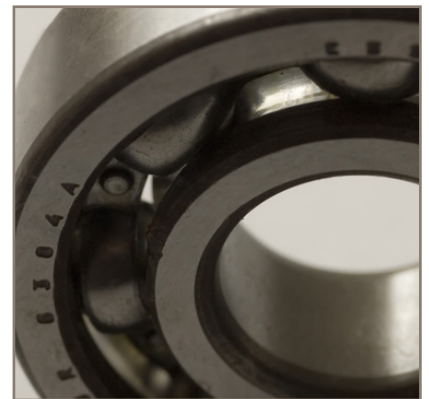
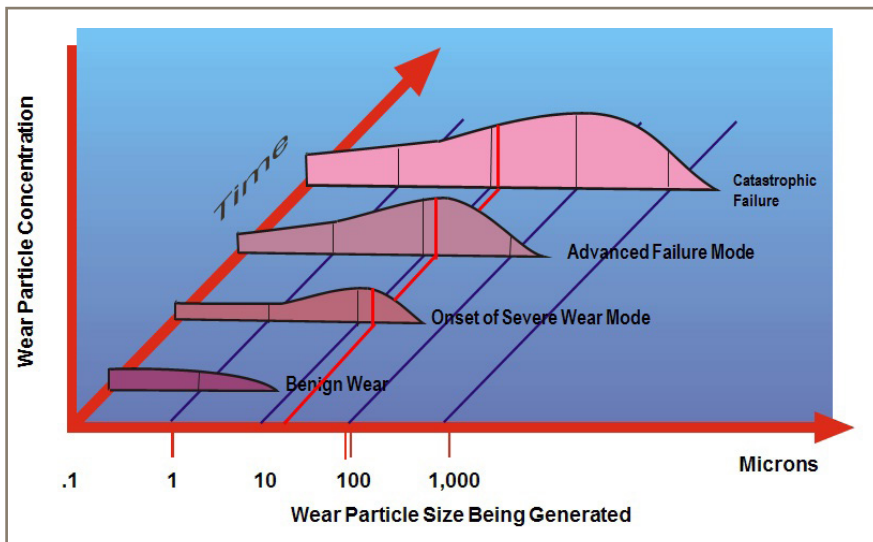
## Metallic Debris Detection

In oil lubricated equipment, moving components produce microscopic metallic debris particles, which are carried to the filtration system by the lubricant.

By monitoring the number and sizes of those wear debris particles, abnormal wear can be identified immediately. Classifying and sizing of the individual metallic wear debris particles provides additional information as to the mechanism and severity of the wear and components affected. Particles are sorted into size bins for both ferrous and non-ferrous particles - allowing for fast, simple reporting and analysis.

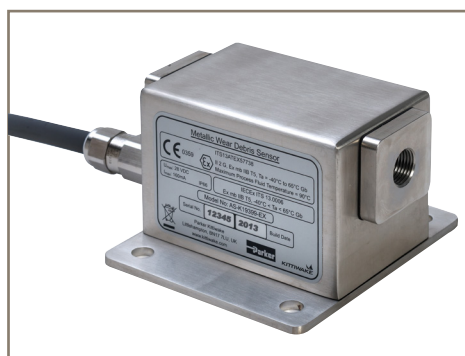
Installed in the lubricant flow, the maintenance free, solid state sensor detects and measures the ferrous and non-ferrous metallic wear debris particles passing through it.

By monitoring wear debris continuously, abnormal wear can be seen at the earliest stage and action can be taken prior to significant damage occurring.



## Features & Benefits

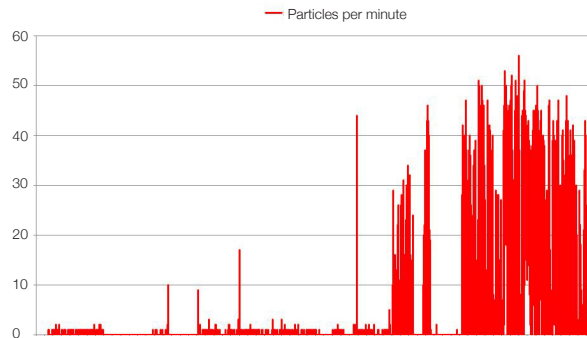
- Sealed to IP66 Standard
- All Stainless Steel 316 Construction
- Armoured Cable
- Hydraulic Connection Options
- Industry Standard Communication Options
- Full Critical Asset Coverage - ATEX and IECEx certified for Zone 1 applications



- Reduce Risk - Continuous monitoring of critical / inaccessible equipment
- Increase Up-Time - Earliest warning of abnormal wear, independent of cause
- Optimize Service Intervals - Schedule according to machinery condition
- Rapid Integration - Simple installation and flexible communications

## Top Drive Installation

Parker Kittiwake's online metallic wear debris sensor has been successfully fitted to both onshore and offshore top drives to monitor the metallic debris in the gearbox oil. This allows maintenance engineers to monitor any abnormal build up of debris and to schedule either routine or emergency maintenance as required, thus reducing downtime and increasing productivity. The device's ATEX certification allows for installation in this demanding environment.

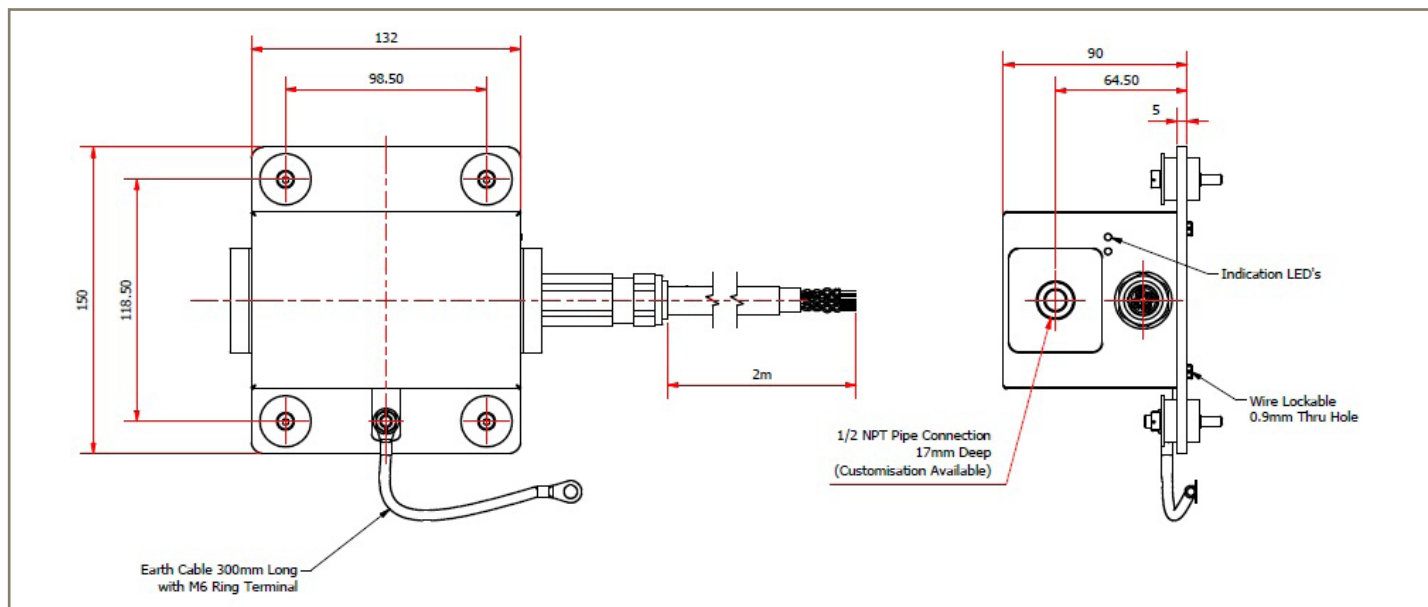


## Specifications

|                               |  |
|-------------------------------|--|
| Detection Limits              | Metallurgical composition and size category of particles in a fluid:<br>> 40 micron (0.04 mm) [0.00157 inch] Ferrous Metal<br>> 135 micron (0.135 mm) [0.00531 inch] Non-Ferrous Metal |
| Communications                | Modbus RTU over RS485. Modbus over TCP / IP 10 Base-T Ethernet, CANopen*   |
| Supply Voltage                | 20 - 28 V DC   |
| Connections                   | 1/2" NPT x 17 mm deep Female threads   |
| Fluid Flow Rate               | 0.28 m/s (1.3 litres / minute) to 1.9 m/s (9 litres / minute)  |
| Sensor Bore                   | Diameter 10 mm, Length 120 mm  |
| Maximum Fluid Pressure        | 20 Bar   |
| Maximum Fluid Viscosity       | 500 cSt @ 40°C   |
| Permitted Fluid Temperatures  | -40 to +90°C   |
| Ambient Operating Temperature | -40 to +65°C   |
| Protection                    | IP66   |
| ATEX Marking                  | II 2 G, Ex mb IIB T5, Ta = -40°C to +65°C  |
| IECEX Marking                 | Ex mb IIB T5, -40°C < Ta < 65°C Gb   |

\* please contact Parker Kittiwake for further information.

## External Dimensions



| Product Code | Description   |
|--------------|---|
| FG-K19400-EX | Metallic Wear Debris Sensor Ex mb IIB T5, -40°C < ta < 65°C |
| FG-K19567-KW | Metallic Wear Debris Sensor (non hazardous areas)           |



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